

IDAHO

DEPARTMENT OF ENVIRONMENTAL QUALITY



**PARTIAL PERMIT FOR HWMA
STORAGE for the
CALCINED SOLIDS STORAGE
FACILITY at the
IDAHO NUCLEAR TECHNOLOGY &
ENGINEERING CENTER
on the
IDAHO NATIONAL LABORATORY**

EPA ID NO. ID4890008952

Effective Date: November 9, 2006

Revision Date: June 1, 2016

Book 1 of 1

Permittee: Department of Energy (DOE) and DOE-Designated Contractors, Idaho National Laboratory (INL) Partial Permit Number: EPA ID# ID4890008952

INTRODUCTION AND SIGNATURE PAGE

Pursuant to the Idaho Hazardous Waste Management Act of 1983 (HWMA), Idaho Code § 39-4401 *et seq.*, and the “*Rules, and Standards For Hazardous Waste,*” as amended, IDAPA 58.01.05.000 *et seq.*, specifically IDAPA 58.01.05.012 [40 CFR § 270.1(c)(4)], a Partial Permit (for less than the entire facility) is hereby issued to the United States Department of Energy (DOE) and DOE-designated contractor (see Permit Definitions), hereinafter called the Permittee, to operate a hazardous waste storage facility at the Idaho Nuclear Technology and Engineering Center (INTEC), located on the Idaho National Laboratory (INL), located in Butte County, Idaho.

The Permittee shall comply with all of the terms and conditions of this Partial Permit (Permit), and Attachments 1 through 9 of this Permit. The Permittee shall comply with all applicable state regulations, including IDAPA 58.01.05.004 through 58.01.05.013 [40 Code of Federal Regulations (CFR), Parts 124, 260 through 266, 268, and 270], and as specified in this Permit.

Applicable state regulations are those which are in effect on the date of final administrative disposition of this Permit and any self-implementing statutory provisions and related regulations which, according to the requirements of the Hazardous and Solid Waste Amendments (HSWA), are automatically applicable to the Permittee’s hazardous waste management activities, notwithstanding the conditions of this Permit.

This Permit is based upon the administrative record, as required by IDAPA 58.01.05.013 [40 CFR § 124.9]. The Permittee’s failure, in the application or during the permit issuance process, to fully disclose all relevant facts, or the Permittee’s misrepresentation of any relevant facts, at anytime, shall be grounds for the termination or modification of this Permit and/or initiation of an enforcement action, including criminal proceedings. To the extent there are inconsistencies between the Permit and the attachments, the language of the permit shall prevail. The Permittee must inform the Director of the Idaho Department of Environmental Quality (hereinafter referred to as “Director”) of any deviation from the permit conditions or changes in the information on which the application is based, which would affect the Permittee’s ability to comply or actual compliance with the applicable regulations or permit conditions, or which alters any permit condition in any way. The Director shall enforce all conditions of this Permit, which are designated in this Permit as state requirements. Any challenges of any permit condition that concern requirements shall be appealed to the Director, in accordance with IDAPA 58.01.05.996 and the Idaho Department of Environmental Quality Rules and Regulations 58.05.03.000 *et seq.*, “Rules Governing Contested Cases and Declaratory Rulings.”

The United States Environmental Protection Agency (EPA) shall maintain an oversight role of the state-authorized program, and in such capacity, shall enforce any permit condition based on state requirements if, in the EPA’s judgment, the Director should fail to enforce that permit condition. Any challenges to the EPA-enforced conditions shall be appealed to the EPA, in accordance with [40 CFR § 124.19].

This Permit is effective as of **November 9, 2006** and shall remain in effect until **November 9, 2016** unless, in accordance with IDAPA 58.01.05.012, the Permit is revoked and reissued [40 CFR § 270.41], modified [40 CFR § 270.42, Appendix I.A.6], terminated [40 CFR § 270.43], or continued [40 CFR § 270.51].

October 10, 2006
Date

Toni Hardesty, Director
Idaho Department of Environmental Quality

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LIST OF ATTACHMENTS

The following documents are excerpts from the Permittee's Administrative Record, i.e., HWMA/RCRA Permit Application for the INTEC Calcined Solids Storage Facility (CSSF); Book 1 supplemental reports, and other documents contained in the Department's supporting file for the draft Permit. The Director, as deemed necessary, modified specific language in the Attachments. These modifications are described in the permit conditions (Modules I through IV) and, thereby, supersede the language of the original attachment. If the language of the Permit conflicts with either the attachments or the original application, the language in the Permit shall prevail. These incorporated attachments are enforceable conditions of this Permit, as modified by the specific permit condition(s).

ATTACHMENT 1 INL FACILITY DESCRIPTION, consisting of:

Volume 22: CSSF Part B Permit; Pages as identified below;

- 1 Part A
- 2 Section B Facility Description (pages i-6)
- 3 Section D Process Information (pages i-14)

ATTACHMENT 2 WASTE ANALYSIS PLAN

Volume 22: CSSF Part B Permit; Pages as identified below;

Section C Waste Characteristics (pages i-21)

ATTACHMENT 3 SECURITY

Volume 22: CSSF Part B Permit; Pages as identified below;

Section F-1 Security (pages i-2)

ATTACHMENT 4 INSPECTIONS

Volume 22: CSSF Part B Permit; Pages as identified below;

Section F-2 Inspection Schedule (pages i-3), Appendix F-1 and updated examples of inspection forms included, as applicable.

ATTACHMENT 5 PERSONNEL TRAINING at the INTEC consists of:

Volume 22: CSSF Part B Permit; Book 1, Section H, Pages as identified below;

Section H Personnel Training (pages i-9)

ATTACHMENT 6 PROCEDURES TO PREVENT HAZARDS

Volume 22: CSSF Part B Permit; Sections F-3, F-4, F-5, Pages as identified below;

Procedures to Prevent Hazards (pages i-3)

ATTACHMENT 7 CONTINGENCY PLAN

Volume 22: CSSF Part B Permit; Section G, Pages as identified below;

Section G Contingency Plan (pages i-26)

ATTACHMENT 8 CLOSURE PLAN

Volume 22: CSSF Part B Permit; Pages as identified below;

Closure and Post Closure Requirements (pages i-11)

ATTACHMENT 9 PERMIT REVISION LOG

Revision Log (pages i-2)

DEFINITIONS

For purposes of this Permit, the following definitions shall apply:

- a. "Application" shall mean the following: The HWMA/RCRA Part B Permit Application for the Idaho National Laboratory, Volume 22, Calcined Solids Storage Facility, Book 1 Revision 2, February 2006, and all DEQ approved Permit Modification Requests as detailed in Attachment 9, Permit Revision Log.
- b. "Days" shall mean calendar day(s) unless otherwise specified. Any requirement of submittal under the terms of this Permit that would be due on a Saturday, Sunday, or a state or federal holiday shall be due on the following business day."
- c. "Department" shall mean the Idaho Department of Environmental Quality.
- d. "Director" shall mean the Director of the Department of Environmental Quality, or his designee, or authorized representative.
- e. "Discovery (discovered)" shall mean the initial identification of a SWMU or other Area of Concern, which has the potential to release hazardous waste or hazardous waste constituents to the environment.
- f. "DOE" shall mean the United States Department of Energy.
- g. "Facility" shall mean all contiguous land, structures, other appurtenances, and improvements under the control of the Department of Energy at the Idaho National Laboratory (INL) for total of approximately 890 square miles or 601,260 acres
- h. "HSWA" shall mean the Hazardous and Solid Waste Amendment of 1984.
- i. "HWMA" shall mean the State of Idaho, Hazardous Waste Management Act of 1983, as amended, Idaho Code § 39-4401 et seq.
- j. "Hazardous Waste" shall mean a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, or chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed [See 42 USC § 6903(5)].

- k. "Hazardous Waste Constituent" shall mean any constituent identified in Appendix VIII of IDAPA 58.01.05.005 [40 CFR Part 261], or any constituent identified in Appendix IX of IDAPA 58.01.05.008 [40 CFR Part 264].
- l. "Hazardous Waste Management Unit (HWMU)" shall mean those operable units subject to the requirements of IDAPA 58.01.05.012 [40 CFR §§ 270.14 through 270.25].
- m. "Mixed waste" shall mean waste that is both hazardous and radioactive.
- n. "Operator" shall mean the DOE-designated contractor that has responsibilities and control of the HWMU.
- o. "Owner" shall mean the United States Department of Energy (DOE).
- p. "Permittee" shall mean both DOE and the DOE-designated contractor.
- q. "RCRA" shall mean the Resource Conservation and Recovery Act of 1976, as amended by HSWA in 1984.
- r. "Release" shall mean any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes (including hazardous waste constituents) into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous waste constituents).
- s. "Solid Waste Management Unit" (SWMU) shall mean any discernable unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous wastes. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

All definitions contained in IDAPA 58.01.05.004, .005, .008, and .010 through .013 [40 CFR Parts 260, 261, 264, 266, 268, 270, and 124] are hereby incorporated, in their entirety, by reference into this Permit, except that any of the definitions used above shall supersede any definition of the same term given in IDAPA 58.01.05.000 et seq. Where terms are not defined in the regulations or the Permit, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

ACRONYMS AND ABBREVIATIONS

ALARA	As low as reasonably achievable
ASTM	American Society for Testing and Materials
CAMs	Constant air monitors
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFA	Central Facility Area
CFR	Code of Federal Regulations
CSM	Critical Systems Maintenance
CSSF	Calcined Solids Storage Facility
DCS	Distributed Control System
DEQ	Department of Environmental Quality
DOE	Department of Energy
DOE-ID	Department of Energy, Idaho Operations Office
DOT	Department of Transportation
DQO	Daily Quality Objectives
EAL	Emergency Action Level
EAM	Emergency Action Manager
EC	Emergency Coordinator
ED	Emergency Director
EDF	Engineering Design File
EMCAP	Environmental Management Consolidated Audit Program
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
EP/RCRA CP	Emergency Plan Resource Conservation and Recovery Act Contingency Plan
ERO	Emergency Response Organization
FAC	Fire Alarm Center
FFA/CO	Federal Facilities Agreement/Consent Order
GERT	General Employee Radiation Training
HEPA	High-Efficiency Particulate Air
HSWA	Hazardous and Solid Waste Amendments of 1984
HWMA	Hazardous Waste Management Act of 1983, as amended
HWNS	Hazardous Waste Numbers
IBC	International Building Code
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
LDR	Land Disposal Restrictions
M&O	Management and Operations
MOU	Memoranda of Understanding
MSDS	Material Safety Data Sheet
NRC	Nuclear Regulatory Commission
NWCF	New Waste Calcining Facility
OJT	On-the-Job Training
OSC	On-Scene Commander
OSHA	Occupational Safety and Health Administration
P&ID	Piping and Instrumentation Diagram

PE	Professional Engineer
PPE	Personal Protective Equipment
QA/QC	Quality Assurance/Quality Control
RA	Radiological Assay
RCRA	Resource Conservation and Recovery Act
RCT	Radiological Control Technician
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act of 1986
SAT	Systematic Approach to Training
SBW	Sodium-Bearing Waste
SPOs	Security Police Officers
SRPA	Snake River Plain Aquifer
STP	Site Treatment Plan
SW-846	Test Methods for Evaluating Solid Waste: Physical/Chemical Methods
SWMU	Solid Waste Management Unit
TCLP	Toxicity Characteristic Leaching Procedure
TSDf	Treatment, Storage, and Disposal Facility
UBC	Uniform Building Code
UHC	Underlying Hazardous Constituent
USGS	United States Geological Survey
WAC	Waste Acceptance Criteria
WAP	Waste Analysis Plan
WCC	Warning Communications Center
WCF	Waste Calcining Facility
WDDF	Waste Determination and Disposition Form
WGS	Waste Generator Services

INL: CSSF PARTIAL PERMIT
PERMIT NUMBER: ID4890008952
EFFECTIVE DATE: November 9, 2006
REVISION DATE: August 18, 2008
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TABLE 1 REQUIRED SUBMITTALS and DATES

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MODULE I - STANDARD PERMIT CONDITIONS

I.A. EFFECT OF PERMIT

The Permittee is allowed to store mixed waste in the Idaho Nuclear Technology and Engineering Center (INTEC), Calcined Solids Storage Facility (CSSF) in accordance with the conditions of this Partial Permit. Any storage of mixed waste in the Hazardous Waste Management Units (HWMU), described herein, not authorized in this Permit, is prohibited.

Pursuant to IDAPA 58.01.05.012 [40 CFR § 270.4], compliance with this Permit generally constitutes compliance (for purposes of enforcement) with the Idaho Hazardous Waste Management Act (HWMA), as amended, except for those requirements not included in this Permit, which become effective by statute or future regulatory changes to include those requirements promulgated under IDAPA 58.01.05.011 [40 CFR Part 268] restricting the placement of hazardous waste in or on the land. Issuance of this Permit does not convey any property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local laws or regulations.

- I.A.1. The Department of Energy (DOE) is the owner and is responsible for activities which include, but are not limited to, policy, programmatic funding, and scheduling decisions, as well as the overall management and operation of the facility.
- I.A.2. The DOE-designated contractor, as operator, is responsible for the day-to-day operations of the assigned permitted units and for all permitted activities related to the assigned units, for which the DOE-designated contractor, its agents, employees, or subcontractors have operational responsibilities and control, including waste characterization and handling, monitoring, record keeping, reporting, and contingency planning.

I.B. ENFORCEABILITY

The terms and conditions of this Permit are enforceable pursuant to the HWMA or any other applicable federal, state, or local law. Violations of this Permit may result in civil penalties, in accordance with the HWMA [Idaho Code § 39-4414] and the HWMA Civil Penalty Policy.

- I.B.1. Any person who knowingly makes any false statement or representation in any application, label, manifest, record, report, permit, or other document filed, maintained or used, for the purposes of complying with the provisions of Idaho Code § 39-4415, shall be guilty of a misdemeanor and subject to the maximum daily fine allowed by law or to imprisonment not to exceed one (1) year, or to both, for each separate violation or for each day of a continuing violation.

I.C. OTHER AUTHORITY

The Department expressly reserves any right of entry provided by law, and any authority to order or perform emergency or other response activities as authorized by law.

I.D. PERMIT ACTIONS

- I.D.1. This Permit may be modified, revoked and reissued, or terminated for cause, as specified in IDAPA 58.01.05.012 [40 CFR §§ 270.41, 270.42, or 270.43].
- I.D.2. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any permit condition in accordance with IDAPA 58.01.05.012 [40 CFR § 270.30(f)].
- I.D.3. The Director may modify this Permit when the standards or regulations on which the Permit was based have been changed by statute, amended standards or regulations, or by judicial decision after the effective date of this Permit.
- I.D.4. Except as provided by specific language in this Permit or except for the Director's approval of a Class 1 or 2 Permit Modification, in accordance with IDAPA 58.01.05.012 [40 CFR § 270.42(a) and (b)], any modifications which substantially alter the facility or its operation (as covered by this Permit) shall be administered as a Class 3 Permit Modification prior to such change taking place, in accordance with IDAPA 58.01.05.012 [40 CFR § 270.42(c)].
- I.D.5. Within forty-five (45) days of a permit modification being put into effect or approved, the Permittee shall provide clean copies of the relevant portions of the Permit and Attachments to incorporate the change (if not already reflected/provided in the change pages submitted with the Permit Modification Request), reprint the documents (as necessary), and submit them to the Director.
- I.D.6. The Permittee shall ensure Attachment 9, "Modification Tracking Log" is current consistent with Permit Condition I.D.5.

I.E. SEVERABILITY

- I.E.1. The provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby. Invalidation of any state or federal statutory or regulatory provision, which forms the basis for any condition of this Permit, does not affect the validity of any other state or federal statutory or regulatory basis for said provision.

I.E.2 In the event that a condition of this Permit is stayed for any reason, the Permittee shall continue to comply with the related applicable and relevant permitted standards in IDAPA 58.01.05.008 [40 CFR Part 264] until final resolution of the stayed condition, unless compliance with the related applicable and relevant interim status standards would be technologically incompatible with compliance with other conditions of this Permit that have not been stayed.

I.F. DUTY TO COMPLY

I.F.1 The Permittee shall comply with all conditions of this Permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit issued in accordance with IDAPA 58.01.05.012 [40 CFR § 270.61]. Any permit noncompliance (other than noncompliance authorized by an emergency permit) constitutes a violation of HWMA, and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification of the Permit, or denial of a permit renewal application as specified in IDAPA 58.01.05.012 [40 CFR § 270.30(a)]

I.F.2. Compliance with the terms of this Permit does not constitute a defense to any order issued or any action brought under §§ 3007, 3008, 3013, or 7003 of RCRA [42 U.S.C. §§ 6927, 6928, 6934, and 6973], §§ 104, 106(a), or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 [42 U.S.C. §§ 9604, 9606(a), or 9607, commonly known as CERCLA], as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), or any other state or federal law providing for protection of public health or the environment from any imminent and substantial endangerment to human health or the environment.

I.G. 5-YEAR REOPENER and DUTY TO REAPPLY

I.G.1. This Permit shall be reviewed five (5) years after the effective date of this permit and modified as necessary to adjust for new technology concerning storage, inspection, removal and/or final disposition of the calcine.

I.G.2. If the Permittee wishes to continue an activity allowed by this Permit after the expiration date of this Permit, the Permittee must submit a new application a minimum of 180 calendar days prior to the expiration of this Permit, in accordance with IDAPA 58.01.05.012 [40 CFR §§ 270.10(h) and 270.30(b)]. Failure to submit a timely permit application, prior to completion of closure, will result in enforcement action in accordance with IDAPA 58.01.05.012 [40 CFR § 270.51(c)].

I.H. PARTIAL PERMIT EXPIRATION

Except as renewed, modified, revoked, reissued, or terminated by the Department, this Permit shall automatically expire ten (10) years from the effective date of this Permit.

I.I. CONTINUATION OF EXPIRING PERMIT

I.I.1. This Permit and all conditions herein shall continue in force until the effective date of a new permit, if the Permittee has submitted a timely and complete application in accordance with IDAPA 58.01.05.012 [40 CFR §§ 270.10, 270.13 through 270.29], and through no fault of the Permittee, the Director has neither issued or denied a new permit under IDAPA 58.01.05.013 [40 CFR § 124.5] on or before the expiration date of this Permit.

I.I.2. If the Permittee fails to submit a timely and complete application (in accordance with IDAPA 58.01.05.012 [40 CFR §§ 270.10, 270.13 through 270.29]); the Permittee may be subject to the maximum daily fine allowed by law for each day of non-compliance. All Permit conditions herein shall continue in force through the period of non compliance (until the effective date of a new permit, or until the wastes have been removed and units have been clean closed in accordance with this permit).

I.J. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

It shall not be a defense for the Permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit, as specified in IDAPA 58.01.05.012 [40 CFR § 270.30(c)].

I.K. DUTY TO MITIGATE

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment resulting from the noncompliance, and shall carry out such measures as are reasonable, to prevent significant adverse impacts on human health or the environment, in accordance with IDAPA 58.01.05.012 [40 CFR § 270.30(d)].

I.L. PROPER OPERATION AND MAINTENANCE

The Permittee shall, at all times, properly operate and maintain all facilities and controls (and related appurtenances), which are installed or used by the Permittee, to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary equipment or similar systems, only when necessary, to achieve compliance with the conditions of this Permit, in accordance with IDAPA 58.01.05.012 [40 CFR § 270.30(e)].

I.M. DUTY TO PROVIDE INFORMATION

The Permittee shall furnish to the Department and/or the Director, within a reasonable time, any relevant information which the Department and/or the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Department and/or the Director, upon request, copies of records required to be kept by this Permit, in accordance with IDAPA 58.01.05.012 [40 CFR § 270.30(h)].

I.N. INSPECTION AND ENTRY

Pursuant to IDAPA 58.01.05.012 [40 CFR § 270.30(i)], the Permittee shall allow the Department, the Director, and/or their authorized officers, employees or representatives (upon the presentation of credentials and other documents), as may be required by law, to:

- I.N.1. Enter, at reasonable times, the Permittee's premises where a regulated facility or activity is located or conducted, or where records are kept as required by the conditions of this Permit;
- I.N.2. Have access to, and copy, at reasonable times, any records that are kept as required by the conditions of this Permit;
- I.N.3. Inspect at reasonable times any portion of the facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and
- I.N.4. Sample or monitor, for the purposes of assuring permit compliance or as otherwise authorized by the HWMA or RCRA, any substances or parameters at any location.

I.O. MONITORING AND RECORDS

- I.O.1 The Permittee shall retain copies of all reports required by this Permit, the certification required by IDAPA 58.01.05.008 and IDAPA 58.01.05.012 [40 CFR §§ 264.73(b)(9) and 270.30(j)(2)], and records of all data used to complete the application for this Permit for a period of at least three (3) years from the date of the report, record, or certification unless a longer retention period for certain information is required by other conditions of this Permit. This period may be extended by request of the Director at any time.
- I.O.2. Pursuant to IDAPA 58.01.05.012 [40 CFR § 270.30(j)(3)], records of monitoring information shall specify the following:
 - I.O.2.a. The date(s), exact place, and times of sampling or measurements;
 - I.O.2.b. The name(s), of individuals who performed the sampling or measurements;
 - I.O.2.c. The date(s) analyses were performed;
 - I.O.2.d. The name(s), of individuals who performed the analyses;
 - I.O.2.e. The analytical techniques or methods used; and
 - I.O.2.f. The results of such analyses, including the Quality Control/Quality Assurance summary.

- I.O.3. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity, in accordance with IDAPA 58.01.05.012 [40 CFR § 270.30(j)(1)]. The method used to obtain a representative sample of the waste to be analyzed shall be the appropriate method from IDAPA 58.01.05.005 [40 CFR Part 261, Appendix I], or an equivalent method approved by the Director. Laboratory methods shall be Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846 (prevailing edition), Standard Methods of Wastewater Analysis (prevailing edition), or other director approved methods capable of measuring the defined parameter alternate methods approved in this Permit, or an equivalent method in accordance with Permit Condition I.O.4. of this Permit.
- I.O.4 The Permittee must submit to the Director for approval, a request to deviate from approved or other recognized sampling methods in accordance with the following:
- I.O.4.a. The request shall provide information demonstrating that the proposed method(s) requested to be substituted, are equivalent or superior in terms of sensitivity, accuracy, and precision (i.e., reproducibility); and
- I.O.4.b. The Permittee receives a written approval from the Director for the substitution of analytical method(s). Such approval shall not require a permit modification under IDAPA 58.01.05.012 [40 CFR § 270.42].

I.P. REPORTING PLANNED CHANGES

The Permittee shall give notice to the Director as soon as possible prior to any planned physical alteration or additions to the permitted facility, in accordance with IDAPA 58.01.05.012 [40 CFR § 270.30(l)(1)].

I.Q. REPORTING ANTICIPATED NONCOMPLIANCE

The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with requirements of this Permit, in accordance with IDAPA 58.01.05.012 [40 CFR § 270.30(l)(2)]. Advance notice shall not constitute a defense for any noncompliance.

I.R. CERTIFICATION OF CONSTRUCTION OR MODIFICATION

- I.R.1 The Permittee may not commence storage of mixed waste in a new permitted Hazardous Waste Management Unit or in a modified portion of an existing permitted Hazardous Waste Management Unit, except as provided in IDAPA 58.01.05.012 [40 CFR § 270.42], until the Permittee has submitted to the Director (by certified mail, express mail, or hand delivery) a letter, along with the attachments required under Permit Condition II.A.2., signed by the Permittee and a registered professional engineer certifying that the permitted unit(s) at the facility have been constructed or modified in accordance with the approved plans and specifications in compliance with this Permit, IDAPA 58.01.05.012 [40 CFR § 270.30(l)]; and

I.R.2. The Director has reviewed and inspected (if deemed appropriate) the modified or newly constructed unit(s), and has notified the Permittee in writing that the unit(s) were found in compliance with the conditions of this Permit; or

I.R.3. If within fifteen (15) calendar days after the date of submission of the letter in Permit Condition I.R.1. of this Permit, the Permittee has not received notice from the Director of the intent to inspect, prior inspection is waived and the Permittee may commence storage of hazardous waste in the permitted unit(s) certified, in accordance with Permit Condition I.R.1. of this Permit.

I.S. TRANSFER OF PERMIT

This Permit shall be transferred to a new owner or operator only if it is modified or revoked and reissued, pursuant to IDAPA 58.01.05.012 [40 CFR § 270.40]. Prior to transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator, in writing, of the requirements of IDAPA 58.01.05.008 and 58.01.05.012 [40 CFR Parts 264 and 270] and this Permit.

I.T. TWENTY-FOUR-HOUR REPORTING

I.T.1. In accordance with IDAPA 58.01.05.012 [40 CFR § 270.30(l)(6)], the Permittee shall verbally report to the Director and Idaho State Communications Center, any noncompliance with this Permit that may endanger human health or the environment within twenty-four (24) hours from the time the Permittee becomes aware of such noncompliance, including:

I.T.1.a. Noncompliance with Permit Condition II.A.1. of this Permit; or

I.T.1.b. Information concerning a release of any hazardous waste that may endanger public drinking water supplies; or

I.T.1.c. Any information of a release or discharge of mixed waste, or of a fire or explosion at the facility that could threaten human health or the environment outside the facility.

I.T.2. The description of the occurrence and its cause shall, at a minimum, include:

- Name, title, and telephone number of individual reporting;
- Name, address, and telephone number of the owner or operator;
- Name, address, and telephone number of the facility;
- Date, time, and type of incident;
- Location and cause of the accident;
- Name and quantity of materials involved;
- The extent of injuries, if any;
- An assessment of actual or potential hazards to the environment and human health, where this is applicable;
- Description of any emergency action taken to minimize possible threat(s) to human health and the environment;

- Estimated quantity and disposition of recovered material that resulted from the incident; and
- Any other information necessary to evaluate the situation and to develop an appropriate course of action.

I.T.3. Within five (5) calendar days after the Permittee is required to provide verbal notification, as specified in Permit Condition I.T.1. of this Permit, the Permittee shall provide to the Director a written submission. The written submission shall include, but not be limited to, the following:

- Name, address, and telephone number of individual reporting;
- A description (include cause, location, extent of injuries (if any), and an assessment of actual or potential hazard(s) to the environment and human health outside the facility (where this is applicable) of the incident (noncompliance and/or release);
- The period(s) in which the incident (noncompliance and/or release) occurred (including exact dates and times);
- Whether the results of the incident remain a threat to human health and the environment (whether the noncompliance has been corrected and/or the release has been adequately remediated); and
- If not, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance, and/or the steps taken or planned to adequately remediate the release.

I.T.4. The Permittee need not comply with the five (5) calendar-day, written notice requirement if the Director waives the requirement, and the Permittee submits a written report within fifteen (15) calendar days from the time the Permittee is required to provide verbal notification, as specified in Permit Condition I.T.1. of this Permit.

I.U. OTHER NONCOMPLIANCE

The Permittee shall report, on a semi-annual basis, all other instances of noncompliance, not otherwise required to be reported in accordance with Permit Condition I.T. of this Permit, in accordance with IDAPA 58.01.05.012 [40 CFR § 270.30(I)(10)]. Reports shall be due on February 1 and August 1 of each year. The reports shall contain the information listed in Permit Condition I.T of this Permit. Reporting shall not constitute a defense for any noncompliance.

I.V. OTHER INFORMATION

Whenever the Permittee becomes aware that any relevant information was omitted in the permit application or incorrectly submitted in the permit application or in any report to the Director, the Permittee shall promptly submit such facts or information to the Director, in accordance with Permit Condition I.Y. of this Permit in accordance with IDAPA 58.01.05.012 [40 CFR § 270.30(I)(11)].

I.W. SIGNATORY REQUIREMENT

All applications, reports, or information requested by or submitted to the Director shall be signed and certified in accordance with IDAPA 58.01.05.012 [40 CFR §§ 270.11 and 270.30(k)].

I.X. CONFIDENTIAL INFORMATION

Pursuant to Title 9, Chapter 3, of the Idaho Code; IDAPA 58.01.05.012 [40 CFR § 270.12]; or any other applicable federal, state, or local law; the Permittee may assert a claim of confidentiality regarding any information required to be submitted pursuant to this Permit. The Department shall determine whether said information is exempt from disclosure, pursuant to applicable law.

I.Y. REPORTS, NOTIFICATIONS, AND SUBMISSIONS

All reports, notifications, or other submissions, which are required by this Permit and IDAPA 58.01.05.012 [40 CFR § 270.5], shall be sent or given to the Director in duplicate by certified mail, express mail, or hand delivered at:

Director c/o Hazardous Waste Program Manager
Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706-1255
Telephone No. (208) 373-0502

Twenty-four- (24) hour telephone number 1-800-632-8000

The address and telephone numbers listed above are current as of the effective date of this Permit and may be subject to change.

I.Z. DOCUMENTS TO BE MAINTAINED BY THE PERMITTEE(S)

I.Z.1. The Permittee shall maintain until closure is completed and certified by an independent, registered, professional engineer (unless otherwise stated), the following documents as well as any/all amendments, revisions and/or modifications to these documents as follows:

I.Z.1.a. A complete copy of this Permit including attachments, tables and modifications.

I.Z.1.b. Waste Analysis Plan(s), for each HWMU of this Permit, as required by IDAPA 58.01.05.008 [40 CFR § 264.13] and this Permit;

I.Z.1.c. Operating Record, as required by IDAPA 58.01.05.008 [40 CFR § 264.73] and this Permit;

- I.Z.1.d. Inspection Procedures, Schedules, Logs, Records and Results for each HWMU of this Permit, as required by IDAPA 58.01.05.008 [40 CFR §§ 264.15(b)(2) and 264.73(b)(5)] and this Permit, for a period of three (3) years.
- I.Z.1.e. Personnel training requirements for each HWMU of this Permit, as required by IDAPA 58.01.05.008 [40 CFR § 264.16(d)] and this Permit, until closure is completed and certified by an independent, registered, professional engineer, or for three (3) years from the date the employee left the facility.
- I.Z.1.f. The site-wide Contingency Plan(s) for each HWMU of this Permit, as required by IDAPA 58.01.05.008 [40 CFR § 264.53(a)] and this Permit.
- I.Z.1.g. Closure Plan(s) for each HWMU of this Permit, as required by IDAPA 58.01.05.008 [40 CFR § 264.112(a)] and this Permit.
- I.Z.2. Documents, as specified by this Permit, may be maintained at INTEC records storage, records storage in Idaho Falls, and/or Electronic Document Management System (EDMS) Records Vault in a readily retrievable manner.

MODULE II - GENERAL FACILITY CONDITIONS

II.A. DESIGN AND OPERATION OF FACILITY

- II.A.1. The Permittee shall maintain and operate all Hazardous Waste Management Units on the INL to minimize the possibility of a fire, explosion, or any unplanned, sudden or non-sudden release of hazardous/mixed waste/debris or hazardous constituents to the air, soil, ground water, or surface water which could threaten human health and/or the environment.
- II.A.2. The Permittee shall construct and/or maintain all HWMUs in accordance with the approved designs, specifications, and maintenance schedules that are included as Attachments 1 through 8 of this Permit. Minor deviations from the approved designs or specifications, necessary to accommodate proper construction and the substitution of equivalent or superior materials or equipment, shall be noted on the as-built drawings, and the rationale for those deviations shall be provided in narrative form. After completion of construction of each Hazardous Waste Management Unit, the Permittee shall submit final as-built drawings and the narrative report to the Director as part of the construction certification documentation specified in Permit Condition I.R.
- II.A.3. The Permittee shall comply with all applicable requirements of the Land Disposal Restrictions of IDAPA 58.01.05.011 [40 CFR § 268] or the Idaho National Laboratory (INL) Site Treatment Plan (STP), as applicable and amended.

II.B. RECEIPT OF OFF-SITE HAZARDOUS WASTE

- II.B.1. The Permittee shall not receive mixed waste generated off-site into the CSSF.

II.C. WASTE ANALYSIS PLAN

- II.C.1. The Permittee shall comply with the procedures and requirements of the Waste Analysis Plan for the facility, in accordance with IDAPA 58.01.05.008 and 58.01.05.011 [40 CFR §§ 264.13 and 268.7] and Attachment 2 of this Permit, and as follows:
- II.C.2. The Permittee shall collect and analyze representative samples of waste, in accordance with IDAPA 58.01.05.005, 58.01.05.008, and 58.01.05.011 [40 CFR Part 261, Appendix I and 40 CFR §§ 264.13(a) and 268.7] and Permit Condition I.O.3, as specified in Attachment 2 of this Permit.
- II.C.3. The Permittee shall perform the analysis of each waste stream in accordance with the latest edition of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846 (prevailing edition), Standard Methods of Wastewater Analysis (prevailing edition), or other or equivalent methods approved by the Director in accordance with Permit Condition I.O.4. of this Permit. At a minimum, the Permittee shall maintain proper functional instruments, use approved sampling and analytical methods, verify the validity of sampling and analytical procedures, and perform correct calculations. If the Permittee

uses a contract laboratory to perform analyses, the Permittee shall notify the laboratory in writing of the waste analysis conditions it is to meet in order that waste analysis conditions of the Permit are met.

II.C.4. The Permittee shall document the results of all waste analyses in the Facility Operating Records, in accordance with Permit Conditions I.Z.1.b. and II.J. of this Permit.

II.D. SECURITY

The Permittee shall comply with the Security Provisions of IDAPA 58.01.05.008 [40 CFR § 264.14] and the INL site-specific, security measures, as described in Attachment 3 of this Permit.

II.E. INSPECTION PLAN

The Permittee shall comply with Inspection Schedules and Logs included in Attachment 4 of this Permit. The Permittee shall comply with the inspection provisions of IDAPA 58.01.05.008 [40 CFR § 264.15], inasmuch as ALARA concerns allow and as follows:

II.E.1. The Permittee shall maintain the inspection records and results, in accordance with Permit Condition I.Z.1.d. The Permittee shall record inspections on the appropriate inspection form(s) (examples are provided in Attachment 4 of this Permit) as specified in IDAPA 58.01.05.008 [40 CFR § 264.15(d)].

II.E.2. The Permittee shall record on the appropriate Inspection forms (required by Permit Condition II.E.1) as specified in IDAPA 58.01.05.008 [40 CFR § 264.15(d)]. At a minimum, the following shall be recorded:

- The date and time of the inspection;
- The name of the inspector;
- A notation of the observations made; and
- The date and nature of any repairs or other remedial actions.

II.E.3. The Permittee shall remedy (in accessible areas), as required by IDAPA 58.01.05.008 [40 CFR § 264.15(c)], any deterioration or malfunction discovered by an inspection.

II.E.3.a. The Permittee shall, for areas where deterioration or malfunction is discovered by an inspection, and is not accessible due to ALARA concerns, provide a verbal notification to the Director within twenty-four (24) hours. In addition, a written notification shall be provided within fifteen (15) days, and include the following information:

- The date the deterioration or malfunction was discovered
- the extent of the deterioration or malfunction
- an estimation of mixed wastes released (if any)

- estimated time schedule to submit a permit modification addressing areas of the permit affected by the deterioration or malfunction (i.e. inspections, contingency plan, closure plan, training etc.)

II.E.4. The Permittee shall retain the Inspection forms required by Permit Condition II.E.1, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.73(b)(5)] and Permit Condition I.Z.1.d.

II.F. TRAINING PLAN

II.F.1. The Permittee shall comply with the Personnel Training Plan, included in Attachment 5 of this Permit and in accordance with IDAPA 58.01.05.008 [40 CFR § 264.16], until each HWMU is fully closed and certified.

II.F.2. The Permittee shall ensure that all personnel who handle mixed waste are trained in mixed waste management, safety, and emergency procedures, as applicable to their job description, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.16 (a)], and the Personnel Training Plan described above.

II.F.3. The Permittee shall maintain the Personnel Training Plan in Attachment 5 of this Permit and documentation of personnel training received, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.16(e)] and Permit Condition I.Z.1.e. of this Permit.

II.G. PREPAREDNESS AND PREVENTION

II.G.1. The Permittee shall operate each HWMU so as to minimize the possibility of a fire, explosion, or sudden or non-sudden releases to the air or soil that could threaten human health or the environment, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.31] and Attachment 6 of this Permit.

II.G.2. The Permittee, at a minimum, shall perform preventative maintenance and repair of the facility emergency equipment, safety devices, and miscellaneous equipment included in the attachments of this Permit, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.33] and the manufacturer's specifications. The Permittee shall maintain records of these preventative maintenance and repair activities on this equipment and schedules, reflecting minimum and planned performance of these preventative maintenance activities in the Operating Record at the facility, in accordance with Permit Condition I.Z.1.

II.G.3. The Permittee shall maintain access to the communications and alarm systems, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.34] and Attachment 6 of this Permit.

II.G.4. The Permittee must maintain each vault and tank system in a dry condition.

II.G.5. The Permittee shall maintain arrangements with state and local authorities, as required by IDAPA 58.01.05.008 [40 CFR § 264.37] and Attachment 7 of this Permit. If state or local officials refuse to enter into preparedness and prevention arrangements with the

Permittee for a given HWMU, the Permittee must document this refusal in the Operating Record for the excluded unit.

II.H. CONTINGENCY PLAN

Subject to Department concurrence ALARA concerns may necessitate deviation from the following Contingency Plan requirements.

II.H.1. The Permittee shall comply with the Contingency Plan provisions of IDAPA 58.01.05.008 [40 CFR 264 Subpart D, Contingency Plan and Emergency Procedures] as modified by the Contingency Plan in Attachment 7 and as follows:

II.H.2. The Permittee shall comply with the Contingency Plan included in Attachment 7 of this Permit.

II.H.3. The Permittee shall review and amend, as necessary, the Contingency Plan, within fourteen (14) calendar days of the following events:

II.H.3.a. This Permit is revised;

II.H.3.b. The plan fails in an emergency;

II.H.3.c. The Permittee changes the facility design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of mixed waste or mixed waste constituents, or changes the response necessary in an emergency;

II.H.3.d. The list of emergency coordinators changes;

II.H.3.e. The list of emergency equipment changes; or

II.H.3.f. There is a release of calcine from the bins to the vault to address the increased potential for exposure and release.

II.H.4. The Permittee shall assure that a trained Emergency Coordinator or equivalent is available at all times in case of an emergency, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.55].

II.H.5. The Permittee shall submit a copy of the Contingency Plan, and all revisions to the plan, to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.53(b)].

II.H.6. The point of contact for reporting emergencies to the State of Idaho shall be the State of Idaho Communications Center at (800) 632-8000 or (208) 846-7610, and Fax number (208) 846-7620

II.H.7. The Permittee shall document in the Facility Operating Record the time, date, and details of any incident that requires implementing the Contingency Plan. Within fifteen

(15) days after the incident, the Permittee shall submit a written report on the incident to the Director, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.56(j)] and Attachment 7 of this Permit. Said report shall include, at a minimum, the items in Permit Condition I.T.3. of this Permit.

II.I. MANIFEST SYSTEM

Not applicable to CSSF.

II.J. RECORD KEEPING AND REPORTING

In addition to the record keeping and reporting requirements specified elsewhere in this Permit, the Permittee shall comply with the following:

- II.J.1. The Permittee shall maintain a written Operating Record at the INTEC Facility, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.73(a)], for all records identified in IDAPA 58.01.05.008 [40 CFR §§ 264.73(b)(1) through (b)(16)], as modified by Permit Condition I.Z.1.c.
- II.J.2. The Permittee shall, by March 1 of each year, submit to the Director, a Waste Minimization Certification, pursuant to IDAPA 58.01.05.008 [40 CFR § 264.73(b)(9)], that the Permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates, to the degree determined by the Permittee to be economically practicable; and the proposed method of treatment, storage, or disposal is the most practicable method currently available to the Permittee, which minimizes the present and future threat to human health and the environment. The certification shall address the entire INL, unless otherwise approved by the DEQ.
- II.J.3. The Permittee shall, by March 1 of each even numbered year, submit to the Director, a biennial report covering the facility activities pursuant to IDAPA 58.01.05.008 [40 CFR § 264.75(a) through (j)]. The report shall address the entire INL, unless otherwise approved by the DEQ
- II.J.4. The Permittee shall conduct and complete a source reduction evaluation review and written plan in accordance with the procedures and format provided in the "EPA Waste Minimization Opportunity Assessment Manual" (EPA/625/7-88/003). The review and plan shall be completed in compliance with Permit Condition II.J.5. of this Permit and include, at a minimum, the following general operating and reporting requirements.
 - II.J.4.a. The Permittee shall submit to the Director detailed descriptions of any programs that the Permittee may have to assist generators of hazardous waste in reducing the volume (quantity) and toxicity of wastes they produce.
 - II.J.4.b. The Permittee shall submit the following information to the Director and shall submit revisions or changes to the Director within thirty (30) calendar days after those revisions or changes:

- II.J.4.c. A list of generators who received information from the Permittee according to Permit Condition II.J.4.a. of this Permit.
- II.J.4.d. A list of generators who used the Permittee's contractor services on a Waste Minimization Program.
- II.J.4.e. A list of generators known to the Permittee who have a Waste Minimization Program in place and any known results (i.e., has there been a reduction in wastes submitted for treatment, recycling, or disposal).
- II.J.5. The Permittee shall submit a Waste Minimization Review and Plan, to the Director, March 31, 2007, March 31, 2011, March 31, 2015 and every four (4) years thereafter, in accordance with Permit Condition II.J.4. of this Permit. The review and plan shall address the entire INL, unless otherwise approved by the DEQ.
- II.J.6. The Permittee shall submit a biennial report to the Director describing all efforts to remove and dispose the calcine currently stored in CSSF. This report is due two years after the Permit effective date and every two years thereafter.
- II.J.7. All reports, notifications, applications, or other materials required to be submitted to the Director shall be submitted in accordance with Permit Conditions I.W. and I.Y. of this Permit.
- II.K. COMPLIANCE SCHEDULE
 - II.K.1. The Permittee shall review and amend, as necessary, the Contingency Plans, within sixty (60) calendar days of obtaining new information concerning the handling of the calcined wastes.
 - II.K.2. Within thirty (30) days after a catastrophic failure of a bin, the Permittee shall provide DEQ a schedule outlining all actions to be taken to monitor the vaults effectiveness preventing the calcine from entering the environment. This schedule shall include but is not limited to additional permit modifications, the addition of monitoring equipment for surrounding soils, potential for removal etc..
- II.L. CLOSURE
 - II.L.1. The Permittee shall meet the general closure performance standard, as specified in IDAPA 58.01.05.008 [40 CFR § 264.111] and Attachment 8, during partial and/or final closure of the CSSF units.
 - II.L.2. The Permittee shall perform a hazardous waste determination on all solid waste generated during closure including, but not limited to, contaminated process equipment, building components, tanks and ancillary equipment, scrap metal, etc., in accordance with IDAPA 58.01.05.006 [40 CFR § 262.11] and Attachment 2 of this Permit.
 - II.L.3. The Permittee shall amend the Closure Plan, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.112(c)] and Attachment 8 of this Permit.

II.M. EQUIVALENT MATERIALS/INFORMATION

- II.M.1. If certain equipment, materials, and administrative information (such as names, phone numbers, addresses) are specified in this Permit, the Permittee is hereby authorized to use equivalent or superior items. Use of such equivalent or superior items shall not be considered a modification of this Permit, but the Permittee shall place the revision in the Operating Record (prior to the institution of such revision), accompanied by a narrative explanation and the date the revision became effective. The Director may judge the soundness of the revision during inspections of the facility and take appropriate action. The format of tables, forms, and figures are not subject to the requirements of this Permit, and may be revised at the Permittee's discretion.
- II.M.2. If the Department determines that the substitution was not equivalent to the original, it will notify the Permittee that the Permittee's claim of equivalency has been denied, the reasons for the denial, and that the original material or equipment must be used. If the product substitution is denied, the Permittee shall comply with the original, approved product specification, find an acceptable substitution, or apply for a permit modification, in accordance with Permit Condition I.D.4.

II.N. CLOSURE COST ESTIMATE AND FINANCIAL ASSURANCE

The Permittee, as a federal facility, is exempt from the closure cost estimate and financial assurance requirements, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.140(c)].

II.O. LIABILITY REQUIREMENTS

The Permittee, as a federal facility, is exempt from the liability coverage for sudden and accidental occurrence requirements, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.140(c)].

MODULE III - TANK SYSTEM STORAGE

III.A. PERMITTED TANK SYSTEM STORAGE AREAS

Subject to the terms of this Permit, the Permittee may store hazardous wastes, specified in Permit Condition III.B of this Permit, in the following hazardous waste Storage Tank Systems, located and operated as indicated in Attachment 1 and this Permit.

III.A.1.

CSSF #1	VAULT #	CPP-741
PROCESS CODES: S02		
DESCRIPTION:	Bin Set #1 contains four sets of three storage bins in an underground rectangular vault. Each set of bins is made up of type 405 stainless steel bins with spaces between each section. A carbon steel shell encloses the outermost bin with an air space between the bin and the shell. Each composite bin consists of two 20ft tall annular tanks and one 25ft tall center cylindrical tank.	
TOTAL CAPACITY:	235m ³	
NOTES:	This unit was built in 1959. Last waste was added in 1964. This bin set only received wastes from the Waste Calcining Facility (WCF).	

CSSF #2	VAULT #	CPP-742
PROCESS CODES: S02		
DESCRIPTION:	Bin Set #2 contains 7 bins in a predominantly below ground level earthen covered cylindrical concrete vault. Six of the bins form a circle the seventh is in the center. Each bin is approximately 42ft (40' or 42' 6") tall and 12ft diameter and is constructed of 304 stainless steel.	
TOTAL CAPACITY:	895m ³	
NOTES:	This unit was built in 1965. Last waste was added in 1972. Samples were removed from here in 1978. This bin set only received wastes from the WCF.	

CSSF #3	VAULT #	CPP-746
PROCESS CODES: S02		
DESCRIPTION:	Bin Set #3 contains 7 bins in a predominantly below ground level earthen covered cylindrical concrete vault. Six of the bins form a circle the seventh is in the center. The six outer bins are 53ft tall and 12ft diameter, the center bin is 61ft tall and 12ft diameter. Each bin is constructed of 304 stainless steel.	
TOTAL CAPACITY:	1133m ³	
NOTES:	This unit was built in 1969. Last waste was added in 1981. This bin set only received wastes from the WCF.	

CSSF #4	VAULT #	CPP-760
PROCESS CODES: S02		
DESCRIPTION:	Bin Set #4 contains 3 bins in a partially below ground level cylindrical concrete vault. The bins are 55ft tall and 12ft diameter and are constructed of 304L stainless steel.	
TOTAL CAPACITY:	502m ³	
NOTES:	This unit was built in 1976. Last waste was added in 1983. This bin set only received wastes from the New Waste Calcining Facility (NWCF).	

INL: CSSF PARTIAL PERMIT
 PERMIT NUMBER: ID4890008952
 EFFECTIVE DATE: November 9, 2006
 REVISION DATE: August 18, 2008
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CSSF #5	VAULT #	CPP-765
PROCESS CODES: S02		
DESCRIPTION:	Bin Set #5 contains 7 bins in a cylindrical concrete vault 1/2 below ground level. Six of the bins form a circle the seventh is in the center. These tanks are designed with open interior annulus. The bins are constructed of 304L stainless steel and are 50ft tall with a 12ft outer diameter and an 4 ft inner diameter.	
TOTAL CAPACITY:	1025m ³	
NOTES:	This unit was built in 1978. Last waste was added in 1992. This bin set only received wastes from the NWCF.	

CSSF #6	VAULT #	CPP-791
PROCESS CODES: S02		
DESCRIPTION:	Bin Set #6 contains 7 bins in a cylindrical concrete vault 1/2 below ground level. Six of the bins form a circle the seventh is in the middle. These 304L stainless steel tanks are designed with open interior annulus. The bins range in height from 67' 11.5" to 68' tall with outer diameter ranging from 13' 5" to 13' 6" and 5ft inner diameter.	
TOTAL CAPACITY:	1563m ³	
NOTES:	This unit was built in 1980. Last waste was added in May 2000. This bin set only received wastes from the NWCF.	

CSSF #7	VAULT #	CPP-795
PROCESS CODES: S02		
DESCRIPTION:	Bin Set #7 contains 7 bins in a cylindrical concrete vault 1/2 below ground level. Six of the bins form a circle the seventh is in the middle. These 304L stainless steel tanks are designed with open interior annulus. The bins are 68ft tall with a 13.5ft outer diameter and 1ft inner diameter.	
TOTAL CAPACITY:	1784m ³	
NOTES:	This unit was built in 1985. This bin set is currently empty and will be used for comparative vault and tank assessments and structural integrity.	

III.B. PERMITTED AND PROHIBITED WASTE

The Permittee shall not store hazardous waste that is not identified in Permit Condition III.B.1 of this Permit. The Permittee may store mixed wastes in tanks, subject to the terms of this Permit and as follows:

III.B.1.

CSSF # 1	
Allowed Waste Types	Calcine from the WCF only
Hazardous Waste Codes	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005, U134
Process Codes	S02
Maximum Volume	235m ³
Tank construction material	405 Stainless steel plate
Activities Allowed	Storage of dry granular mixed waste only
Vault Description	Rectangular reinforced concrete 26' x 26' x 40' high on a 2' concrete slab. The roof consists of three concrete panels

CSSF # 2	
Allowed Waste Types	Calcine from the WCF only
Hazardous Waste Codes	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005, U134
Process Codes	S02
Maximum Volume	895m ³
Tank construction material	304 Stainless steel plate
Activities Allowed	Storage of dry granular mixed waste only
Vault Description	Cylindrical, 2ft thick reinforced concrete walls 50' diameter and 62' high on a 3' to 5' concrete slab. The roof is large pre-cast T beams overlain with a poured concrete slab.

CSSF # 3	
Allowed Waste Types	Calcine from the WCF only
Hazardous Waste Codes	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005, U134
Process Codes	S02
Maximum Volume	1133m ³
Tank construction material	304 Stainless steel plate
Activities Allowed	Storage of dry granular mixed waste only
Vault Description	Cylindrical, 2ft thick reinforced concrete walls 50' diameter and 67' high on a 3' to 5' concrete slab. The roof is large T pre-cast beams overlain with a poured concrete slab.

CSSF # 4	
Allowed Waste Types	Calcine from the NWCF only
Hazardous Waste Codes	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005, U134
Process Codes	S02
Maximum Volume	502m ³
Tank construction material	304L Stainless steel plate
Activities Allowed	Storage of dry granular mixed waste only
Vault Description	Cylindrical, 2ft to 3.5ft thick reinforced concrete walls 36' diameter and 70' high on a 4' 6" concrete slab. The roof is composed of pre-cast reinforced concrete beams overlain with a poured concrete slab.

CSSF # 5	
Allowed Waste Types	Calcine from the NWCF only
Hazardous Waste Codes	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005, U134
Process Codes	S02
Maximum Volume	1025m ³
Tank construction material	304L Stainless steel plate
Activities Allowed	Storage of dry granular mixed waste only
Vault Description	Cylindrical, 4ft thick reinforced concrete walls 55' diameter and 82' high on a 5' concrete slab. The roof is overlain with a poured concrete slab supported by pre-cast reinforced concrete T beams set on the vault walls.

CSSF # 6	
Allowed Waste Types	Calcine currently from the NWCF
Hazardous Waste Codes	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005, U134
Process Codes	S02
Maximum Volume	1563m ³
Tank construction material	304L Stainless steel plate
Activities Allowed	Storage of dry granular mixed waste only
Vault Description	Cylindrical, 4ft thick reinforced concrete walls 52' diameter and 93' high on a 6' 6" concrete slab. The roof is composed of pre-cast reinforced concrete panels overlain with a poured concrete slab.

CSSF # 7	
Allowed Waste Types	Calcine Currently has no waste
Hazardous Waste Codes	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005, U134
Process Codes	S02
Maximum Volume	1784m ³
Tank construction material	304L Stainless steel plate
Activities Allowed	Storage of dry granular mixed waste only
Vault Description	Cylindrical, 4ft thick 56' diameter x 94' high reinforced concrete walls on a 6' 6" thick concrete slab. The roof is composed of pre-cast reinforced concrete panels overlain with a poured concrete slab.

III.C. VAULT SYSTEMS

The Permittee shall operate and maintain the Vaults that are capable of detecting and collecting releases, and which prevent any migration of waste to the soil, groundwater, or surface water during use of the tank systems.

III.D. TANKS AND TANK SYSTEM INSTALLATION

III.D.1. In accordance with IDAPA 58.01.05.008 [40 CFR § 264.192(b)and(g)], the Permittee shall obtain, and keep on file at the INTEC, written statements from an independent, qualified, installation inspector or independent, qualified, registered professional engineer attesting that proper installation procedures, for all tanks and tank systems, were used.

III.D.2. The independent tank system installation inspection(s) required by Permit Condition III.D.1. of this Permit shall include, but not be limited to, inspection of the system for the presence of any of the following items:

- Weld breaks;
- Punctures;
- Scrapes and Protective Coatings;
- Cracks;
- Corrosion; and/or
- Other Structural Damage or Inadequate Construction/Installation.

III.E. TANK SYSTEM OPERATING CONDITIONS

- III.E.1. The Permittee shall prevent spills and overflows from the CSSF Tank Systems using the procedures and equipment described in Attachment 6 and this Permit.
- III.E.2. The Permittee shall not place hazardous wastes or other materials in Tank Systems if they could cause any tank, its ancillary equipment, or a containment system to rupture, leak, corrode, or otherwise fail.

III.F. RESPONSE TO LEAKS OR SPILLS

- III.F.1. In the event of a leak or a spill from a tank system, or if a tank system becomes unfit for continued use, the Permittee shall complete the following actions:
- III.F.1.a. Determine the cause of the release.
- III.F.1.b. The Permittee shall notify the Director within twenty-four (24) hours providing the information in Permit Condition I.T.
- III.F.1.c. If the collected material is a HWMA hazardous waste, it shall be managed in accordance with all applicable requirements of IDAPA 58.01.05.006 through .008 [40 CFR Parts 262 through 264]. The Permittee shall note that if the collected material is discharged through a point source to U.S. waters or to a POTW, it is subject to requirements of the Clean Water Act. If the collected material is released to the environment, it may be subject to reporting under 40 CFR Part 302.
- III.F.1.d. Contain visible releases to the environment. The Permittee shall immediately conduct a visual inspection of all releases to the environment and based on that inspection, complete the following:
- prevent further migration of the leak or spill to soils or surface water, and
 - remove and properly dispose of any visible contamination of the soil or surface water.
- III.F.2. The Permittee shall establish a monitoring program in accordance with Permit Condition II.K.2. for the bin set/vault involved. This shall include but not be limited to the vault system, the air systems, and all surrounding media.
- III.F.3. Within ninety (90) days the Permittee shall modify the closure plan to address the additional contamination of the vault and additional monitoring systems installed.

III.G. INSPECTION SCHEDULES AND PROCEDURES

- III.G.1. The Permittee shall develop and maintain a schedule and procedures for inspecting the overfill controls, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.195(a)] and Attachment 4 of this Permit.

III.G.2. The Permittee shall inspect the tank systems, in accordance with the Inspection Schedule specified in Attachment 4 of this Permit, and shall comply with Permit Conditions III.G.3. and III.G.5. of this Permit, as part of those inspections.

III.G.3. The Permittee shall inspect the following (at least) once each twenty-four (24) hour operating period:

III.G.3.a. External and accessible portions of the vaults and ancillary equipment, to detect deterioration or releases of waste.

III.G.3.b. The area immediately surrounding the externally accessible portions of the piping, to detect erosion or signs of releases of hazardous waste.

III.G.3.c. Data gathered from CAMs and other monitoring and leak detection input to ensure tank systems are being operated according to design.

III.G.4. The Permittee shall document compliance with Permit Conditions III.G.3 and III.G.5 of this Permit and place this documentation in the Operating Record for the INTEC HWMA Unit, as required by Permit Conditions I.Z. and II.J. of this Permit.

III.G.5. The Permittee shall perform internal vault inspections as follows:

- The internal vault of bin sets 1 through 3 (via video camera) shall be inspected every fifth year (i.e., during calendar years 2011, 2016, etc.);
- The internal vault of bin sets 4 through 6 (via video camera) shall be inspected every fifth year (i.e., during calendar years 2007, 2012, 2017, etc.); and
- A complete inspection of bin set 7 -by entering the vault – shall be completed annually, until closure of all bin sets is completed or mixed waste has been received for storage into CSSF bin set 7.

III.G.6. The Permittee shall provide the video camera recording and a report summarizing the results within 4 months of internal vault inspection.

III.G.7. In conjunction with the report described in Permit Condition I.U., the Permittee shall provide a semi-annual report describing any earthquakes within the INL boundary that measure greater than 4.0 in magnitude on the Richter scale, as measured on the INL facility.

III.H. RECORD KEEPING AND REPORTING

III.H.1. Releases from tanks totally contained within the vault must be verbally reported to the Director, within twenty-four (24) hours of detection and shall be recorded in the Operating Record required by Permit Conditions I.Z. and II.J. of this Permit and shall include the date and time of detection of the release, tank identification, the name and title of the employee documenting the release, the size and amount of the release, and all actions taken.

- III.H.2. The Permittee shall verbally report to the Director, within twenty-four (24) hours of detection, when a leak or spill from a tank system is released to a vault or the environment, in accordance with Permit Condition I.T. of this Permit.
- III.H.3. In addition to complying with the requirements of Permit Condition I.T. of this Permit, within thirty (30) calendar days of detecting a release to the environment from a tank system, the Permittee shall report the following to the Director:
- III.H.3.a. Likely route of migration of the release;
 - III.H.3.b. Characteristics of the surrounding soil (including soil composition, geology, and hydrogeology, taking into account possible climatic effects on the soil characteristics);
 - III.H.3.c. Results of any monitoring, sampling, or air dispersion modeling conducted in connection with the release;
 - III.H.3.d. Proximity of down gradient drinking water, surface water, and populated areas; and
 - III.H.3.e. Description of response actions taken or planned.
- III.H.4. The Permittee shall obtain, and keep on file in the Operating Records as specified in Permit Conditions I.Z and II.J, the written statements by those persons required to certify the design and installation of the tank system(s), as specified in Permit Condition III.D.2. of this Permit, until the tank system is certified closed in accordance with Permit Condition II.L. of this Permit.
- III.H.5. The Permittee shall document compliance with Permit Conditions III.H.2. and III.H.3. of this Permit by placing the documentation in the Operating Records for the INTEC HWMA Unit, required by Permit Condition II.J. of this Permit.
- III.H.6. The Permittee shall submit, to the Director, all certifications of major repairs to correct leaks within seven (7) calendar days from returning the tank systems to use.
- III.I. SPECIAL TANK PROVISIONS FOR IGNITABLE/REACTIVE WASTES
- The Permittee shall not place ignitable, reactive or incompatible waste or materials in the tank systems.

INL: CSSF PARTIAL PERMIT
PERMIT NUMBER: ID4890008952
EFFECTIVE DATE: November 9, 2006
REVISION DATE: August 18, 2008
MODULE IV, PAGE 35 of 36

MODULE IV - CORRECTIVE ACTION

- IV.A. The corrective action requirements for these facilities are addressed in the previously issued Volume 18 (effective November 5, 2001), Module VII.
- IV.B. In the event that both the FFA/CO and the Final Partial-Permit for the Volume 18 for the Idaho National Laboratory are vacated, the Permittee shall submit a permit modification in accordance with Permit Condition I.D.4. of this Permit.

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TABLES

TABLE 1	
REQUIRED SUBMITTALS and DATES	
<u>REQUIRED SUBMITTAL/DOCUMENT</u>	<u>DUE DATES</u>
5 year reopener (Permit Condition I.G.1)	November 9, 2011
Permit Application re-application (Permit Condition I.G.2)	May 13, 2016
Non-Compliance Report (Permit Condition I.U)	February 1 and August 1 every year
Waste Minimization Certification (Permit Condition II.J.2)	March 1 every year
Biennial Report (Permit Condition II.J.3)	March 1 even numbered years
Waste Minimization Report (Permit Condition II.J.4)	March 31, years: 2007, 2011, 2015
Calcine Disposition Biennial Report (Permit Condition II.J.6)	November 9, 2008, 2010, 2012, 2014, 2016

<p>SEND COMPLETED FORM TO: The appropriate State or Regional Office.</p>	<p>United States Environmental Protection Agency RCRA SUBTITLE C SITE IDENTIFICATION FORM</p>										
<p>1. Reason for Submittal MARK ALL BOX(ES) THAT APPLY</p>	<p>Reason for Submittal:</p> <p><input type="checkbox"/> To provide an Initial Notification (first time submitting site identification information / to obtain an EPA ID number for this location).</p> <p><input type="checkbox"/> To provide Subsequent Notification (to update site identification information for this location).</p> <p><input type="checkbox"/> As a component of a First RCRA Hazardous Waste Part A Permit Application.</p> <p><input checked="" type="checkbox"/> As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment # VOLUME 22 - Revision Date: June 1, 2016)</p> <p><input type="checkbox"/> As a component of the Hazardous Waste Report (If marked, see sub-bullet below)</p> <p><input type="checkbox"/> Site was a TSD facility and/or generator of > 1,000 kg of hazardous waste, >1 kg of acute hazardous waste, or >100 kg of acute hazardous waste spill cleanup in one or more months of the report year (or State equivalent LQG regulations)</p>										
<p>2. Site EPA ID Number</p>	<p>EPA ID Number: ID4890008952</p>										
<p>3. Site Name</p>	<p>Name: IDAHO NATIONAL LABORATORY</p>										
<p>4. Site Location Information</p>	<p>Street Address:</p> <table border="1" style="width: 100%;"> <tr> <td colspan="2">City, Town, or Village: SCOVILLE</td> <td colspan="2">County: BUTTE, CLARK, JEFFERSON, BONNEVILLE, BINGHAM</td> </tr> <tr> <td colspan="2">State: ID</td> <td>Country: USA</td> <td>Zip Code: 83415</td> </tr> </table>			City, Town, or Village: SCOVILLE		County: BUTTE, CLARK, JEFFERSON, BONNEVILLE, BINGHAM		State: ID		Country: USA	Zip Code: 83415
City, Town, or Village: SCOVILLE		County: BUTTE, CLARK, JEFFERSON, BONNEVILLE, BINGHAM									
State: ID		Country: USA	Zip Code: 83415								
<p>5. Site Land Type</p>	<p><input type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> District <input checked="" type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Other</p>										
<p>6. NAICS Code(s) for the Site (at least 5-digit codes)</p>	<p>A. 92411</p>	<p>B. 54171</p>	<p>C. 336992</p>	<p>D. Not Applicable</p>							
<p>7. Site Mailing Address</p>	<p>Street or P. O. Box: 1955 FREMONT AVENUE</p> <p>City, Town, or Village: IDAHO FALLS</p> <table border="1" style="width: 100%;"> <tr> <td>State: ID</td> <td>Country: USA</td> <td colspan="2">Zip Code: 83415</td> </tr> </table>			State: ID	Country: USA	Zip Code: 83415					
State: ID	Country: USA	Zip Code: 83415									
<p>8. Site Contact Person</p>	<p>First Name: TERESA</p>	<p>MI: L</p>	<p>Last Name: PERKINS</p>								
<p>Title: DIRECTOR, ENVIRONMENT & SUSTAINABILITY DIVISION</p>											
<p>Street or P. O. Box: 1955 FREMONT AVENUE</p>											
<p>City, Town, or Village: IDAHO FALLS</p>											
<table border="1" style="width: 100%;"> <tr> <td>State: ID</td> <td>Country: USA</td> <td colspan="3">Zip Code: 83415</td> </tr> </table>					State: ID	Country: USA	Zip Code: 83415				
State: ID	Country: USA	Zip Code: 83415									
<p>Email: PERKINTL@ID.DOE.GOV</p>											
<table border="1" style="width: 100%;"> <tr> <td>Phone: (208) 526-1483</td> <td>Ext.: N/A</td> <td colspan="3">Fax: 208-526-1926</td> </tr> </table>					Phone: (208) 526-1483	Ext.: N/A	Fax: 208-526-1926				
Phone: (208) 526-1483	Ext.: N/A	Fax: 208-526-1926									
<p>9. Legal Owner and Operator of the Site</p>	<p>A. Name of Site's Legal Owner: US DEPARTMENT OF ENERGY IDAHO OPERATIONS OFFICE</p>		<p>Date Became Owner: 01/01/1952</p>								
<p>Owner Type: <input type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> District <input checked="" type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Other</p>											
<p>Street or P. O. Box: 1955 FREMONT AVENUE</p>											
<p>City, Town, or Village: IDAHO FALLS</p>											
<table border="1" style="width: 100%;"> <tr> <td>State: ID</td> <td>Country: USA</td> <td colspan="3">Zip Code: 83415</td> </tr> </table>					State: ID	Country: USA	Zip Code: 83415				
State: ID	Country: USA	Zip Code: 83415									
<p>B. Name of Sites Operator: FLUOR IDAHO, LLC.</p>											
<p>Date Became Operator: 06/01/2016</p>											
<p>Operator Type: <input checked="" type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> District <input type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Other</p>											

10. Type of Regulated Waste Activity (at your site)

Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities; Complete all parts 1-10.

Y N 1. Generator of Hazardous Waste

If "Yes" mark only one of the following - a, b, or c

a. LQG: Generates, in any calendar month, 1,000 kg/mo (2,200 lbs/mo) or more of hazardous waste; or Generates In any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lbs/mo) of acute hazardous waste or Generates, in any calendar month or accumulates at any time, more than 100 kg/mo (220 lbs/mo) of acute hazardous spill cleanup material.

b. SQG: 100 to 1,000 kg/mo (220 - 2,200 lbs/mo) of non-acute hazardous waste.

c. CESQG: Less than 100 kg/mo (220 lbs/mo) of non-acute hazardous waste

If "Yes" above, indicate other generator activities in 2-10.

Y N 2. Short-Term Generator (generate from a short term or one-time event and not from on-going processes). If "Yes," provide an explanation in the Comments section

Y N 3. United States Importer of Hazardous Waste

Y N 4. Mixed Waste (hazardous & radioactive) Generator

Y N 5. Transporter of Hazardous Waste If "Yes," mark all that apply.

a. Transporter

b. Transfer Facility (at your site)

Y N 6. Treater, Storer, or Disposer of Hazardous Waste Note: A hazardous waste Part B permit is required for these activities.

Y N 7. Recycler of Hazardous Waste

Y N 8. Exempt Boiler and/or Industrial Furnace. If "Yes," mark all that apply.

a. Small Quantity On-site Burner Exemption

b. Smelting, Melting, and Refining Furnace Exemption

Y N 9. Underground Injection Control

Y N 10. Receives Hazardous Waste from Off-site

B. Universal Waste Activities; Complete all parts 1-2

Y N 1. Large Quantity Handler of Universal Waste (you accumulate 5,000kg or more)[refer to your State regulations to determine what is regulated]. Indicate types of universal waste managed at your site. If "Yes," mark all that apply.

a. Batteries

b. Pesticides

c. Mercury containing equipment

d. Lamps

e. Other (specify)_____

f. Other (specify)_____

g. Other (specify)_____

Y N 2. Destination Facility for Universal Waste

Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities; Complete all parts 1-4.

Y N 1. Used Oil Transporter If "Yes," mark all that apply.

a. Transporter

b. Transfer Facility (at your site)

Y N 2. Used Oil Processor and/or Re-refiner If "Yes," mark all that apply.

a. Processor

b. Re-refiner

Y N 3. Off-Specification Used Oil Burner

Y N 4. Used Oil Fuel Marketer

If "Yes," mark all that apply.

a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner

b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Eligible Academic Entities with Laboratories - Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262 Subpart K.

◆ You can **ONLY** Opt into Subpart K if:

- you are at least one of the following: a college or university; a teaching hospital that is owned by or has a formal affiliation agreement with a college or university; or a non-profit research institute that is owned by or has a formal affiliation agreement with a college or university; AND
- you have checked with your State to determine if 40 CFR Part 262 Subpart K is effective in your state

1. Opting into or currently operating under 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories

See the item-by-item instructions for definitions of types of eligible academic entities. Mark all that apply:

- a. College or University
- b. Teaching Hospital that is owned by or has a formal written affiliation agreement with a college or university
- c. Non-profit Institute that is owned by or has a formal written affiliation agreement with a college or university

2. Withdrawing from 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories

11. Description of Hazardous Wastes

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

See Attached Form OMB#: 2050-0024, Item 9

B. Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes. Please list the waste codes of the State-Regulated hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

12. Notification of Hazardous Secondary Material (HSM) Activity

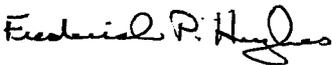
Y N Are you notifying under 40 CFR 260.42 that you will begin managing, are managing or will stop managing hazardous secondary material under 40 CFR 261.2(a)(2)(ii), 40 CFR 261.4(a)(23), (24), or (25)?

If "Yes", you must fill out the Addendum to the Site Identification Form: Notification for Managing Hazardous Secondary Material.

13. Comments

RCRA Permit Transition PMRs

14. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with 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 fines and imprisonment for knowing violations. For the RCRA Hazardous Waste Part A Permit Application, all owner(s) and operator(s) must sign (see 40 CFR 270.10(b) and 270.11).

Signature of legal owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
	F. P. Hughes, Program Manager, Fluor Idaho, LLC.	04/15/2016
	R. B. Provencher, Manager, Department of Energy Idaho Operations Office	4/15/16

United States Environmental Protection Agency
HAZARDOUS WASTE PERMIT INFORMATION FORM

1. Facility Permit Contact	First Name: TERESA	MI: L	Last Name: PERKINS
	Contact Title: DIRECTOR, ENVIRONMENT & SUSTAINABILITY DIVISION		
	Phone: (208) 526-1483	Ext.: N/A	Email: PERKINTL@ID.DOE.GOV

2. Facility Permit Contact Mailing Address	Street or P.O. Box: 1955 FREMONT AVENUE		
	City, Town, or Village: IDAHO FALLS		
	State: ID		
	Country: USA	Zip Code: 83415	

3. Operator Mailing Address and Telephone Number	Street or P.O. Box: 1580 SAWTELLE STREET		
	City, Town, or Village: IDAHO FALLS		
	State: ID		Phone: (208) 227-8107
	Country: USA	Zip Code: 83402	

4. Facility Existence Date	Facility Existence Date (mm/dd/yyyy): 06/01/1949
-----------------------------------	---------------------------------------------------------

5. Other Environmental Permits														
A. Facility Type <i>(Enter code)</i>	B. Permit Number												C. Description	
R	I	D	4	8	9	0	0	0	8	9	5	2	Final HWMA Storage & Treatment Permit for the INTEC on the INL (Volume 14)	
R	I	D	4	8	9	0	0	0	8	9	5	2	Final HWMA Storage & Treatment Permit for the INTEC and RWMC on the INL (Volume 18)	
R	I	D	4	8	9	0	0	0	8	9	5	2	HWMA/RCRA Part B Permit Application for the INL (Volume 3)	
R	I	D	4	8	9	0	0	0	8	9	5	2	HWMA/RCRA Post-Closure Permit for the INTEC on the INL - Waste Calcine Facility and CPP-601/627/640 (Volume 21)	
R	I	D	4	8	9	0	0	0	8	9	5	2	HWMA/RCRA Storage Permit for the CSSF at the INTEC on the INL (Volume 22)	
R	I	D	4	8	9	0	0	0	8	9	5	2	HWMA/RCRA Part A Permit Application for the INL (Volume 1)	
R, P, E, U														See Additional Information Supplement to Item 5 - Other Permits List

6. Nature of Business

The Idaho National Laboratory (INL) was established in 1949, as a center where nuclear power reactors and support facilities could be built, tested, and operated. The INL site covers approximately 890 square miles and is 25 miles west of Idaho Falls, ID. For many years the INL was the site of the largest nuclear power research & development effort in the world. During the 1970's the INL's mission broadened to include such areas as biotechnology, energy and materials research, and conservation and renewable energy. At the end of the Cold War, waste treatment and cleanup of previously contaminated sites became a priority. Today the INL is a science-based, applied engineering national laboratory dedicated to completing its waste cleanup mission and meeting the nation's environmental, energy, nuclear science and technology, and national security needs. Additionally, in 2002, it was announced that the INL will serve as the nation's leading nuclear technology center.

**Additional Information Supplement to Item 5.
Other Environmental Permits**

HWMA/RCRA Permits (Permit Type R)

- Part A Permit Application for Interim Status TSA 1/R
- HWMA/RCRA Storage and Treatment Permit for AMWTP

AIR PERMITS (Permit Type P)

INL Title V Operating Permit - Permit Number T1-2009.0148

PTC (Permit Number PTC-023-00001)

- INTEC New Waste Calcining Facility/Decontamination Area, CPP-659

PTC (Permit Number P.2012.0053)

- INTEC CPP-606 Distillate Oil-Fired Boilers

PTC (Permit Number P.2008.0199)

- INTEC Integrated Waste Treatment Unit

PTC (Permit Number P-2011.0124)

- INTEC Radiological Sources

PTC (Permit Number P-2013.0023)

- INTEC Sodium Distillation System

PTC (Permit Number P-2001.109)

- AMWTP TSA-RE

PTC (Permit Number 023 00001)

- AMWTF

State of Idaho Monitoring Well Permit (IDWR) (Permit Type U)

INL monitoring well permit applications are sent annually to the IDWR for wells (greater than 18 feet deep) to be constructed in the current calendar year. Permits are authorized by agreement between the DOE-ID and the IDWR.

State of Idaho Water Reuse Permit (WRP) (Permit Type E)

- Municipal and Industrial Reuse Permit, LA-000130-05 INTEC New Percolation Ponds

Ground Water Rights (Permit Type E)

INL operations use water guaranteed by both a Federal Reserved Water Right and a water rights agreement with the State of Idaho

7. Process Codes and Design Capacities - Enter information in the Sections on Form Page 3.

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item 8.

B. PROCESS DESIGN CAPACITY - For each code entered in Item 7.A; enter the capacity of the process.

1. **AMOUNT** - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.

2. **UNIT OF MEASURE** - For each amount entered in Item 7.B(1), enter the code in Item 7.B(2) from the list of unit of measure codes below that describes the unit of measure used. Select only from the units of measure in this list.

C. PROCESS TOTAL NUMBER OF UNITS - Enter the total number of units for each corresponding process code.

Process Code	Process	Appropriate Unit of Measure for Process Design Capacity	Process Code	Process	Appropriate Unit of Measure for Process Design Capacity
Disposal			Treatment (continued) (for T81 - T94)		
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day	T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; Liters Per Hour; Kilograms Per Hour; or Million BTU Per Hour
D80	Landfill	Acre-feet; Hectare-meter; Acres; Cubic Meters; Hectares; Cubic Yards	T82	Lime Kiln	
D81	Land Treatment	Acres or Hectares	T83	Aggregate Kiln	
D82	Ocean Disposal	Gallons Per Day or Liters Per Day	T84	Phosphate Kiln	
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards	T85	Coke Oven	
D99	Other Disposal	Any Unit of Measure Listed Below	T86	Blast Furnace	
Storage			T87	Smelting, Melting, or Refining Furnace	
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards	T88	Titanium Dioxide Chloride Oxidation Reactor	
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards	T89	Methane Reforming Furnace	
S03	Waste Pile	Cubic Yards or Cubic Meters	T90	Pulping Liquor Recovery Furnace	
S04	Surface Impoundment	Gallons; Liters; Cubic Meters; or Cubic Yards	T91	Combustion Device Used In the Recovery Of Sulfur Values From Spent Sulfuric Acid	
S05	Drip Pad	Gallons; Liters; Cubic Meters; Hectares; or Cubic Yards	T92	Halogen Acid Furnaces	
S06	Containment Building Storage	Cubic Yards or Cubic Meters	T93	Other Industrial Furnaces Listed In 40 CFR §260.10	
S99	Other Storage	Any Unit of Measure Listed Below	T94	Containment Building Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTU Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million BTU Per Hour
Treatment			Miscellaneous (Subpart X)		
T01	Tank Treatment	Gallons Per Day; Liters Per Day	X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
T02	Surface Impoundment	Gallons Per Day; Liters Per Day	X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per Hour; Liters Per Hour; or Gallons Per Day
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Metric Tons Per Hour; or Million BTU Per Hour	X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; or Million BTU Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Short Tons Per Day; BTUs Per Hour; Gallons Per Day; Liters Per Hour; or Million BTU Per Hour	X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; or Million BTU Per Hour	X99	Other Subpart X	Any Unit of Measure Listed Below

Unit of Measure	Unit of Measure Code	Unit of Measure	Unit of Measure Code	Unit of Measure	Unit of Measure Code
Gallons	G	Short Tons Per Hour	D	Cubic Yards	Y
Gallons Per Hour	E	Short Tons Per Day	N	Cubic Meters	C
Gallons Per Day	U	Metric Tons Per Hour	W	Acres	B
Liters	L	Metric Tons Per Day	S	Acre-feet	A
Liters Per Hour	H	Pounds Per Hour	J	Hectares	Q
Liters Per Day	V	Kilograms Per Hour	X	Hectare-meter	F
		Million BTU Per Hour	X	BTU Per Hour	I

7. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only				
	(1) Amount (Specify)	(2) Unit of Measure									
X 1	S	0	2	533.788	G	001					
1 1	S	0	2	1,885,595.4	G	007					
2											
3											
4											
5											
6											
7											
8											
9											
1 0											
1 1											
1 2											
1 3											

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in Item 8.

8. Other Processes (Follow instructions from Item 7 for D99, S99, T04 and X99 process codes)

Line Number (Enter #s in sequence with item 7)	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only				
	(1) Amount (Specify)	(2) Unit of Measure									
X 2											
0 5											
0 6											
0 7											

ITEM 8. OTHER PROCESSES

LINE NUMBER	PROCESS TYPE UNIT NAME		PROCESS DESIGN CAPACITY
1	<p>S02 - CSSF TANK STORAGE includes 7 Bin Set Tanks:</p> <ul style="list-style-type: none"> • Bin Set #1 (4 bins) @ 235 cubic meters • Bin Set #2 (7 bins) @ 895 cubic meters • Bin Set #3 (7 bins) @ 1,133 cubic meters • Bin Set #4 (3 bins) @ 502 cubic meters • Bin Set #5 (7 bins) @ 1,025 cubic meters • Bin Set #6 (7 bins) @ 1,563 cubic meters • Bin Set #7 (7 bins) @ 1,784 cubic meters 		<p style="text-align: right;">62,087 gallons</p> <p style="text-align: right;">236,459 gallons</p> <p style="text-align: right;">299,388.6 gallons</p> <p style="text-align: right;">132,628.4 gallons</p> <p style="text-align: right;">270,805 gallons</p> <p style="text-align: right;">412,944 gallons</p> <p style="text-align: right;">471, 332.8 gallons</p>
		Line 1 Total:	<p style="text-align: right;">7,137** cubic meters or 1,885,595.4 gallons</p>

**Please note: The Uniform Conversion Factor of 264.2 was used to convert cubic meters into gallons, as published in the MERCK INDEX, Twelfth Edition. (cubic meters x 262.4 = gallons)

9. Description of Hazardous Wastes - Enter information in the Sections on Form Page 5.

A. EPA HAZARDOUS WASTE NUMBER - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR Part 261, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in Item 9.A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in Item 9.A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in Item 9.B, enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure, taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the listed hazardous wastes.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. Enter the first two as described above.
2. Enter "000" in the extreme right box of Item 9.D(1).
3. Use additional sheet, enter line number from previous sheet, and enter additional code(s) in Item 9.E.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in Item 9.D(2) or in Item 9.E(2).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in Item 9.A. On the same line complete Items 9.B, 9.C, and 9.D by estimating the total annual quantity of the waste and describing all the processes to be used to store, treat, and/or dispose of the waste.
2. In Item 9.A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In Item 9.D.2 on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING Item 9 (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES														
	(1) PROCESS CODES (Enter code)										(2) PROCESS DESCRIPTION (If code is not entered in 9.D(1))											
X	1	K	0	5	4	900	P	T	0	3	D	8	0									
X	2	D	0	0	2	400	P	T	0	3	D	8	0									
X	3	D	0	0	1	100	P	T	0	3	D	8	0									
X	4	D	0	0	2																	Included With Above

9. Description of Hazardous Wastes (Continued. Use the additional sheet(s) as necessary; number pages as 5a, etc.)													
Line Number	A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES						(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))
	(1) PROCESS CODES (Enter code)												
1	D	0	0	4	8,400	T	S	0	2				CSSF #1 through CSSF #7
2	D	0	0	5									INCLUDED WITH ABOVE
3	D	0	0	6									INCLUDED WITH ABOVE
4	D	0	0	7									INCLUDED WITH ABOVE
5	D	0	0	8									INCLUDED WITH ABOVE
6	D	0	0	9									INCLUDED WITH ABOVE
7	D	0	1	0									INCLUDED WITH ABOVE
8	D	0	1	1									INCLUDED WITH ABOVE
9	F	0	1	1									INCLUDED WITH ABOVE
10	F	0	0	2									INCLUDED WITH ABOVE
11	F	0	0	5									INCLUDED WITH ABOVE
12	U	1	3	4									INCLUDED WITH ABOVE
13													
14													
15													
16													
17													
18													
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20													
21													
22													
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28													
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36													

10. Map

Attach to this application a topographical map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

NOTE: See Attachment 1, Section B of this Permit for topographic map.

11. Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

NOTE: See Attachment 1 Sections B and D of this Permit for facility drawings/information.

12. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures, existing storage, treatment, and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

NOTE: See pages 6A through 6B of this Part A Permit Application for facility photographs.

13. Comments

**ITEM 13. PHOTOGRAPHS
CALCINED SOLIDS STORAGE FACILITY**

Photo Number	Photo Description & Unit Process Code	Photo Date	Page Number
524	CSSF, Bin Sets 1 and 2 S02 - Tank Storage	6/99	6B of 6

ITEM 13. PHOTOGRAPHS
CALCINED SOLIDS STORAGE FACILITY



Photo 534. CSSF, Bin Sets 1 and 2

RCRA PART B PERMIT
FOR THE
IDAHO NATIONAL LABORATORY

Volume 22
Idaho Nuclear Technology and Engineering Center
Calcined Solids Storage Facility

Attachment 1 - Section B
Facility Description

Revision Date: August 18, 2008

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B-4. Cut-away view of CSSFs 4, 5, 6, and 7	6

B. FACILITY DESCRIPTION

B-1. General Description [IDAPA 58.01.05.012; 40 CFR 270.14(b)(1)]

1 Although, the Calcined Solids Storage Facility (CSSF) bins are not currently receiving any waste, the
2 Idaho High-Level Waste and Facilities Disposition Final Environmental Impact Statement Record of Decision
3 may select a waste treatment option that would require the use of the bin sets. This permit would allow the
4 continued use of the Bin Sets 1, 2, 3, 4, and 5 for storage and Bin Sets 6 and 7 for storage and to receive future
5 waste transfers.

6 This Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA)
7 permit addresses storage of calcine (Process Code S02 – storage in tanks) located at the Idaho Nuclear
8 Technology and Engineering Center (INTEC) at the Idaho National Laboratory (INL). The CSSF includes
9 seven bin sets. The bins are functionally the same and contain calcine, which is a solid stable dry granular
10 mixed waste. The bins are described in detail in Attachment 1 - Section D of this permit.

11 The INTEC is located in the south-central portion of the INL in Butte County. The location of this
12 complex on the INL Site is shown in Exhibit B-1. The physical conditions around these buildings are typical
13 for the INL Site, approximately 5,000 ft above mean sea level, as shown on the topographic map, Exhibit B-2.
14 The area is relatively flat and receives little rainfall. However, poor drainage patterns can produce localized
15 flooding during periods of rapid snowmelt and/or heavy rainfall. Due to the lack of rainfall and the poor
16 quality of the surficial soils, the site has little agricultural value. Wind patterns are generally in a
17 northeast/southwest axis, with some seasonal variability.

18 Appendix 1 of the Part B permit application contained a drawing showing the principal culverts,
19 ditches, and storm systems, and a drawing showing the sanitary waste system at the INTEC. There are no
20 recreation areas present on or adjacent to the INTEC.

21 Bin Set 1 is contained in a rectangular reinforced concrete vault. Exhibit B-3 provides a cutaway view
22 of CSSF 1. The vault is located underground and founded on bedrock. The vault is approximately 26 ft by
23 26 ft with a height of 40 ft. The vertical walls of the vault chamber are 2 ft 6 in. thick. Overlying the base slab
24 is a 2-ft-thick concrete foundation that supports the bin radial support beams. The roof consists of three
25 panels, two of which span between the vault walls and pre-cast beams; the third panel spans between the pre-
26 cast beams.

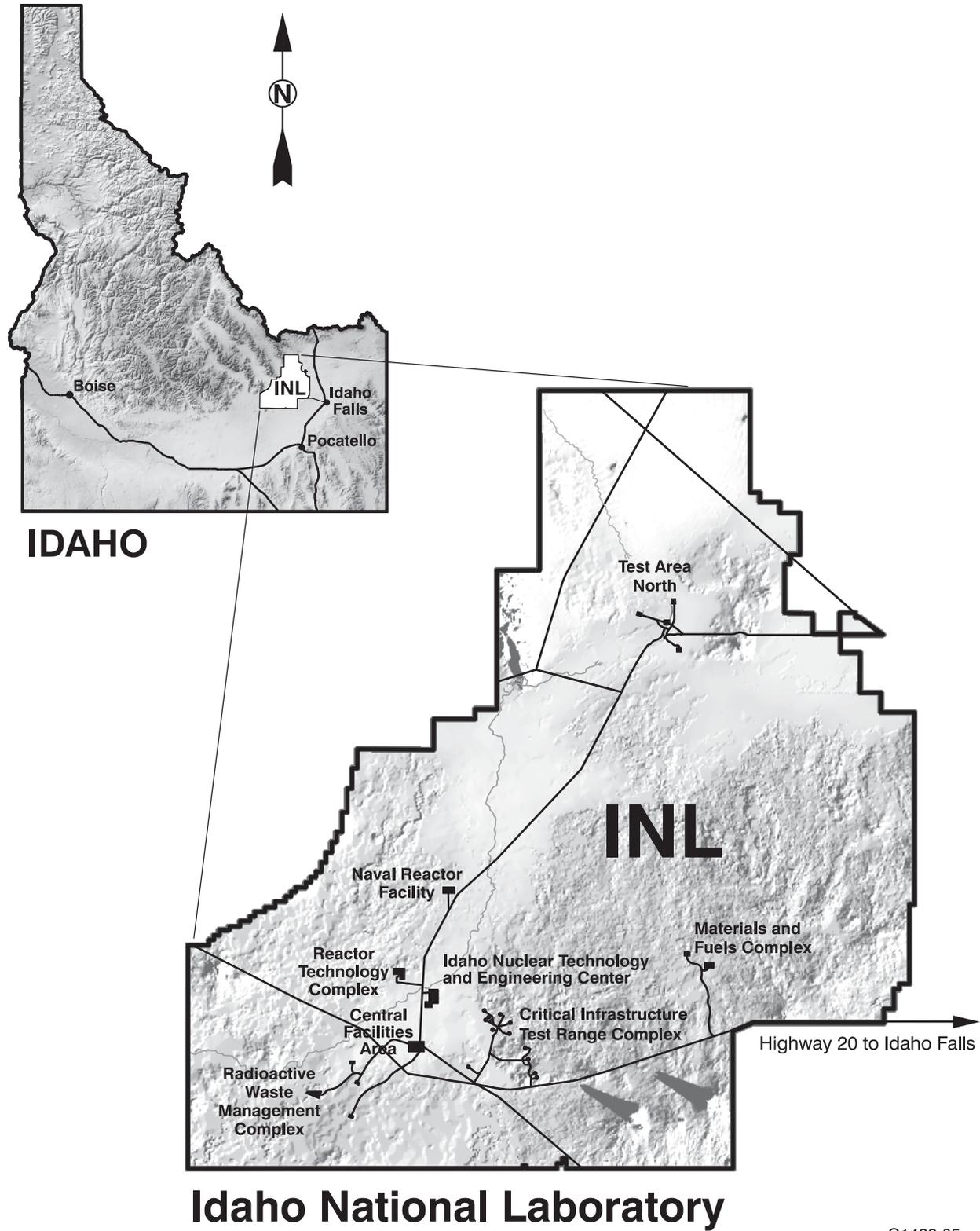


Exhibit B-1. Location of the INTEC on the INL.

G1422-05

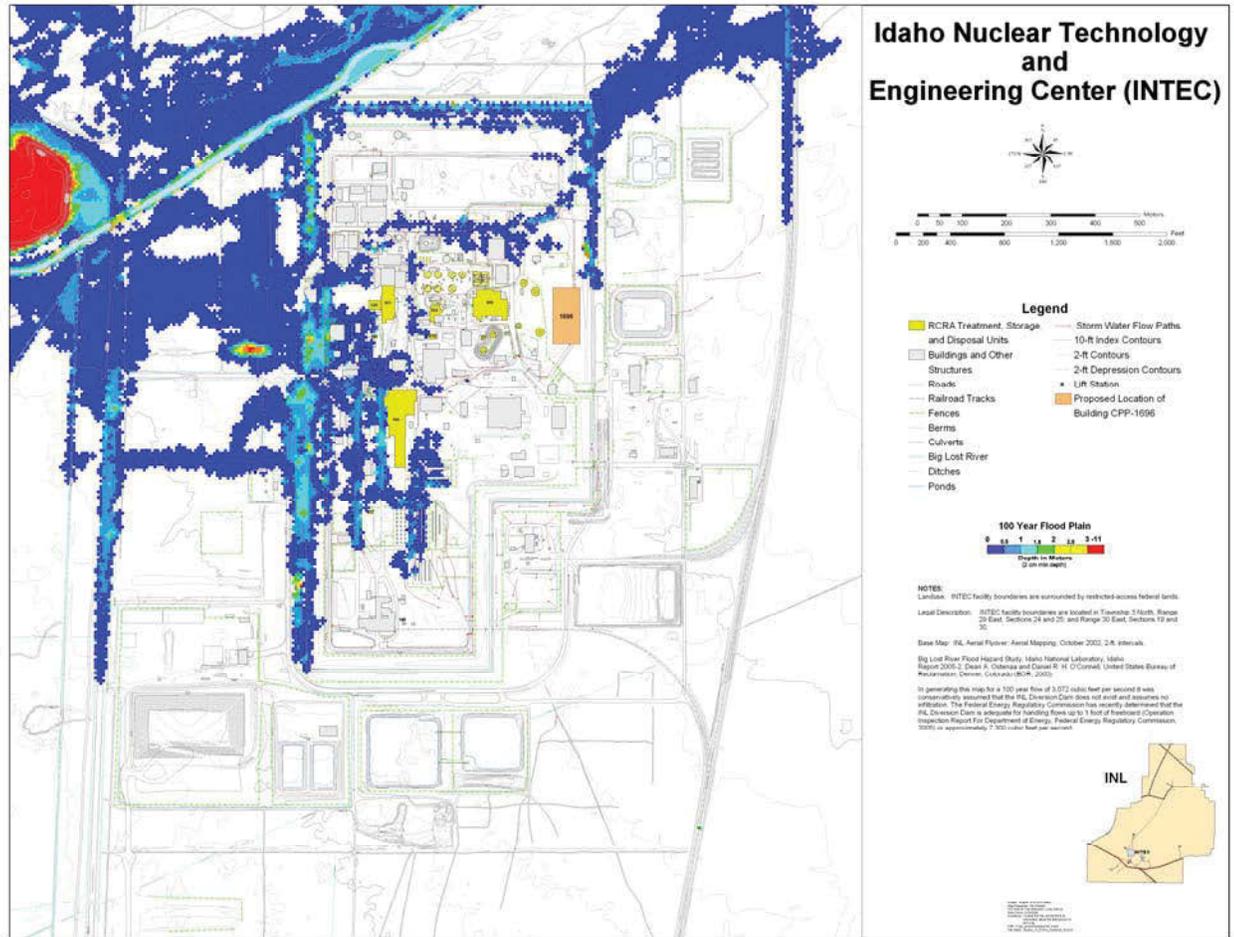


Exhibit B-2. Topographic Map of the INTEC

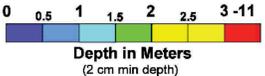
Idaho Nuclear Technology and Engineering Center (INTEC)



Legend

- RCRA Treatment, Storage, and Disposal Units
- Buildings and Other Structures
- Roads
- Railroad Tracks
- Fences
- Berms
- Culverts
- Big Lost River
- Ditches
- Ponds
- Storm Water Flow Paths
- 10-ft Index Contours
- 2-ft Contours
- 2-ft Depression Contours
- Lift Station
- Proposed Location of Building CPP-1696

100 Year Flood Plain



NOTES:
Landuse: INTEC facility boundaries are surrounded by restricted-access federal lands.

Legal Description: INTEC facility boundaries are located in Township 3 North, Range 29 East, Sections 24 and 25; and Range 30 East, Sections 19 and 30.

Base Map: INL Aerial Flyover: Aerial Mapping, October 2002, 2-ft. intervals.

Big Lost River Flood Hazard Study, Idaho National Laboratory, Idaho Report 2005-2, Dean A. Ostenaar and Daniel R. H. O'Connell, United States Bureau of Reclamation, Denver, Colorado (BOR, 2005).

In generating this map for a 100 year flow of 3,072 cubic feet per second it was conservatively assumed that the INL Diversion Dam does not exist and assumes no infiltration. The Federal Energy Regulatory Commission has recently determined that the INL Diversion Dam is adequate for handling flows up to 1 foot of freeboard (Operation Inspection Report For Department of Energy, Federal Energy Regulatory Commission, 2005) or approximately 7,300 cubic feet per second.



Project: Volume 14 RCRA Permit
Map Reporter: Kim Hadden
GIS Analyst: Dan Mahan, Linda Tedrow
Date Drawn: 6/25/2008
Disclaimer: Contact the SAL at 626-3529 for information about the data shown on this map.
Path: X:\gis\project\equipment_maps
File Name: Volume_14_RCRA_Permit_d_4.mxd

1 Bin Set 2 is a cylindrical, reinforced concrete vault that is founded on bedrock and encases the seven
2 bins. Exhibit B-3 provides a cutaway view of CSSF 2. The vault is located predominantly underground, with
3 earth banked up against the aboveground portion. The vault is 62 ft high with a 50-ft diameter. The vault
4 walls are constructed of reinforced concrete measuring 2 ft thick. The concrete floor slab varies in thickness
5 from 3 to 5 ft. The roof is composed of large pre-cast T-beams overlain with a field-poured concrete slab.

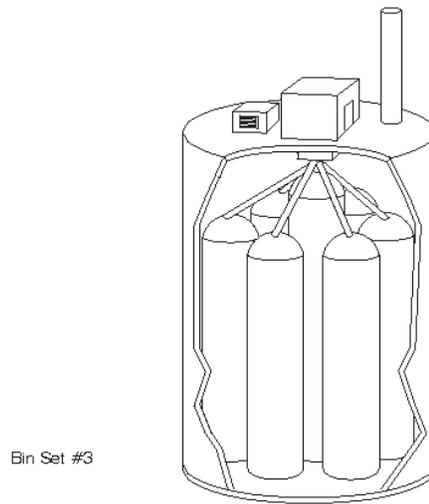
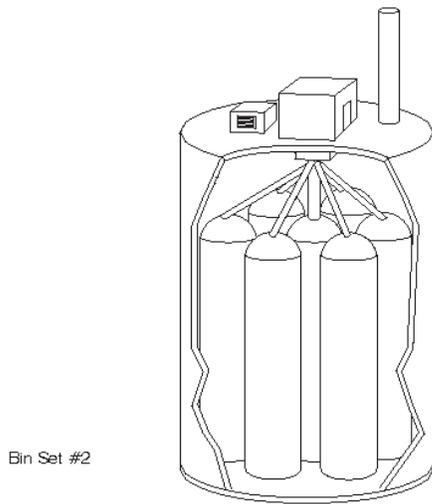
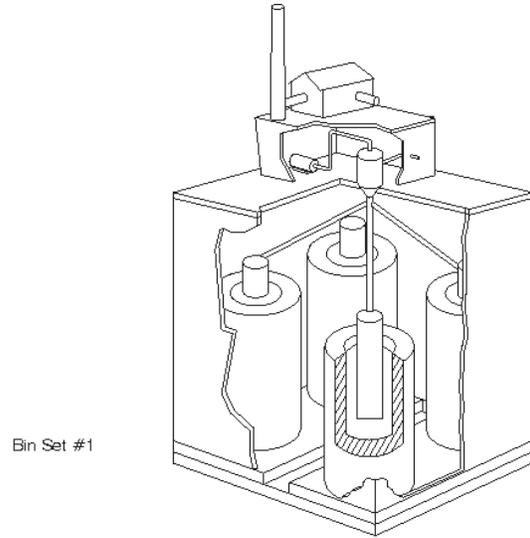
6 Bin Set 3 is contained in a vault that is 67 ft high with a 50-ft diameter and founded on bedrock.
7 Exhibit B-3 provides a cutaway view of CSSF 3. The vault is located predominantly underground with earth
8 banked up against the aboveground portion. The vault walls are constructed of reinforced concrete measuring
9 2 ft thick. The concrete floor slab varies in thickness from 3 ft to 5 ft. The roof is composed of large pre-cast
10 T beams overlain with a field-poured concrete slab.

11 Bin Set 4 is contained in a cylindrical, reinforced concrete vault that is located partially underground
12 and founded on bedrock. Exhibit B-4 provides a cutaway view of CSSF 4. The vault is approximately 70 ft
13 high and 36 ft in diameter. The vault floor is a concrete slab measuring 4 ft 6 in. thick. Vault walls are from 2
14 ft to 3 ft 6 in. thick. The roof is composed of pre-cast, reinforced concrete beams overlain with a field-poured
15 concrete slab.

16 Bin Set 5 is encased in a cylindrical, reinforced concrete vault that is founded on bedrock. Exhibit B-4
17 provides a cutaway view of CSSF 5. Approximately half of the vault is located below ground level. The vault
18 is approximately 82 ft high and 55 ft in diameter. The vault floor is a concrete slab measuring 5 ft thick. The
19 vault walls are 4 ft thick. The vault roof is overlain with a field-poured concrete slab supported by pre-cast,
20 reinforced concrete T-beams set on the vault walls.

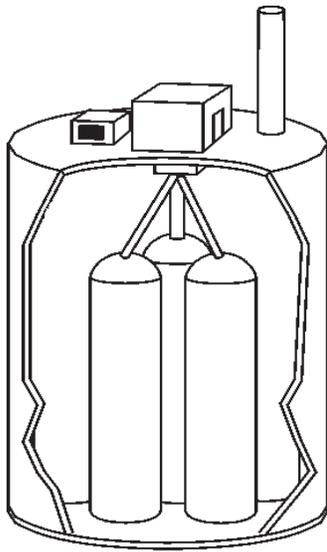
21 Bin Set 6 is contained in a cylindrical, reinforced concrete vault that is founded on bedrock.
22 Exhibit B-4 provides a cutaway view of CSSF 6. Approximately half of the vault is located below ground
23 level. The vault is approximately 93 ft high and 52 ft in diameter. The vault floor is a concrete slab measuring
24 6 ft 6 in. thick. The vault walls are 4 ft thick. Pre-cast, reinforced concrete panel forms support the vault roof
25 that is overlain with a field-poured concrete slab.

26 Bin Set 7 is contained in a cylindrical, reinforced concrete vault that is founded on bedrock.
27 Exhibit B-4 provides a cutaway view of CSSF 7. Approximately half of the vault is located below ground
28 level. The vault is approximately 94 ft high and 56 ft in diameter. The vault floor is a concrete slab measuring
29 6 ft 6 in. thick. The vault walls are 4 ft thick. Pre-cast, reinforced concrete panel forms support the vault roof
30 that is overlain with a field-poured concrete slab.

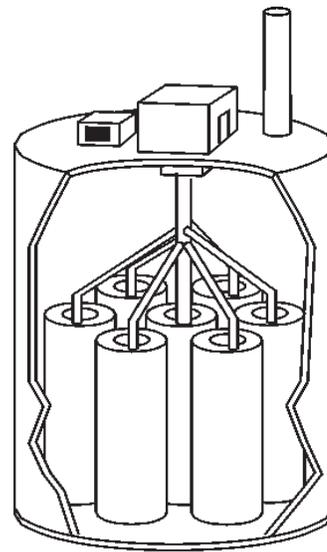


ICPPA-16027
(3-94)

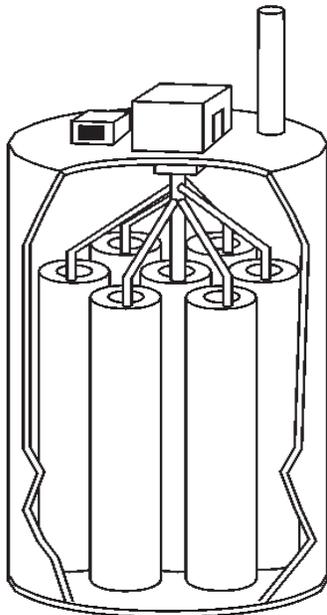
Exhibit B-3. Cut-away view of CSSFs 1, 2, and 3.



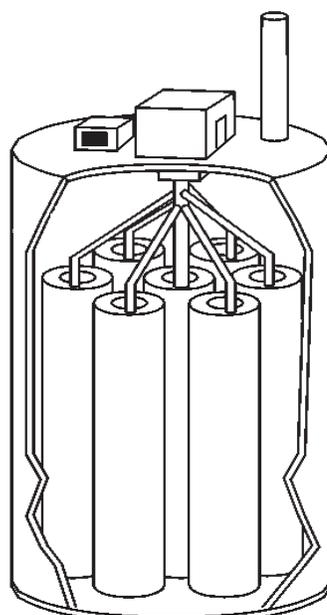
Bin Set #4



Bin Set #5



Bin Set #6



Bin Set #7

ICPP-A-16115
(3-94)

Exhibit B-4. Cut-away view of CSSFs 4, 5, 6, and 7.

RCRA PART B PERMIT
FOR THE
IDAHO NATIONAL LABORATORY

Volume 22
Idaho Nuclear Technology and Engineering Center
Calcined Solids Storage Facility

Attachment 1 - Section D
Process Description

Revision Date: August 18, 2008

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D. PROCESS INFORMATION

1 This permit focuses on the CSSF, also known as bin sets, located at the Idaho Nuclear
2 Technology and Engineering Center (INTEC) on the Idaho National Laboratory (INL). The CSSF
3 includes Bin Sets 1, 2, 3, 4, 5, 6, and 7 located in the northeast quadrant of the INTEC. CSSF Bin Set 1
4 contains four stainless-steel composite bins. CSSF Bin Sets 2–7 consist of either three or seven stainless-
5 steel storage bins. All CSSF bin sets are located in underground or partially underground concrete vaults.
6 The CSSF bins are permitted for tank storage (S02) under Idaho Administrative Procedures Act (IDAPA)
7 58.01.05.008 (40 CFR 264, Subpart J) requirements.

8 Although the Calcined Solids Storage Facility (CSSF) bins are not currently receiving any waste,
9 the Idaho High-Level Waste and Facilities Disposition Final Environmental Impact Statement Record of
10 Decision may select a waste treatment option that would require the use of the bin sets. This permit
11 allows for the continued use of the Bin Sets 1, 2, 3, 4, and 5 for storage and Bin Sets 6 and 7 for storage
12 and to receive future waste transfers.

13 From December 1963 to June 2000, the calciners at the INTEC were used to convert
14 approximately 7,920,000 gal of liquid mixed waste into approximately 155,600 ft³ of granular calcine
15 solids. In the calciner processes liquid wastes were injected into a high-temperature (400 to 600° C) air-
16 fluidized bed of granular solids. The liquid portion of the waste evaporated and the solids adhered to the
17 granular material-producing calcine. Exhibit D-1 provides a diagram of the typical calciner process flow.
18 Calcined solids were pneumatically transferred from the calciner facilities to the CSSF via air transport
19 lines. In the CSSF, the solids are stored in stainless-steel bins located in underground or partially
20 underground concrete vaults to isolate them from the environment. Exhibit D-2 provides the calcine
21 solids flow path from the Waste Calcining Facility (WCF) to the CSSF. Exhibit D-3 provides the calcine
22 solids flow paths from the New Waste Calcining Facility (NWCF) to the CSSF.

D-2. Tank Systems

23 The following identifies the CSSF tanks, ancillary equipment, and boundaries of the CSSF. Each
24 individual bin set and ancillary equipment meets the Hazardous Waste Management Act (HWMA)/RCRA
25 definition of a tank system, although no free liquids are stored in the CSSF. The bin sets are located
26 inside underground or partially underground concrete vaults intended to satisfy radiation protection
27 standards, not RCRA-defined secondary containment.

- 1 • CSSF 1 consists of four composite tank groups, VES-WCS-115-1 through VES-WCS-115-4, and
2 Distributor Pipe VES-WCS-3083, located in Vault CPP-741 (see Drawings 106576 and 106577,
3 Appendix 1).

- 4 • CSSF 2 consists of seven tanks, VES-WCS-136-1 through VES-WCS-136-7, and Distributor
5 Pipe VES-WCS-137, located in Vault CPP-742 (see Drawings 118862 and 118871, Appendix 1).

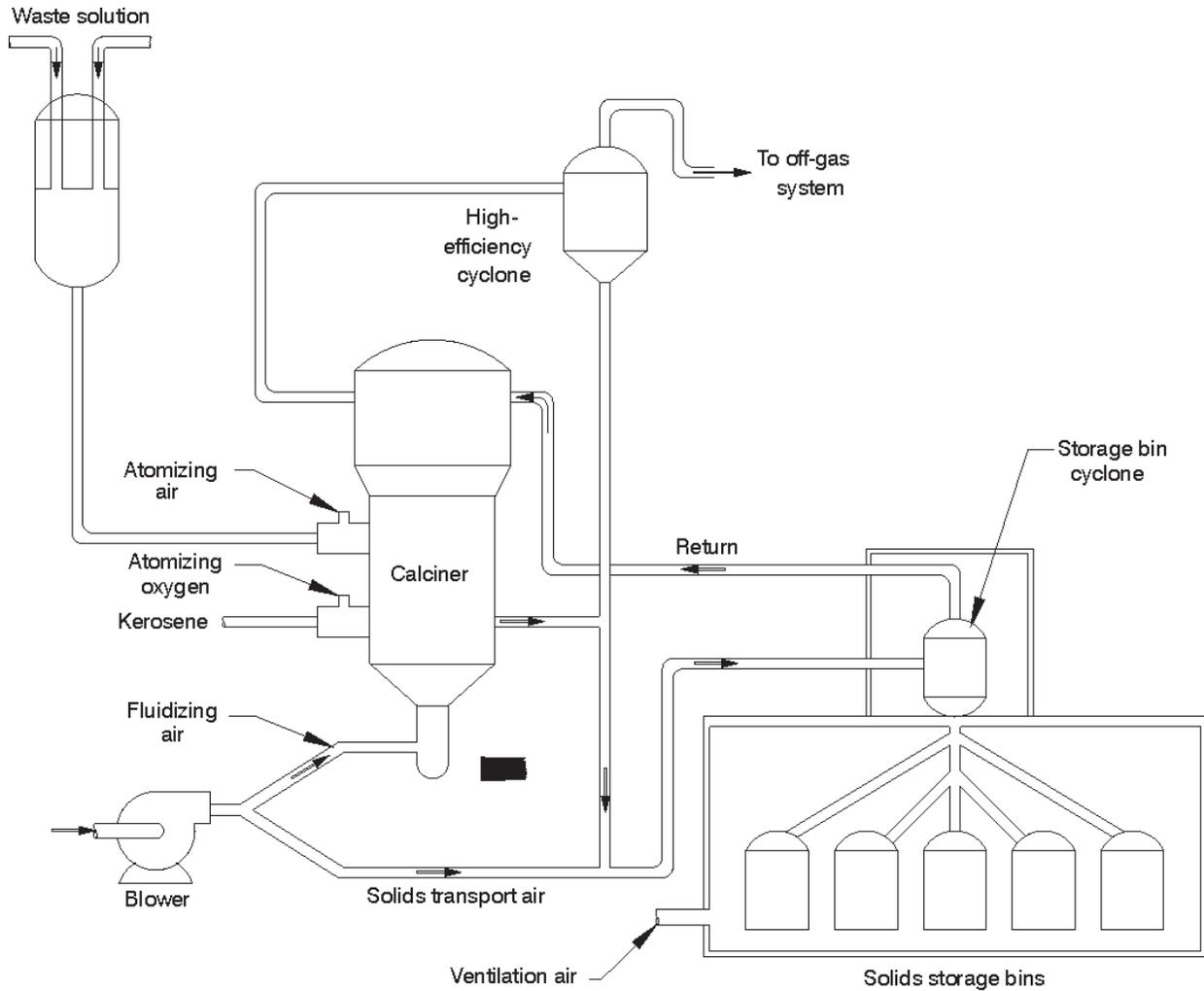
- 6 • CSSF 3 consists of seven tanks, VES-WCS-140-1 through VES-WCS-140-7 (VES-WCS-140-7
7 was originally designated as VES-WCS-139 and later changed), and Distributor Pipe
8 VES-WCS-141, located in Vault CPP-746 (see Drawings 153510 and 154129, Appendix 1).

- 9 • CSSF 4 consists of three tanks, VES-WS4-142 through VES-WS4-144, and Distributor Pipe
10 VES-WS4-145, located in Vault CPP-760 (see Drawings 155750 and 157798, Appendix 1).

- 11 • CSSF 5 consists of seven tanks, VES-WS5-146 through VES-WS5-152, and Distributor Pipe
12 VES-WS5-153, located in Vault CPP-765 (see Drawings 158491 and 158510, Appendix 1).

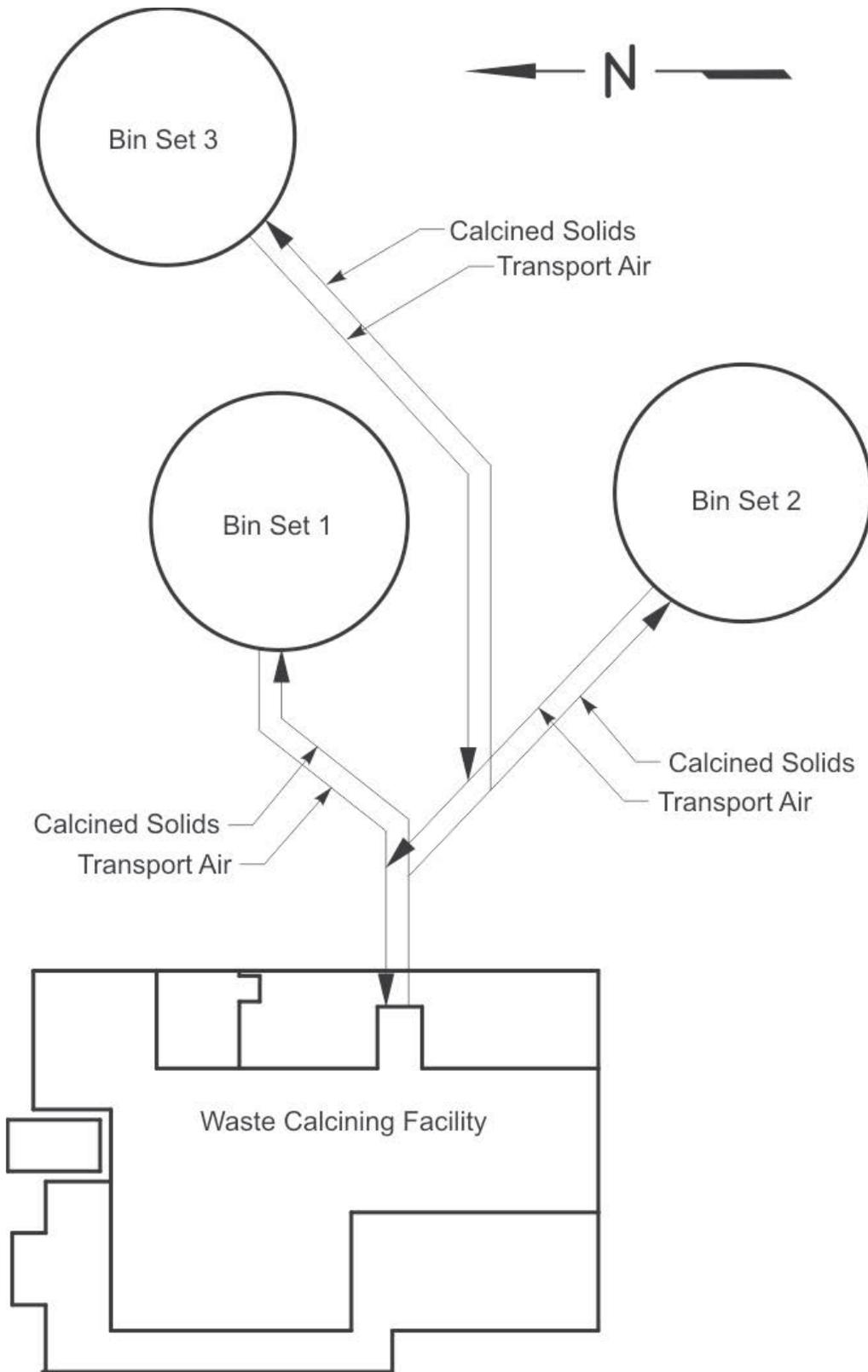
- 13 • CSSF 6 consists of seven tanks, VES-WS6-154 through VES-WS6-160, and Distributor Pipe
14 VES-WS6-161, located in Vault CPP-791 (see Drawings 160283 and 161425, Appendix 1).

- 15 • CSSF 7 consists of seven tanks, VES-WS7-162 through VES-WS7-168, and Distributor Pipe
16 VES-WS7-169, located in Vault CPP-795 (see Drawing 099162 and 165772, Appendix 1).



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(3-94)

Exhibit D-1. Typical calciner process flow.



G07-2038-02

Exhibit D-2. Calcine solids flow.

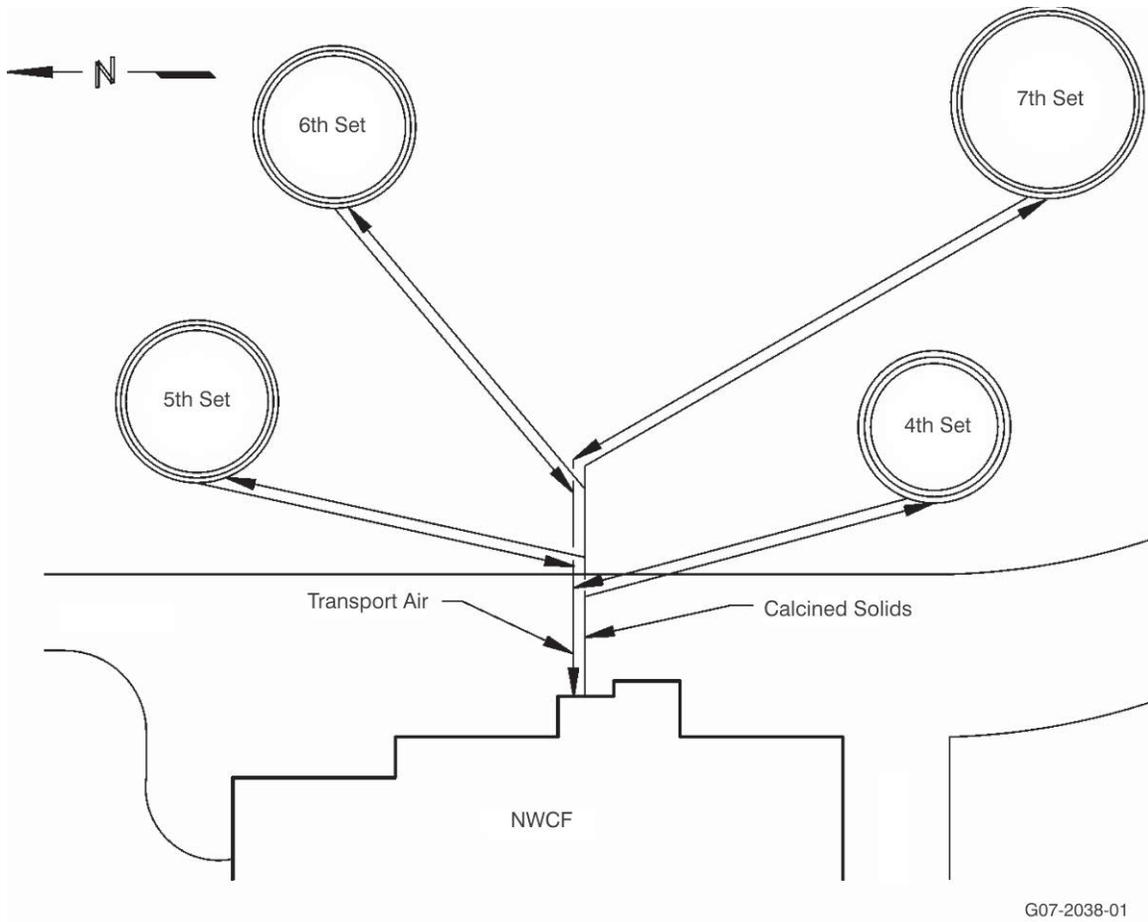


Exhibit D-3. Calcine solids flow.

- 1 • Waste piping systems and ancillary equipment associated with Bin Sets 1, 2, and 3 to the point
2 where the transport lines were cut and capped during closure of the WCF. The boundaries for
3 CSSF 1 begin after the cut and cap on Lines 3-TAA-3001 and 3-TAA-3009. The boundaries for
4 CSSFs 2 and 3 begin after the cut and cap on Lines 3-TAA-3032 and 3-TAA-3034 (see Drawings
5 106576, 118862, and 154129 in Appendix 1).

- 6 • Waste piping systems and ancillary equipment associated with Bin Sets 4, 5, 6, and 7. The
7 boundaries for CSSFs 4, 5, 6, and 7 begin with CSSF Valves TAV-WS4-1 and TAV-WS4-2;
8 TAV-WS5-5 and TAV-WS5-4; TAV-WS6-2 and TAV-WS6-5; and TAV-WS7-5 and
9 TAV-WS7-4 shown in Drawings 157798, 158491, 161425 and 009162, respectively, in
10 Appendix 1. Beyond these valves, the “RCRA-Controlled” piping systems and ancillary
11 equipment (including cyclones) are shown in these same drawings, respectively. The bin sets are
12 isolated from the NWCF calciner system by physical devices securing the valves in the closed
13 position on the lines.

D-2a. Existing Tank Systems

14 The design concept is similar for all the bin sets: vertical, stainless steel bins inside a concrete
15 vault. The vault for CSSF 1 is rectangular and wholly underground. The vaults for CSSFs 2 and 3 are
16 cylindrical, located partially underground and have had gravel berms placed around them. The vaults of
17 CSSFs 4, 5, 6, and 7 are cylindrical, and located partially underground. In addition to housing the bin sets
18 and ancillary equipment, each vault also contains a cyclone cell (for calcine distribution) and instrument
19 room with CSSF monitoring equipment. Exhibit D-4 provides a cutaway view of a typical CSSF vault.

20 Heat was generated in the CSSF by fission-product decay and was transferred from the bins to the
21 surrounding air. Heat was then conducted from the vault air through the concrete walls surrounding the
22 bins and dissipated to the surrounding soil and air. The temperature within the bins is monitored via
23 thermocouples in various locations and has stabilized to show only ambient temperature fluctuations.
24 Therefore, the ventilation system for cooling was not necessary and was secured closed.

25 The CSSF is equipped with continuous air monitors (CAMs) to detect loss of bin containment.
26 Any loss of containment would result in radioactive materials being suspended in the vault air that would
27 be detected by the CAMs. The pump within the CAM unit allows monitoring of the vault through
28 recirculation of vault air.

1 If a CAM alarms a radiological control technician and an operator will have the CAM filter
2 analyzed to determine whether or not a release has occurred. All vaults have been isolated from the
3 atmosphere by mechanically securing the cooling air inlets and outlets closed. As a result there is no
4 motive force to spread contamination outside the vault.

5 **D-2a(1) Assessment of Existing Tank System's Integrity**
6 **[IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.191 and**
7 **270.16(a)]**

8 An assessment prepared by Jason Associates Corporation, *Tank System Integrity Assessment for*
9 *the Calcined Solids Storage Facility Bin Sets at the Idaho Nuclear Technology and Engineering Center*
10 (see Appendix 2 of the permit application), has determined and provides an independent Professional
11 Engineer certification that the calcine storage bins are adequately designed and have sufficient structural
12 strength and compatibility with the wastes being stored to protect human health and the environment.
13 The facility assessment subsequently determined that the bins in CSSF 1–7 can be permitted for tank
14 storage (7 units) under IDAPA 58.01.05.008, and 40 CFR Part 264, Subpart J requirements.

15 **D-2a(2) Existing Corrosion Protection [IDAPA 58.01.05.008; 40 CFR**
16 **264.191(b)(3)]**

17 The tanks and ancillary equipment are contained within concrete vaults. The tank systems do not
18 have RCRA compliant secondary containment, however, a variance from secondary containment is being
19 requested (see Section D-2f). Since the tank systems are located in vaults and the permitted piping is not
20 directly buried in the soil, cathodic protection is not required.

21 The assessment prepared by Jason Associates Corporation, *Tank System Integrity Assessment for*
22 *the Calcined Solids Storage Facility Bin Sets at the Idaho Nuclear Technology and Engineering Center*
23 (see Appendix 2 of the permit application), provides an independent Professional Engineer certification
24 that the CSSF by design, construction, and the nature of the wastes stored are adequate to protect human
25 health and the environment.

D-2b. New Tank Systems [IDAPA 58.01.05.008 and 58.01.05.012,
 40 CFR 264.192 and 270.16(f)]

26 There are no new tank systems associated with the CSSF.

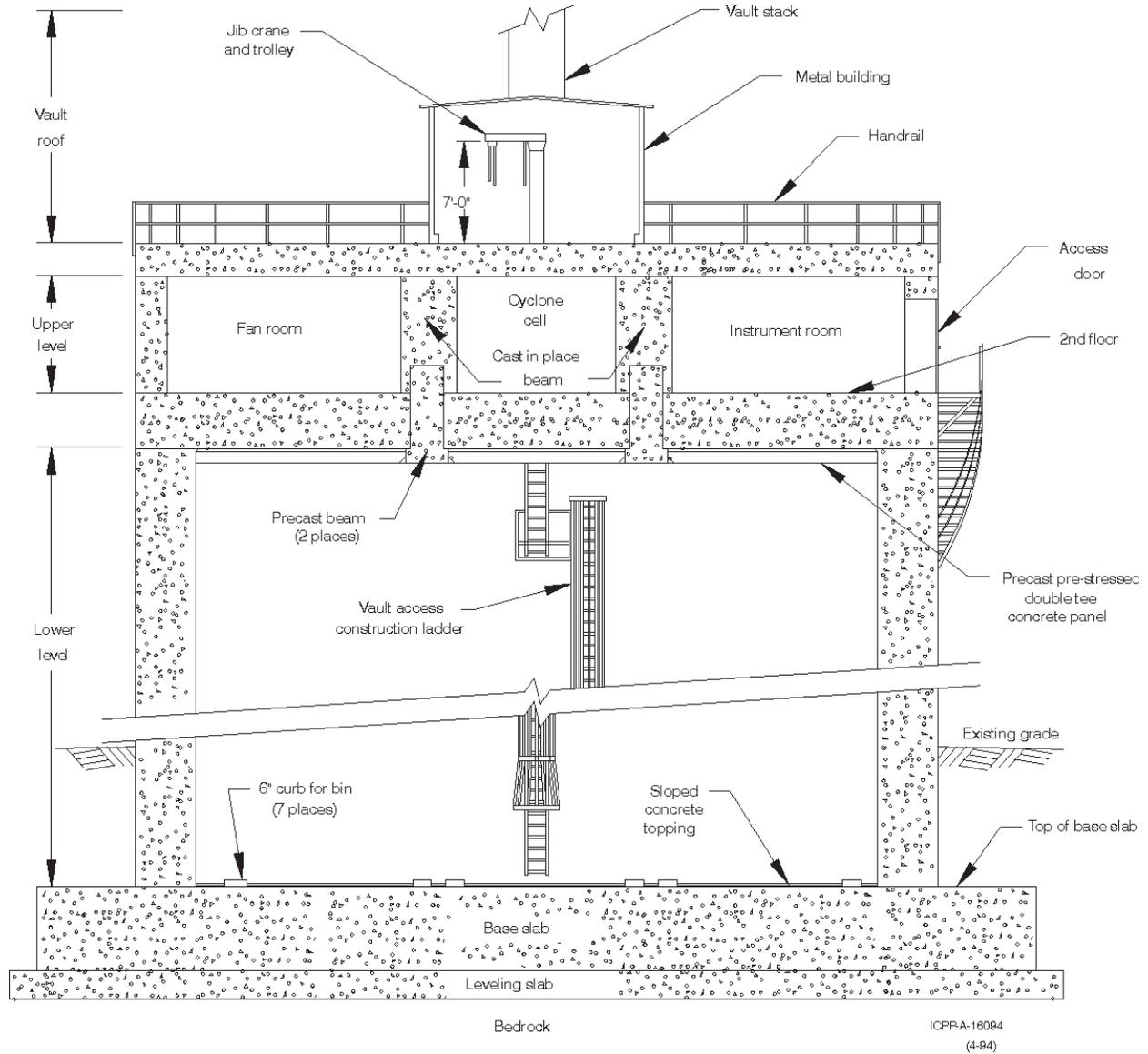


Exhibit D-4. Cutaway view of a typical CSSF vault.

D-2c. Dimensions and Capacity of Each Tank [IDAPA 58.01.05.012; 40 CFR 270.16(b)]

1 Under appropriate circumstances, Idaho law allows a permittee to maintain confidentiality of
2 information in the Resource Conservation and Recovery Act (RCRA) permitting process. Pursuant to this
3 law, Section D-2c has been removed from this permit to protect Official Use Only information and was
4 submitted to the Idaho Department of Environmental Quality under a separate certified package.

5 Exhibit D-5 and D-6 provide cutaway views of the CSSF 1 - 7.

D-2d. Description of Feed Systems, Safety Cutoffs, Bypass Systems, and Pressure Controls [IDAPA 58.01.05.012; 40 CFR 270.16(c)]

6 The calcine stored in the CSSF is a solid granular waste form that does not contain free liquids.
7 The bins temperatures are monitored during filling to determine the approximate level of the calcine in
8 each bin.

9 **Safety Cutoffs.** There are no safety cutoffs associated with the CSSF.

10 **Bypass Systems.** There are no bypass systems associated with the CSSF.

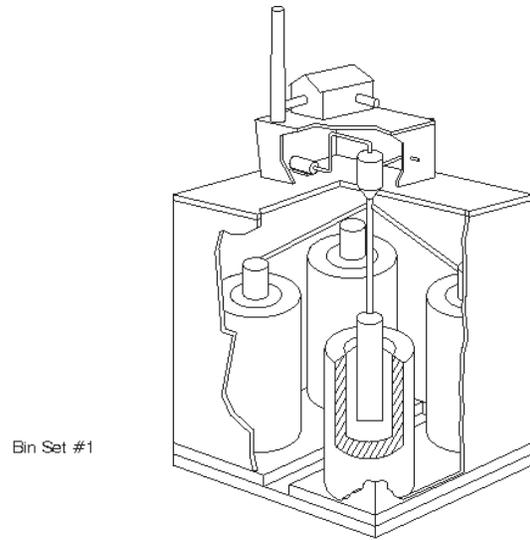
11 **Pressure Controls.** Bin vent lines are provided with three pressure relief valves used during bin
12 filling; a high-pressure relief valve, a low-pressure relief valve, and a vacuum relief valve. The high and
13 low pressure relief valves discharge into the vent system exhaust duct, while the vacuum valves allow air
14 to be drawn into the bins.

D-2e. Diagrams of Piping, Instrumentation, and Process Flow [IDAPA 58.01.05.012; 40 CFR 270.16(d)]

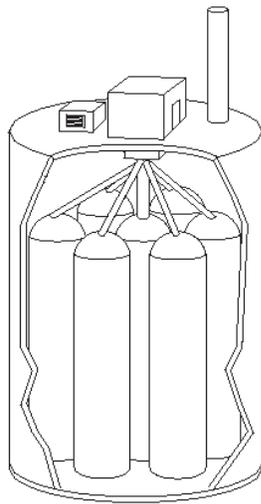
15 A list of drawing numbers and the drawings are located in Appendix 1 of the permit application.

D-2f. Containment and Detection of Releases [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR 270.16(h) and 264.193(g)]

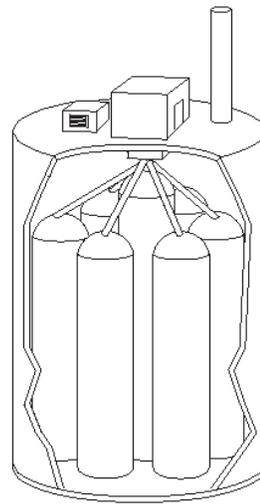
16 Regulations allow application for a variance from the secondary containment requirements
17 provided the containment is designed and operated to be at least as effective at protecting human health
18 and the environment as secondary containment. Other considerations include the nature and quantity of
19 the waste and the hydro-geologic setting of the unit.



Bin Set #1



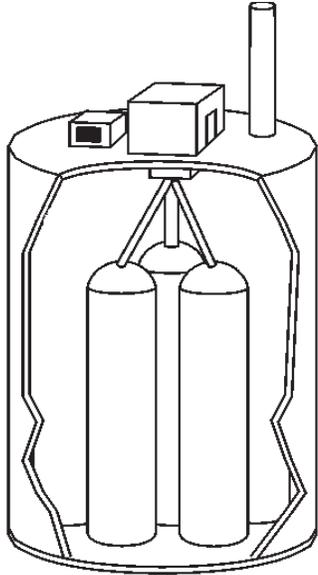
Bin Set #2



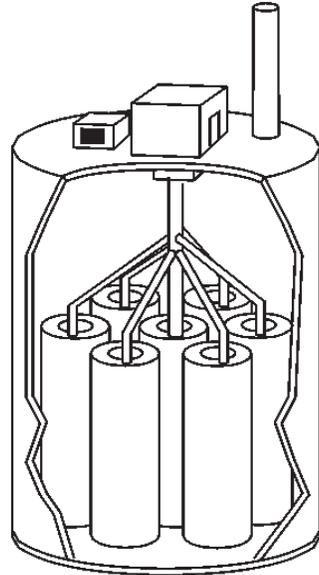
Bin Set #3

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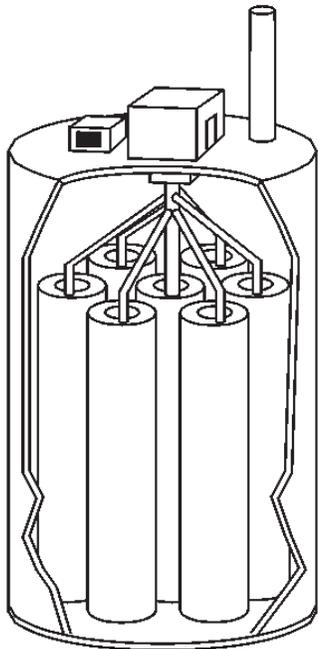
Exhibit D-5. CSSFs 1, 2, and 3 cutaway view.



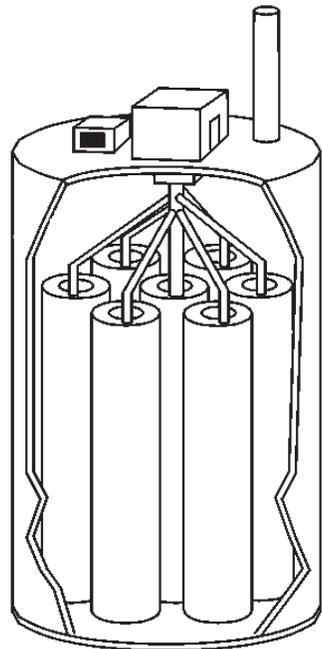
Bin Set #4



Bin Set #5



Bin Set #6



Bin Set #7

ICPP-A-16115
(3-94)

Exhibit D-6. CSSFs 4, 5, 6, and 7 cutaway view.

1 DOE-ID applied for a variance from secondary containment requirements of
2 IDAPA 58.01.05.012 (40 CFR 264.193).

3
4 **D-2f(3) Variance from Secondary Containment Requirements [IDAPA**
5 **58.01.05.012 and 58.01.05.008; 40 CFR 270.16(h) and**
6 **264.193(g)(1)]**

7 **D-2f(3)(a) Variance Based on a Demonstration of Equivalent**
8 **Protection of Groundwater and Surface Water [IDAPA**
9 **58.01.05.012 and 58.01.05.008; 40 CFR 270.16(h) and**
10 **264.193(g)(1)(i)]**

11 **D-2f(3)(a)(i) Nature and Quantity of the Waste [IDAPA 58.01.05.012**
12 **and 58.01.05.008; 40 CFR 270.16(h) and 264.193(g)(1)(i)]**

13 The waste stored in the CSSF is a dry, rounded, granular solid. The bin sets containing the
14 calcine are mechanically isolated to prevent addition of materials to the tanks. The chemical nature of the
15 calcine is described in detail in Section C of this permit. The quantity of wastes stored in the CSSF is
16 listed in Table 2 of the Section D Supplemental Information.

17
18 **D-2f(3)(a)(ii) Proposed Alternate Design and Operation of the**
19 **Containment System [IDAPA 58.01.05.012 and**
20 **58.01.05.008; 40 CFR 270.16(h) and 264.193(g)(1)(ii)]**

21 In accordance with 40 CFR 264.193(g), a variance may be obtained from the secondary
22 containment requirements if it can be demonstrated that the alternative design and operating practices,
23 together with location characteristics, will prevent the migration of any hazardous waste or hazardous
24 constituents into the ground water or surface water at least as effectively as secondary containment during
25 the active life of the tank system. An assessment was prepared in accordance with 40 CFR 264.191 by
26 Jason Associates Corporation, *Tank System Integrity Assessment for the Calcined Solids Storage Facility*
27 *Bin Sets at the Idaho Nuclear Technology and Engineering Center*, (see Appendix 2 of the permit
28 application), that demonstrates the calcine storage bins and vaults are adequately designed and have
29 sufficient structural strength and compatibility with the wastes being stored to protect human health and
30 the environment at least as effectively as secondary containment.

1 **D-2f(3)(a)(iii) Hydrogeologic Setting of the Facility [IDAPA**
2 **58.01.05.012 and 58.01.05.008; 40 CFR 270.16(h) and**
3 **264.193(g)(1)(iii)]**

4 The hydrology conditions at the INL are addressed in the *DOE Programmatic Spent Nuclear Fuel*
5 *Management and INEEL Environmental Restoration and Waste Management Programs Final*
6 *Environmental Impact Statement* (DOE/EIS - 0203F, Volume 1, Appendix B). A copy of this document
7 has already been provided to DEQ.

8 **D-2f(3)(a)(iv) Other Factors Influencing Quantity and Mobility of the**
9 **Waste [IDAPA 58.01.05.012 and 58.01.05.008;**
10 **40 CFR 270.16(h) and 264.193(g)(1)(iv)]**

11 The following is a list of factors that would influence the quality and mobility of the hazardous
12 constituents and the potential for them to migrate to ground water or surface water.

- 13 • In the calciner processes liquid wastes were injected into a high-temperature (400 to 600° C) air-
14 fluidized bed of granular solids. The liquid portion of the waste evaporated and the solids
15 adhered to the granular material-producing calcine. This calcine is dry stable rounded waste
16 form.
- 17 • No free liquids are introduced into the bins. The calcine contains no free liquids as a result of the
18 calcining process. Therefore, an external mechanism would be necessary for transport of the
19 calcine outside of the vaults.
- 20 • The vaults are monitored for leaks from the bins using CAMs and for liquid infiltration using
21 sumps that are equipped with level indicators and jets for liquid removal. The engineered barrier
22 is the INTEC boundary. In order for calcine to migrate outside of this boundary a bin would have
23 to leak into the vault. A liquid (which would collect in the vault sump, be detected, and removed)
24 capable of dissolving the calcine would have to be introduced, dissolve the calcine, and then find
25 a path out of the vault to the environment.
- 26 • The vaults cooling air inlets and outlets are mechanically isolated from the environment.
- 27 • The INTEC is located in the south-central portion of the INL in Butte County. The physical
28 conditions around these buildings are typical for the INL Site, approximately 5,000 ft above mean
29 sea level. The area is relatively flat and receives little rainfall. The mean annual precipitation at
30 the INL is approximately 8.5 in./yr.

- 1 • There is little or no potential for damage to wildlife, crops, vegetation, and physical structures
2 caused by a leak from the CSSF due to the robust construction of the bins and vaults.

D-2g. Controls and Practices to Prevent Spills and Overflows
[IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR 270.16(i) and
264.194(b)]

3 The level of calcine in the bins is monitored through temperature variances using thermocouples
4 on the bins. Drawings 106574, 118888, 154127, 157814, 158523, 161448, and 168211 in Appendix 1 of
5 the permit application show the location of the thermocouples in CSSFs 1 through 7, respectively. As
6 calcine is transported to the CSSF, the temperature increases in the bins to correlate with the level of
7 calcine being added. CSSFs 1, 2, 3, 4, 5, and 6 have reached equilibrium temperatures. Thermocouples
8 for these bins are monitored on an annual basis. CSSF 7 is not storing calcine and is not being monitored.

RCRA PART B PERMIT
FOR THE
IDAHO NATIONAL LABORATORY

Volume 22
Idaho Nuclear Technology and Engineering Center
Calcined Solids Storage Facility

Attachment 2 - Section C
Waste Characteristics

Revision Date: August 18, 2008

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C. WASTE CHARACTERISTICS

1 This section has been prepared for the Idaho Nuclear Technology and Engineering Center
2 (INTEC) Calcined Solids Storage Facility (CSSF) located at the Idaho National Laboratory (INL). The
3 CSSF bins are permitted for tank storage (Process Code S02). The purpose of this section is to describe
4 the process and rationale utilized by the contractor to determine the physical and chemical characteristics
5 of the wastes managed at these units. This section describes hazardous wastes and only the hazardous
6 components of mixed wastes regulated by Hazardous Waste Management Act (HWMA)/ Resource
7 Conservation and Recovery Act (RCRA), the Idaho Administrative Procedures Act (IDAPA), and the
8 Code of Federal Regulations (CFR).

9 The CSSF is composed of seven bin sets designed to store high-activity mixed wastes produced
10 from calcination in the Waste Calcining Facility (WCF), from 1963 through 1981, and the New Waste
11 Calcining Facility (NWCF), from 1982 through 2000. The bin sets are comprised of an arrangement of
12 bins contained within a concrete vault. Detailed descriptions of CSSF composition and bin set
13 arrangement are provided in Sections B and D of this Part B permit.

C-1 CHEMICAL AND PHYSICAL ANALYSES: [IDAPA 58.01.05.012 and .008; 40 CFR §§ 270.14(b)(2) and 264.13(a)]

14 The CSSF units described in this permit store calcine generated by the WCF and NWCF. Calcine
15 is a granular solid mixed waste without free liquids regulated as hazardous under IDAPA 58.01.05.005
16 (40 CFR 261, Subparts C and D) and radioactive under the Atomic Energy Act.

17 Radionuclides that contribute the majority of the activity for wastes managed in the CSSF include
18 Sr-90, Y-90, Ba-137m, and Cs-137. Activity of typical calcine is approximately 10 mCi/g. The exposure
19 rates associated with the calcine routinely exceed 10 rem/h on a 15-mL sample and can pose a potentially
20 serious hazard to workers at the INL, if appropriate protective measures such as time, distance, and
21 shielding are not applied.

22 Due to the highly radioactive nature of wastes managed in the CSSF, characterization and the
23 assignment of Environmental Protection Agency (EPA) hazardous waste numbers (HWNs) occur through
24 the use of acceptable knowledge, which involves both process knowledge and/or chemical/physical
25 testing of the waste. Listed HWNs are applied based on knowledge of the processes. *A Regulatory*
26 *Analysis and Reassessment of U.S. Environmental Protection Agency Listed Hazardous Waste Numbers*
27 *for Applicability to the INTEC Liquid Waste System, INEEL/EXT-98-01213, Rev. 1, February 1999,*

1 identifies the listed HWNs associated with INTEC waste treatment systems. Characteristic HWNs may
2 be applied by testing the waste according to the methods set forth in Subpart C of 40 CFR Part 261, or
3 according to an equivalent method approved by the Director of the Idaho Department of Environmental
4 Quality (DEQ), or by applying knowledge of the hazard characteristic of the waste in light of the
5 materials or the processes used.

6 The RCRA Part A Permit application for the CSSF shows 12 EPA HWNs. Of the 12 HWNs
7 identified, four (4) are listed HWNs and eight (8) are characteristic HWNs.

8 Core samples of alumina and zirconia calcine were obtained from bins within Bin Set 2 in 1978.
9 The purpose of the 1978 sampling was to obtain information on the physical properties and condition of
10 the stored calcine and to determine whether changes occurred during calcine storage to support long-term
11 waste management and calcine retrieval studies. The alumina calcine was retrieved from Bin No. 3 in
12 Bin Set 2, and the zirconia calcine was retrieved from Bin No. 7 in Bin Set 2. These samples were
13 analyzed for radiological constituents. The analytical results showed that the calcine remained unchanged
14 from the time of placement.

15 Sub samples were taken from these core samples in June 2003 for RCRA characterization
16 analysis. The overall purpose of the sampling effort was to: (1) provide analyses of a representative
17 sample of the waste in support of the permit application; (2) correlate characterization data from sampling
18 and analysis of the calcine with predicted modeled values (flow sheets) that were based on
19 characterization of the liquid waste feed to the calciner; and (3) determine whether organic constituents
20 are present in the calcine at concentrations requiring application of the HWMA/RCRA toxicity
21 characteristic codes.

22 Analytical data will also be compared to recent historical data from calcine samples collected for
23 other purposes to determine if any constituents (or concentrations) unique to the calcine sampled during
24 this event can be identified.

25 Samples of alumina and zirconia calcine were also collected from the NWCF during a processing
26 campaign in 1993. This calcine was analyzed at the same time as the samples collected during the June
27 2003 sampling event. The analytical data for the samples is shown in Appendix 3 of the permit
28 application.

C-1b Waste in Tank Systems: [IDAPA 58.01.05.008; 40 CFR §§ 264.191(b)(2) and 264.192(a)(2)]

1 The characteristics of calcine produced from the treatment of liquid radioactive waste correspond
2 to the characteristics of the liquid wastes fed to the calciners. When the calcining process was initiated,
3 the waste feed primarily resulted from the processing and recovery of enriched uranium from spent
4 nuclear fuel. The spent fuels contained aluminum, stainless steel, graphite, or Zircaloy^R (a zirconium
5 alloy) as the primary fabrication or cladding material. The chemical characteristics of calcine produced as
6 a result of spent fuel reprocessing were determined and documented based upon the unique constituents
7 contained in each type of fuel element and the methodology used for reprocessing. Later, when spent
8 nuclear fuel reprocessing was discontinued at the INTEC in the early 1990s, other liquid radioactive
9 wastes were calcined. These included liquid mixed wastes generated from activities such as
10 decontamination and subsequent (after first cycle) processing of spent nuclear fuel. These solutions were
11 generally high in sodium and potassium nitrates and are referred to as sodium-bearing waste (SBW).
12 Other newly generated liquid mixed wastes (NGLW), primarily associated with decontamination
13 activities not associated with processing spent fuel, were also transferred to the INTEC Tank Farm
14 Facility. These wastes were subsequently calcined, and are currently stored in the CSSF.

15 Bin Sets 1, 2, and 3 received calcined waste from the WCF only. These wastes were generated
16 from spent nuclear fuel reprocessing operations occurring at the INTEC. Bin Sets 4, 5, and 6 received
17 calcined waste from the NWCF only. These bins contain calcine resulting from spent fuel reprocessing,
18 SBW, and NGLW. Bin Set 7 has not received any waste.

19 The chemical composition of calcine includes metal oxides and metal salts of aluminum, boron,
20 cadmium, calcium, chromium, mercury, radionuclides, sodium, and zirconium. The concentration of the
21 principal constituents of aluminum, cadmium, calcium, chromium, fluoride, mercury, sodium, and
22 zirconium is variable, depending on the composition of the waste calcined. Typical calcine composition
23 for each type of liquid radioactive waste treated is given in Table C-1. Approximate calcine composition
24 by Bin Set for Bin Sets #1 through #6 is given in Table C-1.a.

25 Aluminum, zirconium, zirconia-sodium, and aluminum-sodium calcine are readily distinguished
26 from each other on the basis of chemical composition. Aluminum calcine is predominantly aluminum
27 oxide and contains small amounts of mercury compounds. Zirconium blends can be distinguished from
28 other calcine types by the high percentages of zirconium oxide and calcium fluoride and the absence of
29 cadmium oxide. Zirconia-sodium calcine is readily distinguished from other types by the sodium and
30 potassium content. Aluminum-sodium calcine is readily distinguished from other types by the aluminum
31 oxide and sodium content.

Table C-1. Typical calcined product composition ^a - excluding oxide (in wt%).

Component	Waste Type			
	Aluminum	Zirconium	Fluorinel/SBW	Aluminum Nitrate/SBW
Aluminum	87.3	20.0	20.0	53.4
Boron	0.4	1.1	1.0	0.8
Cadmium	N/A	N/A	5.5	0.2
Calcium	N/A	32.0	31.9	4.0
Chloride	N/A	N/A	0.1	0.4
Chromium	N/A	0.4	0.1	0.1
Fluoride	N/A	25.0	21.9	1.0
Iron	0.1	0.3	0.2	0.4
Mercury	5.5	N/A	0.001	0.003
Nitrate	2.6	0.1	8.1	23.0
Potassium	0.1	0.1	0.9	2.5
Sodium	1.4	N/A	4.1	11.4
Sulfate	1.5	N/A	3.7	1.4
Tin	N/A	0.3	0.2	N/A
Zirconium	N/A	18.2	15.5	0.3

^a Source: Staiger (2003), Table 3.
SBW = sodium-bearing waste

Table C-1.a. Approximate calcine composition by Bin Set (for Bin Sets #1 to #6).

Component	Weight %					
	Bin Set #1	Bin Set #2	Bin Set #3	Bin Set #4	Bin Set #5	Bin Set #6 ^d
Al ₂ O ₃	90.6	39.5	23.8	14.2	14.2	58.8
ZrO ₂	---	14.8	17.3	19.4	19.9	2.4
CaF ₂	---	34.1	40.3	45.2	46.4	6.8
B ₂ O ₃	0.6	2.1	2.3	2.6	2.6	1.5
Na ₂ O	3.1	1.0	1.9	4.2	3.6	7.9
K ₂ O	---	---	0.1	0.9	0.7	1.8
CaO	---	2.5	5.9	8.0	10.9	7.1
Fe ₂ O ₃	0.6	0.3	0.2	0.3	0.2	1.0
Hg	2.9	1.0	---	---	---	---
SO ₄	1.2	0.4	0.1	0.3	0.3	1.0
PO ₄	---	---	0.1	0.1	0.2	0.1
Cl	---	0.1	0.1	0.1	0.1	0.2
Other	1	4 ^b	8.0 ^b	4.8 ^b	1.0	0.7
NO ₃ ^c	1	1	~3.5	~5	~5	10.5

- Source: Berreth (1988), Tables 4-3 and 4-4. NOTE: The referenced Table 4-3 also shows CdO and SnO₂, which are not depicted in Table 4-4 or in the table above.
- Bin Sets #2, #3, and #4 includes about 3%, 7%, and 4%, respectively as dolomite [CaMg(CO₃)₂] start-up material.
- NO₃ is present as percent of total calcine composition.
- The composition for Bin Set #6 includes dolomite as components, not as "Other" as previously specified for Bin Sets #1 through #5.

1 Generally calcine is composed of dry white-to-gray, black, brown, or rust-colored subrounded to
2 rounded grains that average 0.2 mm to 1.0 mm in diameter. The bulk density of calcine varies between
3 1.0 and 1.7 g/cm³

C-2 WASTE ANALYSIS PLAN: [IDAPA 58.01.05.008 and 012; 40 CFR §§ 264.13(b) and 270.14(b)(3)]

4 The regulations under RCRA, as implemented through IDAPA 58.01.05.008 (40 CFR § 264.13),
5 require a Waste Analysis Plan (WAP) for regulated waste management units. This WAP identifies what
6 waste characterization information is needed, the nature and extent of information required, the method(s)
7 by which the information is gathered, and the quality assurance and quality control (QA/QC) goals.

8 The process outlined in this WAP is implemented for characterization of all mixed/hazardous
9 wastes or potentially hazardous wastes managed at the INTEC units described herein. Wastes subject to
10 this plan include wastes generated from INL operations and treatment residues generated from INL
11 RCRA-regulated waste management activities. As such, this WAP is intended for inclusion in day-to-day
12 waste management operations.

13 This WAP is established to ensure that all data used for waste characterization are scientifically
14 valid, defensible, and of known precision and accuracy. This objective relies on the identification of
15 appropriate parameters and rationale, analytical methods, sampling methodologies, and quality control.

16 The objectives of this WAP are as follows:

- 17 • Ensure that sufficient information is available to provide safe handling, storage, and treatment of
18 waste materials
- 19 • Define the parameters for characterization and the rationale for selection
- 20 • Establish consistent sampling, sample management, analytical methods, parameter selection, and
21 controls for wastes received and generated
- 22 • Provide a description of the waste stream characterization and approval process from the point of
23 waste generation through final disposition of the waste

- 1 • Establish unit-specific waste acceptance criteria (where necessary) for treatment units to ensure
2 that sufficient information is available to determine whether the wastes considered for storage at
3 the respective units meet the requirements established in this permit application
- 4 • Define land disposal restriction (LDR) requirements applicable to wastes managed in the
5 miscellaneous treatment, and storage units
- 6 • Verify that EPA HWNs for wastes stored or treated are acceptable per the EPA HWNs listed in
7 the Part A permit application.

8 This WAP will be revised whenever test methods are changed or whenever regulations change
9 that affect the WAP.

C-2a Parameters and Rationale: [IDAPA 58.01.05.008; 40 CFR §§ 264.13(b)(1) and (2)]

10 Tables C-2 and C-3 outline the parameters for analysis and corresponding rationale that are
11 employed to perform hazardous waste determinations in accordance with IDAPA 58.01.05.006
12 (40 CFR § 262.11) and to assess LDR requirements. The parameters and rationale presented in these
13 tables are selected to ensure compliance with RCRA and unit-specific waste acceptance requirements, and
14 guarantee safe, compliant treatment and storage. Not all of the parameters identified in Tables C-2 and
15 C-3 are selected for each waste stream. Only the specific parameters applicable to each waste stream are
16 evaluated.

17 Wastes are characterized and LDR requirements are determined at the point of generation by
18 facility personnel with assistance from other contractor organizations, as needed, by analyzing the waste
19 or by applying process knowledge. The following are examples of process knowledge:

- 20 • Raw materials used – knowledge of the type, quantity, and concentration of raw materials used in
21 the system combined with detailed knowledge of the generating process may provide enough
22 information to adequately characterize the waste.
- 23 • Process description – pertinent details of the process generating the waste and the chemicals used
24 in the process must be described. The more complex the process, the more information would be
25 required.

- 1 • Chemical/material composition specifications – chemical specifications may be available from
2 the purchase specifications of a particular chemical, from product information provided by the
3 manufacturer, or from the labels for the particular chemical in question. For pure chemicals
4 whose contents and characteristics are known (e.g., nitric acid), standard chemical reference
5 materials may supply the required information. Standard material composition reference tables
6 may supply the required information for metals, plastics, and other materials manufactured to
7 certain grades, alloy specifications, etc., whose material contents and characteristics are well
8 known (e.g., Type 304 stainless steel).
- 9 • Material safety data sheets (MSDSs) – chemical specifications and related information are
10 available on these standard reference materials. MSDSs may be provided by the manufacturer or
11 acquired through available MSDS databases.
- 12 • Process reference materials including laboratory notebooks, strip charts, correspondence,
13 chemical analyses, and analytical reports.
- 14 • Analytical reports from non-SW-846 chemical analyses or information from similar processes.

15 If process knowledge is adequate to ensure that a particular constituent is not present in the waste,
16 then analysis for that constituent will not be performed. If process knowledge is not sufficient to
17 eliminate a particular parameter, then that parameter will undergo selection for testing.

18 Specific parameters selected for RCRA characterization analysis are determined on a case-by-
19 case basis. Facility personnel select the appropriate parameters based on knowledge of the waste source,
20 unit-specific waste acceptance criteria (WAC), and characterization requirements to identify
21 RCRA-regulated wastes. This ensures that the appropriate parameter selection will be matched with the
22 correct analytical method(s) to generate the data required for subsequent management of the waste within
23 the CSSF.

24 All process knowledge determinations and RCRA characterization analytical results are
25 documented in the facility operating record.

Table C-2. Test methods for waste analysis parameters and rationale.

PARAMETER	TEST METHOD(S) ^a	RATIONALE
Toxicity characteristic	1311 Toxicity characteristic leaching Procedure (TCLP) or process knowledge	Determine the waste and LDR status.
Metals: antimony arsenic barium beryllium cadmium chromium lead mercury nickel selenium silver thallium	3005A, 3010A, 3050B, 3051, 3052, 6010, 7470, 7471 or process knowledge	Determine if the waste is characteristically hazardous for toxicity. Determine reasonably expected underlying hazardous constituents (UHCs).
Volatile and semi-volatile organic compounds	5030B, 5035, 8015, 8082, 8260B, 3510C, 3550B, 3600C, 8270C or process knowledge	Determine whether the waste is characteristically toxic for organic compounds or whether listed waste constituents can be detected. Identify reasonably expected UHCs.
Flash point	1010, 1020, ASTM D93-80, D3828-81 or process knowledge	Determine if waste is characteristically ignitable.
Corrosivity/Acidity, pH or Corrosivity toward steel	ACMM 7012 ^b , 9040B, 9045C, 9441A or process knowledge	Determine if the waste is characteristically corrosive.
Reactivity (cyanides, sulfides, water reactive, chemical stability, shock sensitive)	C003 ^c , 9010B, 9013, 9014, 9030B, 9031, 9034, or process knowledge	Determine if waste is characteristically reactive and prevent mixing of incompatible wastes in tank and treatment systems.
Free liquids	9095A Paint Filter Liquids Test, visual inspection or process knowledge	Determine whether the waste is a solid or a liquid.
Total organic carbon (TOC)	9060 or process knowledge	Determine whether organics may be present in measurable quantities.
<p>ASTM = American Society for Testing and Materials ACMM = Analytical Chemistry Methods Manual</p> <p>a. Methods are from <i>Test Methods for Evaluating Solid Waste, Physical/Chemical Methods</i>, SW-846, unless otherwise stated. b. G. L. Booman, M. C. Elliot, R. B. Kimball, F. O. Cartan, J. E. Rein, "Determination of Free Acid in the Presence of Hydrolyzable Ions," <i>Analytical Chemistry</i>, 30 No. 2 (February 1958), pp. 284-287. c. Arthur D. Little, Inc., <i>Sampling and Analysis Methods for Hazardous Waste Combustion</i>, EPA-600/8-84-002, NTIS No. PN84-1555845, February 1984.</p>		

Table C-3. Test methods, parameters, and rationale for LDR status.

PARAMETER	TEST METHOD(S) ^a	RATIONALE
Toxicity characteristic	1311 Toxicity Characteristic Leaching Procedure (TCLP) or process knowledge	Determine waste and LDR status for toxicity.
Metals: antimony arsenic barium beryllium cadmium chromium lead mercury nickel selenium silver thallium	3005A, 3010A, 3050B, 3051, 3052, 6010, 7470, 7471 or process knowledge	Determine LDR status for toxicity. Evaluate mercury subcategory and UHCs.
Volatile and Semivolatile organic compounds	5030B, 5035, 8015, 8082, 8260B, 3510C, 3550B, 3600C, 8270C or process knowledge	Determine listed waste and LDR status for toxicity. Evaluate UHCs.
Flash point	1010, 1020, ASTM D93-80, D3828-81 or process knowledge	Determine LDR status for ignitability.
Corrosivity/Acidity, pH or Corrosivity toward steel	ACMM 7012 ^b , 9040B, 9045C, 9441A or process knowledge	Determine LDR status for corrosivity.
Reactivity (cyanides, sulfides, water reactive, chemical stability, shock sensitive)	C003 ^c , 9010B, 9013, 9014, 9030B, 9031, 9034, or process knowledge	Determine LDR status for reactivity and subcategory.
Free liquids	9095A Paint Filter Liquids Test, visual inspection or process knowledge	Determine whether the waste is a solid or a liquid.
Total organic carbon (TOC)	9060 or process knowledge	Determine wastewater or nonwastewater category
Total suspended solids (TSS)	160.1 ^d or process knowledge	Determine wastewater or nonwastewater category

ASTM = American Society for Testing and Materials
ACMM = Analytical Chemistry Methods Manual

- a. Methods are from *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, unless otherwise stated.
- b. G. L. Booman, M. C. Elliot, R. B. Kimball, F. O. Cartan, J. E. Rein, "Determination of Free Acid in the Presence of Hydrolyzable Ions," *Analytical Chemistry*, 30 No. 2 (February 1958), pp. 284-287.
- c. Arthur D. Little, Inc., "Sampling and Analysis Methods for Hazardous Waste Combustion," EPA-600/8-84-002, NTIS No. PN84-1555845, February 1984.
- d. "Methods for Chemical Analysis for Water and Wastes," EPA-600/4-79-020.

1 **C-2a(1) Waste Acceptance Criteria**

2 Wastes processed in the WCF and NWCF were required to meet their WAC prior to acceptance
3 and treatment. Upon generation, calcine was transported to the CSSF for storage without further
4 evaluation.

5 Although, the CSSF bins are not currently receiving any waste, the Idaho High-Level Waste and
6 Facilities Disposition Final Environmental Impact Statement Record of Decision may select a waste
7 treatment option that would require the use of the bin sets. This permit would allow the continued use of
8 the Bin Sets 1, 2, 3, 4, and 5 for storage and Bin Sets 6 and 7 for storage and to receive future waste
9 transfers.

10 When the Record of Decision selects a waste treatment option and is finalized this permit will be
11 modified if necessary to reflect the waste acceptance criteria for selected process and the waste form that
12 will be transferred to Bin Sets 6 and 7.

13 The WCF has been closed as a RCRA landfill and the NWCF has undergone RCRA-regulated
14 closure. As part of closure, the waste transfer lines from the WCF were cut and capped and the waste
15 transfer lines from the NWCF to the CSSF have been physically isolated in accordance with the approved
16 closure plan.

17 **C-2a(2) Waste Acceptance Process**

18 Wastes stored in the CSSF were calcined in either the WCF or the NWCF. The WCF completed
19 RCRA-regulated closure in November 1999. RCRA-regulated closure for the NWCF calciner was
20 completed in December 2004.

LDR Requirements

21 Point-of-generation facility personnel provide waste characterization information and use this
22 information to complete LDR notifications, per IDAPA 58.01.05.011 (40 CFR § 268.7). In cases where
23 facility personnel determine that an LDR waste does not meet the applicable treatment standard(s) set
24 forth in IDAPA 58.01.05.011 (40 CFR § 268, Subpart D), or exceeds the applicable prohibition level(s)
25 set forth in IDAPA 58.01.05.011 (40 CFR § 268.32) or Section 3004(d) of RCRA, facility personnel
26 provide written notice in accordance with IDAPA 58.01.05.011 [40 CFR § 268.7(a)(2)].

27 In cases where facility personnel determine that a restricted waste is being managed that can be
28 land-disposed without further treatment, facility personnel submit written notice stating that the waste

1 meets (or is exempt from) applicable treatment standards set forth in IDAPA 58.01.05.011
2 (40 CFR § 268, Subpart D) and the applicable prohibition level(s) set forth in IDAPA 58.01.05.011
3 (40 CFR § 268.32) or Section 3004(d) of RCRA. The notice must be in accordance with
4 IDAPA 58.01.05.011 [40 CFR § 268.7(a)(3)].

5 Point-of-generation facility personnel provide LDR notices. Required LDR notifications will be
6 prepared as necessary prior to shipment of any treatment residuals for final disposal according to
7 applicable laws and regulations.

C-2b Test Methods: [IDAPA 58.01.05.008; 40 CFR § 264.13(b)(2)]

Waste Analysis

8 Analytical methods employed are primarily taken from EPA's *Test Methods for Evaluating Solid*
9 *Wastes, Physical/Chemical Methods* (SW-846, current edition). In those cases where method-defined
10 parameters¹ are required by regulation, SW-846 methods are always employed. Examples of method-
11 defined parameter methods, where the analytical result is wholly dependent on the process used to make
12 the measurement, include the use of the TCLP to prepare a leachate, flash point, pH, corrosivity tests, and
13

-
1. The use of an SW-846 method is mandatory for the following Resource Conservation and Recovery Act (RCRA) applications contained in 40 CFR Parts 260 through 270:
- Section 260.22(d)(1)(i) - Submission of data in support of petitions to exclude a waste produced at a particular facility (i.e., delisting petitions)
 - Section 261.22(a)(1) and (2) - Evaluation of waste against the corrosivity characteristic
 - Section 261.24(a) - Leaching procedure for evaluation of waste against the toxicity characteristic
 - Section 261.35(b)(2)(iii)(A) - Evaluation of rinsates from wood preserving cleaning processes
 - Sections 264.190(a), 264.314(c), 265.190(a), and 265.314(d) - Evaluation of waste to determine if a free liquid is a component of the waste
 - Sections 264.1034(d)(1)(iii) and 265.1034(d)(1)(iii) - Evaluation of organic emissions from process vents
 - Sections 264.1063(d)(2) and 265.1063(d)(2) - Evaluation of organic emissions from equipment leaks
 - Section 266.106(a) - Evaluation of metals from boilers and furnaces
 - Sections 266.112(b)(1) and (2)(i) - Certain analyses in support of exclusion from the definition of a hazardous waste for a residue which was derived from burning hazardous waste in boilers and industrial furnaces
 - Sections 268.7(a), 268.40(a), (b), and (f), 268.41(a), 268.43(a) - Leaching procedure for evaluation of waste to determine compliance with land disposal treatment standards
 - Sections 270.19(c)(1)(iii) and (iv), and 270.62(b)(2)(i)(C) and (D) - Analysis and approximate quantification of the hazardous constituents identified in the waste prior to conducting a trial burn in support of an application for a hazardous waste incineration permit
 - Sections 270.22(a)(2)(ii)(B) and 270.66(c)(2)(i) and (ii) - Analysis conducted in support of a destruction and removal efficiency (DRE) trial burn waiver for boilers and industrial furnaces burning low risk wastes, and analysis and approximate quantification conducted for a trial burn in support of an application for a permit to burn hazardous waste in a boiler and industrial furnace. Federal Register, Thursday, November 20, 1997, Vol. 62, No. 224, 62079.

1 paint filter liquids. The cited test methods will be performed at the laboratories per controlled
2 implementing procedures.

3 The EPA provides for a degree of flexibility in the use of SW-846 and other approved methods.
4 This flexibility is dependent on the maintenance of precision, accuracy (or bias), recovery,
5 representativeness, comparability, and sensitivity (detection, quantitation, or reporting limits) relative to
6 the data quality objectives for the intended use of the analytical results. "If an alternative analytical
7 procedure is employed, then EPA expects the laboratory to demonstrate and document that the procedure
8 is capable of providing appropriate performance for its intended application. This demonstration must not
9 be performed after the fact, but as part of the laboratory's initial demonstration of proficiency with the
10 method. The documentation should be in writing, maintained in the laboratory, and available for
11 inspection upon request by authorized representatives of the appropriate regulatory authorities" (SW-846,
12 Chapter Two, "Choosing the Correct Procedure").

13 Joint EPA/Nuclear Regulatory Commission (NRC) guidance² for mixed waste also provides
14 flexibility in sample sizes with method-defined parameter methods, as long as the resulting test is
15 sufficiently sensitive to measure the constituents of interest at the regulatory levels prescribed in the
16 TCLP. Other variances to published testing and sampling protocols are permissible under
17 40 CFR §§ 260.20-21, but must be approved prior to implementation by the Director of the DEQ.

18 The EPA allows for the use of recognized methods other than those prescribed in SW-846.
19 "Whenever methods from SW-846 are not appropriate, recognized methods from source documents
20 published by the EPA, American Public Health Association (APHA), American Society for Testing and
21 Materials (ASTM), the National Institute for Occupational Safety and Health (NIOSH), or other
22 recognized organizations with appropriate expertise should be used, if possible" (SW-846, Chapter One).

23 Because of the broad range of acceptable methods available for testing specific constituents, and
24 with the rapid incorporation/deletion of methods, not all of the SW-846 methods are specified in
25 Tables C-1 and C-2. Only the currently defined parameter methods are specified.

26 Calcine requires remote handling and is subject to full RCRA characterization requirements. The
27 remote sample handling requirements and specific process stream requirements may cause deviations in
28 some required analyses systems. For example, the EPA has determined that "if the analyst can
29 demonstrate that the test is still sufficiently sensitive (in the case of reduced sample size in a TCLP

2. *Federal Register*, Thursday, November 20, 1997, Vol. 62, No. 224, 62079.

1 extraction) to measure the constituents of interest at the regulatory levels specified in the TCLP and
2 representative of the waste stream being tested" then the sample size can be legitimately decreased.³
3 Sample size becomes a critical factor, especially with respect to radiation exposure hazards, and therefore,
4 must be a factor for consideration in any sampling or analytical activity.

5 The analyses may be performed at INL laboratories or at approved off-Site laboratories.
6 Laboratories contracted by the M&O contractor to perform outside work are audited periodically, to
7 ensure that each laboratory's quality control procedures and standard practice manuals meet the
8 requirements for laboratories conducting EPA test procedures. If the laboratory has not been audited, or
9 has failed to conform to the audit criteria, that laboratory is not authorized by the M&O contractor to
10 conduct waste characterization analysis.

11 **Process Knowledge**

12 The EPA/NRC guidance emphasizes the use of process knowledge to determine if a radioactive
13 waste is hazardous, as a way to avoid unnecessary exposures to radioactivity. Examples of the types of
14 process knowledge information used to characterize wastes for the CSSF are presented in Section C-2a of
15 this permit application. The INL documents process knowledge through Waste Determination and
16 Disposition Forms (WDDFs - waste stream profiles), correspondence, and memoranda maintained in the
17 Document Management System. As a best management practice, the characterization documentation for
18 all active waste streams is reviewed and each stream is recertified annually to ensure the information
19 maintained remains accurate and complete.

20 All waste characterization information, including documentation of process knowledge, is
21 maintained in the facility operating record.

C-2c Sampling Methods: [IDAPA 58.01.05.008 and 005; 40 CFR § 264.13(b)(3), Part 261 Appendix I]

22 Facility personnel, in conjunction with Waste Generator Services (WGS), and other organizations
23 as needed, are responsible for characterizing wastes received into the CSSF. Personnel can use process
24 knowledge and/or testing to adequately characterize waste. As part of characterization, the appropriate
25 sampling method is selected based on knowledge of the waste material matrix (e.g., solid, liquid, sludge,
26 radiological component) and radiation exposure considerations, as well as the specific analyte of interest.

3. Federal Register, Thursday, November 20, 1997, Vol. 62, No. 224, 62079.

1 Facility personnel are also responsible for arranging all sampling and laboratory support and for sample
2 shipments. Sampling personnel document the sampling activities and chain of custody.

3 Representative waste samples are obtained in accordance with the sampling approaches described
4 in Chapter Nine of *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods* (SW-846,
5 current edition). Samples are collected using appropriate equipment and methods identified in, but not
6 limited to, the following sources:

- 7 • EPA Test Methods for Evaluating Solid Waste, SW-846, Chapter 10, "Sampling Methods," Third
8 Edition
- 9 • 40 CFR 261, Appendix I, "Representative Sampling Methods"
- 10 • Annual Book of ASTM Standards, American Society for Testing and Materials, Current issue
- 11 • *Characterization of Hazardous Waste Sites - A Methods Manual, Volume II, Available Sampling*
12 *Methods, EPA-600/4-84-076, 2nd Edition, December 1984*
- 13 • "Characterizing Heterogeneous Wastes: Methods and Recommendations," EPA/600/R-92/033,
14 February 1992
- 15 • *EPA Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Wastes:*
16 *A Guidance Manual, April 1994*
- 17 • Other recognized methods from source documents published by the EPA, APHA, ASTM, the
18 NIOSH, or other recognized organizations with appropriate expertise.

19 The Director of the DEQ must approve any sampling methods that deviate from approved or
20 other recognized methods prior to implementation.

21 **C-2c(1) Standard Sampling Methods**

22 Due to the highly radioactive nature of the calcine stored in the CSSF, sampling occurs
23 infrequently.

1 Any sampling will be completed in accordance with an approved sampling and analysis plan and
2 conducted in accordance with approved sampling and operating procedures. In general, where standard
3 samples are collected, the following basic sampling guidance is used:

- 4 • Obtain samples using precleaned sample equipment, in accordance with the applicable method.
- 5 • Fill sample containers. Uniquely identify and label each sample, and document necessary
6 information in the field record (e.g., location, time, characteristics).
- 7 • Properly clean and decontaminate the exterior of the sample containers and the sampling
8 hardware.
- 9 • Complete the chain-of-custody forms and retain a record copy.
- 10 • Deliver the samples and associated forms to the laboratory.

11 Sampling procedures for calcine may deviate from the standard sampling protocols, due to the
12 hazards associated with radioactive materials. For example, due to radiological concerns, the use of
13 remotely operated sample transfer systems may limit the size of sample containers, prevent sealing of the
14 transfer receptacle, or preclude chain-of-custody and other documentation from directly accompanying
15 the samples. However, all sampling procedures are consistent with the stated goals of SW-846, to collect
16 representative samples and maintain their physical and chemical integrity.

17 Equipment used to sample waste is disposable or designed for decontamination. Contaminated
18 disposable equipment is managed appropriately. Equipment that can be cleaned and reused is thoroughly
19 decontaminated before reuse or storage. Decontamination solutions are managed appropriately.

20 **C-2c(1)(a) Field Records**

21 Records provide direct evidence and support for the necessary technical interpretations,
22 judgments, and discussions concerning project activities. These records, particularly those anticipated to
23 be used as evidentiary data, directly support current or ongoing technical studies and activities, and
24 provide the historical evidence needed for later reviews and analyses.

25 Field records may consist of bound field notebooks, sample collection forms, personnel
26 qualification and training forms, sample location maps, equipment maintenance documentation, chain-of-

1 custody forms, and/or sample analysis request forms. Records may include, but are not limited to the
2 following, as applicable:

- 3 • Sample Collection—To ensure maximum utility of the sampling effort and resulting data,
4 documentation of sampling protocol, as performed in the field, is essential. Sample collection
5 records may contain the names of persons conducting the activity, sample number, sample
6 location, date and time the sample was taken, equipment used, climatic conditions, documentation
7 of adherence to protocol, and unusual observations.
- 8 • Chain-of-Custody Records—The chain of custody involving the possession of RCRA
9 characterization samples from the time they are obtained until they are disposed or shipped off-
10 Site are documented, and may include the project name, signatures of samplers, sample number,
11 date and time of collection, grab or composite sample designation, signatures of individuals
12 involved in sample transfer, and if applicable, the air bill or other shipping number.
- 13 • Quality Control (QC) Samples—Documentation for generation of QC samples, may include trip
14 and equipment rinsate blanks, duplicate samples, and any field spikes.
- 15 • Deviations—All deviations from normal sampling and analysis protocols are recorded in the site
16 logbook or project records.
- 17 • Reports—A copy of any report issued and any supporting documentation.

18 **C-2c(2) Quality Control**

19 Defensible and valid data are obtained through implementation of the processes controlling
20 characterization and/or sampling and analysis. Such processes include the use of field and laboratory
21 control samples, data validation, sampling performance assessments, and as necessary, corrective
22 action(s) as identified in this section.

23 **C-2c(2)(a) Field Control Samples**

24 Control samples are QC samples that are intended to monitor the performance of the sampling
25 system. In accordance with this WAP, the following field control samples may be collected:

- 26 • Field duplicates

- 1 • Equipment rinsate
- 2 • Trip blank-sample.

3 **C-2c(2)(b) Laboratory Quality Control**

4 Laboratories maintain QA programs to ensure the quality of data produced. Depending on the
5 data end use and overall data quality objectives (DQOs), the laboratory QC samples may include:

- 6 • Matrix spike
- 7 • Matrix duplicate
- 8 • Matrix spike duplicate
- 9 • Laboratory blanks
- 10 • Control standards.

11 Off-Site laboratories must be approved by the INL. This approval process requires off-Site
12 laboratories to pass stringent audit criteria included in the U.S. Department of Energy (DOE)
13 Environmental Management Consolidated Audit Program (EMCAP). The EMCAP maintains audit
14 checklists for such laboratory activities as general laboratory practices, quality assurance management
15 systems, organic/inorganic data quality, radiochemistry data quality, electronic data management,
16 hazardous and radioactive materials management, and industrial hygiene. These checklists are available
17 to all facilities within the DOE Complex via the Internet. Once approved, laboratories are audited at
18 regular intervals to ensure performance and QA/QC standards are met.

19 **C-2c(2)(c) Data Validation**

20 Depending on the data end use and overall project DQOs, data validation may include evaluation
21 of the following subjects:

- 22 • Completeness of laboratory records with regard to processing of all required samples and
23 analyses
- 24 • Implementation of appropriate procedures

- 1 • Evaluation of sample analytical data to required detection and quantity
- 2 • Evaluation of QC analytical data to applicable control criteria
- 3 • Comparison of sample holding times to the required holding times prescribed by this WAP.
- 4 All deviations from the applicable guidance are documented, and corrective actions are
- 5 implemented as necessary.

6 **C-2c(2)(d) Sampling Performance Assessment**

7 A key function of a QC program is the periodic assessment of activities for conformance to
8 required protocols. Sampling performance assessments may evaluate the following activities:

- 9 • Completeness of Field Reports—This evaluation determines that a complete record exists for each
10 field activity and that the procedures specified by this WAP or the documents implementing this
11 WAP were executed.
- 12 • Identification of Valid Samples—This review involves the evaluation and interpretation of field
13 records to detect problems affecting the representativeness of samples.

14 All resultant concerns are documented, and corrective actions are implemented as necessary.

15 **C-2c(2)(e) Mitigating Action**

16 Mitigating action measures can be divided into two categories as follows:

- 17 • Project Mitigating Action—Mitigating actions are performed when the project objectives are not
18 met, when conditions adverse to quality have been identified, or when an assessment of data
19 reveals questionable or unknown data quality. Conditions adverse to quality are identified
20 promptly, and corrected as soon as possible. When significant conditions adverse to quality are
21 identified, the causes are determined, and mitigating actions to prevent their recurrence are
22 performed and documented.
- 23 • Laboratory Mitigating Actions—The laboratory possesses a QA plan identifying analytical
24 acceptance criteria and what actions to take when these criteria are not satisfied.

C-2d Frequency of Analyses: [IDAPA 58.01.05.008; 40 CFR § 264.13(b)(4)]

1 Waste stream characterizations are reviewed and recertified annually to ensure continued
2 accuracy of the information provided. Typical waste streams managed at the INTEC are generated
3 several times a year from highly controlled processes in which the waste composition remains consistent
4 for the duration of the year. Recharacterization is required when:

- 5 • The process generating an established waste stream changes
- 6 • The waste characteristics are highly variable from batch to batch
- 7 • Analytical results do not correlate with waste profile information
- 8 • There is reason to suspect a change in the waste based on inconsistencies in the packaging or
9 labeling of the wastes, or there are inconsistencies between the waste verification results and the
10 waste characterization data provided by the generator
- 11 • Facility personnel reject the waste because it is inconsistent with the profile for that waste.

12 Facility personnel can require additional waste analysis to substantiate waste characterization data
13 prior to acceptance of a waste.

C-2e Additional Requirements for Wastes Generated Off-Site [IDAPA 58.01.05.008; 40 CFR 264.13(c)]

14 The CSSF does not manage wastes generated off-Site.

C-2f Additional Requirements for Ignitable, Reactive, or Incompatible Wastes: [IDAPA 58.01.05.008; 40 CFR §§ 264.13(b)(6), 40 CFR 264.17]

15 Calcine generated by the treatment of wastes is a granular solid that does not exhibit the
16 characteristics of ignitability or reactivity.

17 The CSSF storage units are operated in accordance with defined procedures that prevent
18 incompatible wastes from contacting one-another. The tables in Appendix V of 40 CFR 264/265 and
19 49 CFR § 177.848 are examples of resources that may be used to determine compatibility. Since calcine

1 was generated from the treatment of wastes with like or similar constituents, incompatibility is not a
2 concern.

C-3 WASTE ANALYSIS REQUIREMENTS PERTAINING TO LAND DISPOSAL RESTRICTIONS [IDAPA 58.01.05.011; 40 CFR § 268]

3 The Hazardous and Solid Waste Amendments to RCRA authorize the land disposal of certain
4 types of wastes only if LDR treatment standards are met. Information provided in this section describes
5 the additional characterization requirements for assessing LDR applicability and compliance with the
6 treatment standards before land disposal.

C-3a Waste Characterization

7 LDR applicability is determined for each waste at the point of generation based on the EPA
8 HWNs assigned to individual waste streams. Once LDRs are identified, they remain applicable through
9 treatment and/or disposal of the final waste form. Calcine or the final waste form will be disposed of in
10 accordance with applicable laws and regulations.

11 The characterization process for purposes of LDR is the same as that employed during the initial
12 characterization process. Facility personnel, with the assistance of WGS, and other organizations as
13 needed, conduct hazardous waste determinations before management of the waste. The hazardous waste
14 determination includes, where applicable, characteristic and listed EPA HWN determinations in addition
15 to identification of wastewater and non-wastewater treatability groups, UHCs, LDR subcategories, and
16 LDR treatment standards applicable to the waste.

17 During the initial characterization process, facility personnel select parameters and rationale for
18 testing based on the rationale presented in Table C-2 and on the applicable LDR requirements found
19 within IDAPA 58.01.05.011 and 40 CFR § 268 or process knowledge. If the waste is determined to be
20 subject to the LDR requirements, facility personnel determine if the waste is a wastewater or
21 non-wastewater, and also determine applicable subcategories. TOC and total suspended solids TSS
22 analyses may be used to conduct wastewater/non-wastewater determinations, in cases where process
23 knowledge is not adequate. Additional information on the characterization process is found in Sections
24 C-1 and C-2.

25 Waste generated from activities such as maintenance and spill cleanup will undergo a hazardous
26 waste determination based on testing and/or process knowledge as outlined within this document. If the
27 waste is determined to be subject to LDR requirements, facility personnel will determine if the waste is a

1 wastewater or non-wastewater and applicable subcategories using the parameters shown in Table C-2 or
2 process knowledge.

C-3b Sampling and Analytical Procedures

3 Sampling and analysis will follow the same approach as outlined within Sections C-2 through
4 C-2c. Test methods used to assess LDR treatment standards will be based on total analysis, unless
5 otherwise specified in IDAPA 58.01.05.011 (40 CFR §§ 268.40 through 268.48).

C-3c Frequency of Analysis

6 Compliance with all LDR requirements will be demonstrated and documented prior to disposal of
7 the final waste form. All LDR compliance documentation will be maintained in the facility operating
8 record.

C-4 CALCINED SOLIDS STORAGE FACILITY SUBPART AA, SUBPART BB, AND SUBPART CC APPLICABILITY [IDAPA 58.01.05.008; 40 CFR §§ 264.1030, 264.1050, and 264.1080]

40 CFR 264 Subpart AA Applicability

9
10 The requirements contained in 40 CFR 264 Subpart AA do not apply to the CSSF, since it
11 contains no process vents associated with distillation, fractionation, thin-film evaporation, solvent
12 extraction, or air or steam stripping operations.

40 CFR 264 Subpart BB Applicability

13
14 The requirements contained in 40 CFR 264 Subpart BB do not apply to the CSSF, since the
15 organic concentration of calcine is less than 10% by weight, as demonstrated by the analytical results
16 provided as Appendix 3 of the permit application.

40 CFR 264 Subpart CC Applicability

17
18 The requirements contained in 40 CFR 264 Subpart CC do not apply since the CSSF is a waste
19 management unit used solely for the management of radioactive mixed waste in accordance with all
20 applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act
21 and is specifically exempted per 40 CFR 264.1080(b)(6).

RCRA PART B PERMIT
FOR THE
IDAHO NATIONAL LABORATORY

Volume 22
Idaho Nuclear Technology and Engineering Center

Calcined Solids Storage Facility

Attachment 3 - Section F-1
Security

Revision Date: August 18, 2008

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F. PROCEDURES TO PREVENT HAZARDS

1 The waste management units addressed in this permit are designed and operated to minimize
2 exposure of hazardous constituents to the general public, operating personnel, and the environment. This
3 section describes the procedures and equipment/structures used at these units to help prevent, mitigate, or
4 respond to environmental or human health hazards. Also described in this section are the inspection plans
5 and schedules at these units to ensure proper maintenance and operation.

6 The waste management units addressed in this permit are calcined solids storage in tanks. These
7 units are all located at the Idaho Nuclear Technology and Engineering Center (INTEC). Section D of this
8 permit describes the operations of these units.

F-1. Security

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)]

9 A security system, physical control procedures, and equipment control access to the INTEC. A
10 security force under contract with the U.S. Department of Energy, Idaho Operations Office (DOE-ID),
11 operates the security system. DOE-ID operates a personnel security clearance program to ensure that
12 employees and visitors have the appropriate clearance.

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

15 Fencing, guarded gates and uniformed guards with communication devices are used at INTEC to
16 provide facility security. There are communication devices in occupied buildings at the INTEC. The
17 same communication devices may be used for communication outside the plant. The INTEC also has a
18 plant-wide voice paging system that is used to announce critical information regarding security and
19 safety.

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

22 Security at the INTEC is maintained by a staff of trained security guards, who monitor the entry
23 and egress of people and material from the INTEC facility. The main INTEC guard gate at the west side
24 of the INTEC is either staffed with SPOs or access controlled by keycard 24 hours a day, 7 days a week.
25 There are two other gates into the INTEC, and they are either locked or staffed with guards. The guards

1 perform other security functions within the plant premises, including patrolling the perimeter fence and
2 areas throughout the INTEC on a 24-hour basis.

3 **F-1a(2) Barrier and Means to Control Entry**

4 The treatment, storage, or disposal facilities at INTEC are enclosed with a fence. All gates into
5 INTEC are either locked or manned with security guards.

6 **F-1a(2)(a) Barrier [IDAPA 58.01.05.008; 40 CFR 264.14(b)(2)(I)]**

7
8 The INTEC facility is located approximately 42 air miles west of the largest nearby population
9 area, Idaho Falls, Idaho. There are gates in the perimeter fences but only three are guarded gates. These
10 gates are identified with the Guard Post (building) where they are located. The other gates are locked but
11 can be opened by patrols when requested.

12 **F-1a(2)(b) Means to Control Entry [IDAPA 58.01.05.008;** 13 **40 CFR 264.14(b)(2)(ii)]**

14 Employees, sub-contractors, or vendors who have completed required access training and have
15 keycard access are not escorted in the general INTEC interior.

16
17 Individuals who have the required access training but do not have key card access sign an
18 “Employee Log” and are allowed into INTEC without being escorted.

19
20 Individuals that do not have the required access training and do not have keycard access are
21 escorted and sign a “Visitor Log” to gain access to INTEC. These entry procedures into the INTEC
22 prevent access into Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery
23 Act (RCRA)-regulated units by the general public and visitors.

24 For accountability reasons, all persons entering the INTEC must either enter through the card
25 reader turnstile as they enter, or sign the INTEC entrance log (“Visitor Log” or “Employee Log” as
26 applicable). When personnel leave the INTEC, they exit through the card reader turnstiles or sign out at
27 the guard gate.

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

29 Warning signs that are visible and legible from at least 25 ft are posted at guard gates and on the
30 fence around the INTEC. Entrances into RCRA-regulated storage or treatment areas will have, at a
31 minimum, signs reading “DANGER--Unauthorized Personnel Keep Out.”

RCRA PART B PERMIT
FOR THE
IDAHO NATIONAL LABORATORY

Volume 22
Idaho Nuclear Technology and Engineering Center

Calcined Solids Storage Facility

Attachment 4 - Section F-2
Inspection Schedule

Revision Date: September 21, 2012

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APPENDIX

Appendix F-1. Inspection Schedule and Examples of Forms for CSSF

F-2. Inspection Schedule

F-2a. General Inspection Requirements [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR 270.14(b)(5), 264.15(a) and (b), 264.33, and 264.195]

1 The schedules for inspecting equipment vital in preventing, detecting, and responding to
2 environmental or human health hazards are summarized in Appendix F-1. Results of inspections are
3 recorded on the appropriate inspection forms or operating logs. Examples of inspection forms are also
4 included in Appendix F-1. Copies of inspection records are placed in the appropriate RCRA inspection
5 logs and are readily available at INTEC. These inspection records include the time and date of the
6 inspection, the printed name and signature of the inspector, a notation of observations made, and the date
7 and nature of any repairs or other remedial actions. The inspection forms show the inspections,
8 frequencies, and responsibilities. Examples of these forms are provided in Appendix F-1. Other, similar
9 forms containing the same substantive information may be used to document these inspections.

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

11 The inspection schedule in Appendix F-1 list types of problems looked for during inspections.

F-2a(2) Frequency of Inspection [IDAPA 58.01.05.008; 40 CFR 264.15(b)(4), (c), and (d)]

14 The frequency of inspections or observations, and the inspecting organization are listed in the
15 schedule in Appendix F-1.

16 If a problem is found during an inspection, it is reviewed and confirmed by applicable supervision
17 or system engineer and appropriate actions are taken. Environmental and facility personnel will work
18 together to decide whether a remedial action is required, and plan the required action as necessary.
19 Remedial actions are documented.

20 In those cases where an off-normal operational event (such as a ventilation upset and potential
21 radioactive contamination) prevents access to an area where inspections are performed, a RCRA remedial
22 will be opened and the remedial will be noted in the spaces on the inspection forms where the inspections
23 or readings would normally be recorded. The RCRA remedial will be closed and inspections resumed, as
24 soon as the upset conditions have been corrected and the area released for re-entry.

F-2b. Specific Process Inspection Requirements

F-2b(2) Tank System Inspection [IDAPA 58.01.05.008; 40 CFR 264.195 and 40 CFR 264.196]

Inspections of the tank systems will be performed using a remote camera in accordance with the schedule in Appendix F-1. The inspections will consist of visual observation via camera of the accessible portions of the exterior of the tanks for leaks, corrosion, and deterioration of tanks and vaults. The results of these inspections are documented in the facility's inspection records. The records are readily available at INTEC. The inspections will be recorded on inspection forms.

F-2b(2)(a) Certification for Tank Repairs [IDAPA 58.01.05.008; 40 CFR 264.196(f)]

If major repairs are made to the tank systems addressed in this permit, the repairs will be certified by an independent, qualified, registered professional engineer (PE).

F-2b(2)(b) Tank System External Corrosion and Releases [IDAPA 58.01.05.008; 40 CFR 264.195(b)(1)]

The bins are contained in vaults that are constructed of concrete. The associated ancillary equipment is also within concrete containment.

The bins are monitored using instrumentation to detect leaks from the system. Confined spaces and radiation levels prevent visual inspections of these items on a daily basis. Inspections of the vaults are conducted in accordance with the schedule in Appendix F-1. Additional inspections via remote camera for bin sets 1 through 6 and a manned entry inspection of bin set 7, will be completed within 6 months after a significant earthquake (defined as a magnitude of 4.5 or greater on the Richter scale, as measured on the INL facility).

The aboveground portions of the tank system that can be inspected include the roofs of the bin set vaults, for bin sets 1 through 3 the earthen berms, and for bin sets 4 through 7 the exterior walls of the vaults. These portions are inspected for deterioration, spalling, or staining as appropriate. These inspections will be performed per the inspection schedule in Appendix F-1.

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

3 Sump levels and CAM alarms are monitored on the Distributed Control System at the NWCF
4 except for Bin Set 4. If there is a spill, leak, or process parameter outside of its normal range, an operator
5 investigates, and notifies supervision.

6 For Bin Set 4, the sump level and CAM indicators and alarms are monitored locally in the
7 instrument building (CPP-658). An increased sump level or alarm would be noted during daily
8 operational readings.

9 The RCRA-mandated overflow and leak detection inspections are accomplished by monitoring
10 process instrumentation that detects spills or leaks within a vault (see Appendix F-1 for inspection forms).

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

13 The bin sets are equipped with CAMs to detect loss of bin containment. Any loss of containment
14 would result in radioactive materials being suspended in the vault air that would be detected by the
15 CAMs.

16 The RCRA-mandated overflow and leak detection inspections are accomplished by monitoring
17 process instrumentation that detects spills or leaks within a vault (see Appendix F-1 for inspection forms).

18 **F-2b(2)(g) Tank Condition Assessment [IDAPA 58.01.05.008;**
19 **40 CFR 264.195(b)(1)]**

20 Bins and vaults are inspected or monitored for spills by monitoring the CAMs. In addition, a tank
21 system integrity assessment titled *The Tank System Integrity Assessment for the Calcined Solids Storage*
22 *Facility Bin Sets at the Idaho Nuclear Technology and Engineering Center*, prepared and certified by
23 Jason Associates Corporation (see Appendix B in Section D of the permit application), has determined
24 that the calcine storage bins are adequately designed and have sufficient structural strength and
25 compatibility with the wastes being stored to protect human health and the environment. The bin sets are
26 not visually inspected on a daily basis due to confined spaces and high radiation levels.

**Appendix F-1. Inspection Schedule and Examples of Forms for the
CSSF**

CSSF INSPECTION SCHEDULE

Equipment Inspection	Types of Problems or Observations	Frequency	Inspecting Organization
MONITORING EQUIPMENT INSPECTION – To ensure tank system is operating according to design			
Distributive Control System (DCS) Data for Sump Levels, CAMs	Operating, Not Alarming	Continuously	Shift Operations
CSSF #4 Local Sump and CAM instrumentation	Operating, Not Alarming	Daily	Shift Operations
CAMs Data	Operating, Not Alarming	Daily	Shift Operations
FIRE PROTECTION SYSTEM INSPECTIONS			
Portable Fire Extinguishers*	Physical damage, charge, accessibility and sealed	Monthly	Shift Operations
EMERGENCY EQUIPMENT INSPECTIONS			
Plant Voice Paging and Evacuation Alarm System	Operation, Coverage	Monthly	Plant Utilities/Operations
Communications Devices/Building Paging System	Operation at each Bin Set	Daily	Shift Operations
OPERATING AND STRUCTURAL EQUIPMENT			
Access warning signs	Warning signs in place – inside the INTEC facility	Weekly	Shift Operations
	Warning signs in place – INTEC perimeter fence and guard gates	Semiannually	Shift Operations
External and accessible portions of the vaults and ancillary equipment*	Deterioration, release of waste	Daily	Shift Operations
Area immediately surrounding the externally accessible portions of the piping*	Detect erosion, signs of a release	Daily	Shift Operations
Inside the vaults of Bin Sets 1 through 3 (via camera)	Deterioration, release of waste	Every fifth year	Shift Operations
Complete inspection of Bin Set 7 (vault entry)	Deterioration	Annually	Shift Operations
Inside the vaults of Bin Sets 4 through 6 (via camera)	Deterioration, release of waste	Every fifth year	Shift Operations

***NOTE:** CSSF 7 is not currently subject to daily inspections as it contains no waste, and fire extinguishers are not present.

RCRA CSSF TANK OVERFILL AND LEAK DAILY FACILITY INSPECTIONS

Area/Item	Normal Condition	Off Spec. Condition	Thur	Fri	Sat	Sun	Mon	Tues	Wed
-----------	------------------	---------------------	------	-----	-----	-----	-----	------	-----

Solids Storage No. 5

CAM-WS5-02 Operating	Operating (Yes) (1)	Not Operating (No)	Yes/No						
CAM-WS5-02 alarm (5)	(Off or N/A) (2)	(On)	Off/On/N/A (2)						
L-WS5-1	0–20 in. WC	>20 in. WC							
L-WS5-1 air purge flow meters both indicate flow	Yes	No	Yes/No						
Signs in place? (3)	Yes	No						Yes/No	
Phone works?	Yes	No	Yes/No						
Inspect external and accessible areas of the vault and ancillary equipment. (4)(6)	No new visible deterioration or release of hazardous waste (No)	Either new visible deterioration or release of hazardous waste (Yes)	No/Yes						
Inspect externally accessible piping. (4)(6)	No visible erosion or release of hazardous waste (No)	Either new visible erosion or release of hazardous waste (Yes)	No/Yes						

Solids Storage No. 6

R-WS6-791-1 Operating	Operating (Yes) (1)	Not Operating (No)	Yes/No						
R-WS6-791-1 alarm (5)	(Off or N/A) (2)	(On)	Off/On/N/A (2)						
L-WS6-1	Normal	Hi Alarm	Normal/Hi						
Signs in place? (3)	Yes	No						Yes/No	
Phone works?	Yes	No	Yes/No						
Inspect external and accessible areas of the vault and ancillary equipment. (4)(6)	No new visible deterioration or release of hazardous waste (No)	Either new visible deterioration or release of hazardous waste (Yes)	No/Yes						
Inspect externally accessible piping. (4)(6)	No visible erosion or release of hazardous waste (No)	Either new visible erosion or release of hazardous waste (Yes)	No/Yes						

- (1) The CAM is operating if: (a) the MASTER ON light is lighted, (b) the yellow loss-of-signal light on top of the CAM is not lighted, (c) the flow rate indicated by the Photohelic on the side of the CAM is between the high and low flow rate setpoint indicators, and (d) the RCTs have not tagged the CAM as inoperable.
- (2) Circle "N/A" if the CAM is not operating.
- (3) "Danger-Unauthorized personnel keep out" signs.
- (4) Accessible areas, for this inspection, are those that do not require (a) entering posted radiation or contamination control areas, other than Radiological Buffer Areas, (b) climbing above or below normal operating access levels, or (c) entering confined spaces.
- (5) This is due to a High count rate.
- (6) Inspect areas adjacent to Bin Set vaults and ancillary equipment without removal of soil, snow, or other environmental media.
- (7) Inspect earthen berms from normally accessible areas without removal of snow or other environmental media.

RCRA CSSF VAULT INSPECTIONS

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	Cracks, deterioration, uneven settling, spills			
Concrete walls	Cracks, deterioration, settlement, paint			
Tank exteriors	Corrosion, erosion, leaks, discoloration, buckles, bulges			
Piping	Corrosion, erosion, leaks, loose or corroded connections			
Valves	Leaks (internal and external), corrosion			
Ladders	Corroded, damaged, poor structural stability			

Comments: _____

RCRA CPP-659 CALCINER/CSSF MONTHLY EMERGENCY EQUIPMENT, DCS ALARM FUNCTIONS, AND VALVE PL-122-5 CHECKS

 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): _____

CSSF Fire Extinguishers

Check for accessibility, physical damage, sealed, and gauge indication in green (if equipped).

Item	Location	Requirements Met		Problem(s) Found
		Yes	No	
1	SS I, Instrument Bldg.	Yes	No	
2	SS II, Instrument Bldg.	Yes	No	
3	SS III, Instrument Bldg.	Yes	No	
4	SS IV, Instrument Bldg.	Yes	No	
5	SS V, Roof	Yes	No	
6	SS V, Instrument Bldg.	Yes	No	
7	SS VI, Instrument Room	Yes	No	
8	SS VI, Roof	Yes	No	

NWCF Fire Extinguishers

Check for accessibility, physical damage, sealed, and gauge indication in green (if equipped) or red pop-up button down (if equipped).

Item	Location	Requirements Met		Problem(s) Found
		Yes	No	
9	Room 423 East wall	Yes	No	
10	Corridor 424 East wall	Yes	No	
11	Room 601 East wall	Yes	No	
12	Room 426 West wall	Yes	No	
13	Room 427 Southwest wall	Yes	No	
14	Room 430 North wall	Yes	No	
15	Room 432 Northwest wall (there are 2 at this location)	Yes	No	
16	Corridor 409 South wall	Yes	No	
17	Room 433 West wall	Yes	No	
18	Room 438 East wall	Yes	No	
19	Room 438 Southwest wall	Yes	No	
20	Room 439 South wall	Yes	No	
21	Corridor 401 East wall	Yes	No	
22	Room 318 Southeast wall	Yes	No	
23	Room 318 West wall	Yes	No	
24	Room 311 Northeast wall	Yes	No	
25	Room 310 Northeast wall	Yes	No	
26	Room 311 Northwest wall	Yes	No	
27	Room 312 South wall	Yes	No	
28	Room 317 North wall	Yes	No	
29	Room 201 South wall	Yes	No	
30	Room 201 Southwest wall	Yes	No	
31	Room 209 East wall	Yes	No	
32	Room 211 East wall	Yes	No	
33	Room 211 West wall	Yes	No	

RCRA CPP-659 CALCINER/CSSF MONTHLY EMERGENCY EQUIPMENT, DCS ALARM FUNCTIONS, AND VALVE PL-122-5 CHECKS

Item	Location	Requirements Met		Problem(s) Found
		Yes	No	
34	Room 212 Northeast wall	Yes	No	
35	Room 212 Northwest wall	Yes	No	
36	Room 217 Northeast wall	Yes	No	

Safety Showers/Eyewash Fountains

Check for leaks, accessibility, supply valve open, and that PM tag is current for the month being inspected.

Level	Location	Equipment No.	Requirements Met?	Problem(s) Found
	Room 427	SSW-NWCF-10 EFN-NWCF-10	Yes/No	
	Room 431	SSW-NWCF-14 EFN-NWCF-14	Yes/No	
	Room 429	SSW-NWCF-1 EFN-NWCF-1	Yes/No	
		SSW-NWCF-11 EFN-NWCF-11	Yes/No	
Second	Room 318	SSW-NWCF-7 EFN-NWCF-7	Yes/No	
	Room 312	SSW-NWCF-0 EFN-NWCF-0	Yes/No	
Third	Room 201	SSW-NWCF-8 EFN-NWCF-8	Yes/No	
	Room 211	SSW-NWCF-9 EFN-NWCF-9	Yes/No	

Stretchers

Level	Location	Stretcher in Location?	Problem(s) Found
First	Room 409 – North wall	Yes/No	
	Room 430 – South wall	Yes/No	
Second	Room 317 – South wall	Yes/No	
Third	Room 209 – South wall	Yes/No	

Spill Control Cabinets

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	Minimum Quantity Required	Room 431	Room 317	Room 209
Non-rad acid suits (green) (1) (These are reusable)	6 pair			
Acid Boots (1)	6 pair (2> size 12)			
Rad Acid Suits (1)	6			
Acid Gloves (neoprene) (1)	12 pair			
Splash Goggles	4			
Plastic Buckets	2			
Spill Control Pillows	24			
Hazardous Material Pigs	12			
Hazardous Material Bags (1)	12			
Mop Handles	1			

**RCRA CPP-659 CALCINER/CSSF MONTHLY
EMERGENCY EQUIPMENT, DCS ALARM
FUNCTIONS, AND VALVE PL-122-5 CHECKS**

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: _____

RCRA LWFC CELL INSPECTIONS

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: _____

A full inspection of the cell will be conducted when the cell is initially entered. If the cell remains open for more than one day (24 hours), and cell conditions have not changed, a cell inspection will be performed using either Form INTEC-9123 or 9123A each day the cell is re-entered. If the cell remains open for 7 days or longer, then perform a full cell inspection every 7 days when entering the cell.

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			

(1) The WL-161, Cell at INTEC-604 is known to have defects in the concrete walls above the stainless-steel liner. When this cell is inspected, compare the photos in EDF-6859, located on EDMS. 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.

RCRA LWFC CELL INSPECTIONS

Comments: _____

Open RCRA Remedials on this form:

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

Containerized Hazardous Waste Stored at Location?	Inspection if Waste is Stored at Location	Normal Condition	Off-Spec Condition	Inspection	Comments
Yes/No ⁽²⁾	Containers leaking?	No	Yes	No/Yes	
	Containers deteriorating?	No	Yes	No/Yes	
	Containers closed?	Yes	No	Yes/No	
	Hazardous liquids on floor?	No	Yes	No/Yes	
	Deterioration visible ⁽³⁾	No	Yes	No/Yes	

(2) Inspection is not required if containerized hazardous waste is not stored at location. Inspection is required on a weekly basis if containerized hazardous waste is stored at location.

(3) Inspect stainless steel containment liner on floor and walls for cracks, gaps, corrosion, and deterioration.

Inspector's Name (Print): _____

Inspector's Signature: _____

Inspection Completed; Shift Supervisor's Signature: _____

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

ABBREVIATED RCRA CELL INSPECTION

 Signature/Date

Previous Inspection Checked (Initials): _____

Cell Inspected: _____ Date: _____ Time: _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous inspection 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(s), floor, walls, exterior tank surfaces, piping, valves, and pumps that are visible, and waste containers ¹	Erosion, deterioration, cracks, settling, leaks, spills, debris, or corrosion			

- Abbreviated inspections may be performed by several means (e.g., cameras, observing the area through the cell entryway, walkthroughs, etc.). Walkthrough inspections completed by personnel performing work within the cell will be limited to those areas encountered while traversing between the cell entrance and the specific work location.

Containerized Hazardous Waste Stored at Location?	Inspection if Waste is Stored at Location	Normal Condition	Off-Spec Condition	Inspection	Comments
Yes/No ⁽²⁾	Containers leaking?	No	Yes	No/Yes	
	Containers deteriorating?	No	Yes	No/Yes	
	Containers closed?	Yes	No	Yes/No	
	Hazardous liquids on floor?	No	Yes	No/Yes	
	Deterioration visible ⁽³⁾	No	Yes	No/Yes	

- Inspection is not required if containerized hazardous waste is not stored at location. Inspection is required on a weekly basis if containerized hazardous waste is stored at location.
- Inspect stainless steel containment liner on floor and walls visible through shield window for cracks, gaps, corrosion, and deterioration.

ABBREVIATED RCRA CELL INSPECTION

Comments: _____

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 _____

RCRA LWFC MONTHLY VOICE PAGING/EVACUATION SYSTEM INSPECTIONS

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): _____

NOTE 1: *The Voice Paging System and the Evacuation System use the same speakers.*

NOTE 2: *Use only one copy of this form as a "Master Copy." Ensure all areas checked are transferred to the Master Copy and keep a copy of the completed form at CPP-1683.*

Facility	Area Checked "√"(1)	Areas to Check	Requirements Met?(2)		Inspector's Initials
			Yes	No	
NWCF		All levels in the facility (including the Decon area)	Yes	No	
Waste Side		Tank Farm	Yes	No	
		CPP-604/605 (All levels in the facility)	Yes	No	
		LET&D (All levels in the facility)	Yes	No	
		CPP-1683	Yes	No	
CPP-1617		Areas in CPP-1617	Yes	No	
CPP-659		Plant Shift Supervisor (PSS) pager (2096 or most current number) and cell phone (521-0883 or most current number)(3)	Yes	No	
Solids Storage Facilities		Solids Storage Facilities I, II, III, IV, V, VI (4)	Yes	No	

- (1) Place a "√" in the "Area checked" column to indicate which area(s) was inspected; leave the other boxes blank. Only fill in the "Requirements Met" section for the area(s) inspected:
- (2) Requirements are met if the Voice paging/Evacuation System is operational and can be heard throughout the normally accessible area(s) inspected. If an area is a high noise area, the requirements are met if the visual alarms are operational.
- (3) Requirements are met if PSS pager and cell phone successfully receive test calls once a month. The inspector will verify the correct numbers and will note any changes in the comments section.
- (4) Requirements are met if the Voice Paging/Evacuation System is operational and can be heard throughout the Solids Storage Facilities area(s).

RCRA LWFC MONTHLY VOICE PAGING/EVACUATION SYSTEM INSPECTIONS

List areas where system is not operating properly (if any):

Area Where System is Not Operating Properly	Nature of any Repairs or Other Remedial Actions	Completion Date for Repairs/Remedial Actions

Comments: _____

Open RCRA Remedials on this form:

Note: *The Open RCRA Remedial Tracking Index for this inspection form is maintained at CPP-1683.*

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: _____

RCRA PART B PERMIT
FOR THE
IDAHO NATIONAL LABORATORY

Volume 22
Idaho Nuclear Technology and Engineering Center
Calcined Solids Storage Facility

Attachment 5 - Section H
Personnel Training

Revision Date: August 18, 2008

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H. PERSONNEL TRAINING

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

4 A training program has been implemented to ensure that personnel involved in the management
5 of hazardous and mixed waste at INTEC TSD units receive training consistent with the requirements of
6 IDAPA 58.01.05.008 and 58.01.05.012 (40 CFR Parts 264.16 and 270.14). The training program is
7 designed to ensure that personnel are trained to hazardous waste management procedures including, but
8 not limited to, inspections, normal operations, emergency procedures, equipment, systems, and
9 contingency plan implementation. Duties performed at the TSD units will be performed in a safe,
10 disciplined, and professional manner.

H-1. Outline of Training Program [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.16(a)(1) and 270.14(b)(12)]

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

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

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

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

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

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

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

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

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

17 On Scene Commander – is the Idaho National Engineering and Environmental Laboratory (INL)
18 Fire Department Chief. The INL firefighters serve the INL in fighting fires and containing major spills,
19 including spills of waste from waste management units. The INL Fire Department conducts a self-
20 contained training program for their personnel, which includes procedures for handling fires and spill
21 emergencies involving hazardous materials and hazardous mixed waste at the INL. Therefore, training of
22 firefighters is not discussed further in this section.

23 Emergency Director – is trained on the INL (Site wide) Emergency Plan/Resource Conservation
24 and Recovery Act (RCRA) Contingency Plan or Industrial Safety and Hygiene Program as part of his/her
25 duties. The ED will be informed by the Emergency Action Manager (EAM) or facility personnel at
26 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 and (d)(3)]

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

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

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

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

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

- 21 • RCRA requirements as they relate to INTEC unit operations
- 22 • Hazardous materials
- 23 • INTEC TSD unit systems and components (including waste treatment processes and operations)
- 24 • Normal operating procedures and shutdown procedures
- 25 • Emergency or off-normal operating procedures
- 26 • Inspections and equipment maintenance

- 1 • Occupational Safety and Health Administration (OSHA) and related health and safety
2 requirements
- 3 • INTEC TSD unit and operational/administrative procedures.

4 Personnel whose qualifications have been verified before beginning work perform TSD unit
5 operation and maintenance.

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

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

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

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

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

- 23 • Provide direction to the TSD unit training organization
- 24 • Ensure that performance of training personnel is evaluated

Table H-1. Minimum training matrix for TSD unit personnel.

Task	Audience	Initial Employee Training	Rad Training ¹	24 hour OSHA ¹	Annual Training	Applicable Sections of RCRA Permit ²
High-level waste (HLW) operations personnel that perform TSDF operations, or supervise those operations, and are exposed to the hazards of the TSDF. These employees have duties that may bring them into contact with hazardous/mixed waste. Therefore, these employees are required to complete 24-hr HAZWOPER Qualification.	HLW TSDF Worker	X	X	X	X	C, D, F, G
HLW operations personnel that perform TSDF operations, or provide system-specific operational direction (i.e., facility operations managers, facility system engineers, facility environmental representatives). These employees are not directly exposed to the hazards of the TSDF but must be cognizant of the RCRA-related requirements for HLW (for instance, these employees are not required to wear personal protective equipment (PPE) and are not required to complete 24-hr HAZWOPER).	HLW Incidental TSDF Worker	X	X		X	C, D, F, G
Employees who enter TSDF areas unescorted and provide support functions that may bring them into contact with hazardous/mixed waste at the TSDF. These employees are required to complete 24-hr HAZWOPER Qualification. Examples of work activities include radiological surveys, maintenance planning, life safety systems, and surveillance. Examples of workers that may be included are Crafts, Radcon, Quality Inspector or Technicians, Facility Engineers, Life Safety System Engineers, EAMs, Waste Handlers, and Subcontractors. (In the HLW facilities, the TSDF boundary is usually interpreted to mean within the Radiological Buffer Areas).	INTEC TSDF Support Worker	X	X	X	X	F, G
Employees who enter TSDF areas unescorted and provide support functions and are not directly exposed to the hazards of the TSDF (for instance, these employees are not required to wear PPE and are not required to complete 24-hr HAZWOPER). Examples of workers that may be included are Environmental, Safety, and Health (ES&H) Support Engineers, Hygienists, Support Engineers, Planners, Senior Supervisory Watch (SSW), and Quality Engineers. (In the HLW facilities, the TSDF boundary is usually interpreted to mean within the Radiological Buffer Areas).	INTEC TSDF Incidental Support Worker	X	X		X	F, G

Table H-1. Continued

Task	Audience	Initial Employee Training	Rad Training ¹	24 hour OSHA ¹	Annual Training	Applicable Sections of RCRA Permit ²
Employees who perform Decon facility cell inspections and debris treatment activities. Decon personnel that perform TSDF operations, or supervise those operations, and are exposed to the hazards of the TSDF. These employees have duties that may bring them into contact with hazardous/mixed waste. Therefore, these employees are required to complete 24-hr HAZWOPER Qualification.	HLW Decon Technician, HLW Decon Tech Leads	X	X	X	X	C, D, F, G
Waste Disposition Services Technical Staff who perform support functions for TSDFs. These employees have duties that may bring them into contact with hazardous/mixed waste. Therefore, these employees are required to complete 24-hr HAZWOPER Qualification.	WDS TSDF Worker	X	X	X	X	C, D, F, G
1. Personnel who are not exposed to the hazards of the regulated units may not require this training 2. Personnel receive training related to the permit section as appropriate to their job function.						
Section C- Waste Characterization Section D – Process Information			Section F – Procedures to Prevent Hazards Section G – Preparedness, Prevention, and Contingency Plan			

- 1 • Approve TSD unit training program
- 2 • Ensure that all program objectives and requirements are satisfied and that the training program
- 3 meets the requirements of IDAPA 58.01.05.008 (40 CFR 264.16) and 29 CFR 1910.120.

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

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

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

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

- 12 • Job description
- 13 • Qualifications
- 14 • Training requirements.

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

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

20 Individuals who demonstrate an equivalency for specific requirements or prerequisites identified
21 in the training profile may be exempted from requirements in accordance with established procedures.
22 The training director must approve exemptions/equivalencies. Each exemption/equivalency is granted in
23 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)]

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

5 General emergency response training of TSD unit ERO personnel includes training on the INL
6 EP/RCRA CP that covers the following topics:

- 7 • Spill Control Plan
- 8 • Evacuation/accountability
- 9 • Emergency drill/exercise
- 10 • RCRA
- 11 • Emergency Plan Implementing Procedures
- 12 • Emergency preparedness
- 13 • Incident command system
- 14 • Inspection and repair of facility emergency monitoring equipment.

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

H-2. Implementation of Training Program [IDAPA 58.01.05.008; 40 CFR 264.16(b) and 40 CFR 264.16(c)]

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

1 RCRA training is completed within the first six months of the individual's employment or
2 assignment, and at least annually thereafter, for positions involving TSD unit operations. Throughout the
3 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)]

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

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

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

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

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

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Attachment 6 - Sections F-3, F-4, and F-5
Procedures to Prevent Hazards

Revision Date: August 18, 2008

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F-3. Documentation of Preparedness and Prevention Requirements

F-3a. Equipment Requirements [IDAPA 58.01.05.012 and 58.01.05.008; 264.32]

F-3a(1) Internal Communications [IDAPA 58.01.05.008; 40 CFR 264.32(a) and 264.34]

In any event (fire, explosion or release), the person involved/discovering can activate the nearest manual alarms and use communication devices (e.g., two-way radio, alarm system, etc.) to summon assistance, and make notifications to the plant shift supervisor/Emergency Action Manager (EAM) and/or the INL 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 Warning Communications Center (WCC), to verify the INL Fire Department is responding.

The CSSF buildings are equipped with communication devices (e.g., two-way radios, etc.) capable of summoning emergency assistance. The personnel involved in the operation have immediate access to emergency communication devices. If there is ever just one employee at the TSD while the unit is operating, that employee will be provided immediate access to a communication device for summoning emergency assistance.

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

The CSSF buildings are equipped with communication devices (e.g., two-way radios, etc.) capable of summoning emergency assistance. The INTEC EAM and the WCC use communication devices that provide direct access to external emergency response agencies.

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

The emergency/safety equipment located in the buildings associated with the CSSF includes the following:

- Portable fire extinguishers
- Emergency lighting.

1 Portable fire extinguishers are located in the instrument room of each Bin Set (except Bin Set 7 as
2 there is no waste present). Extinguishers are inspected monthly, to ensure that they are charged, sealed,
3 and accessible.

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

5 Two insulated fire water supply tanks with maximum capacities of 800,000 gal each supply the
6 INTEC fire water system. These tanks are maintained between 400,000 and 600,000 gallons of water for
7 fire suppression. Diesel powered pumps move water from wells to maintain these levels. Electric jockey
8 pumps are located on the outlet lines that keep the fire water lines pressurized. Electric pumps are located
9 on the outlets of these tanks to supply water for hose streams and automatic sprinklers at adequate volume
10 and pressure.

F-4. Preventive Procedures, Structures, and Equipment

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

11 There are no unloading operations associated with the CSSF.

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

12 The units addressed in this permit are located within fully enclosed vaults. The area surrounding
13 each vault slopes away from the vault, carrying any storm water toward the streets, where the water is
14 collected and diverted away from the vault as demonstrated by Appendix 1 to Section B of the permit
15 application. The CSSF are outside of the 100-year floodplain boundary as postulated in the Big Lost
16 River Flood Hazard Study, November 2005 (see the current revision of the Volume 3 of the INL Permit
17 Application). Additionally, there is very little threat of contact between storm water and waste that could
18 contaminate other areas, since all wastes are contained inside stainless steel bins within vaults.

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

19 Building features such as high-density concrete base and leak detection prevents contamination of
20 water supplies by calcine spills.

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

21 Power failure requirements are applicable, but not of a concern, since there are no power-operated
22 activities at the Bin Sets. Battery-powered emergency lights are located in buildings that support Bin

1 Sets 4, 5, 6, and 7 to provide lighting for personnel during a power failure. Buildings that support Bin
2 Sets 1, 2, and 3 are too small to need emergency lighting. The CAMs in Bin Sets 1, 2, and 3 are not on
3 standby power. After a power failure, radiological control technicians (RCTs) ensure the CAMs are
4 operating and no failures have occurred. The CAMs in bin sets 4, 5, 6, and 7 are on a standby power
5 circuit to allow monitoring during a power outage.

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

6 The buildings are designed with various features that prevent undue exposure of personnel to
7 mixed waste. CAMs and surveys performed by RCTs are used to monitor all areas and aid in the
8 detection of contamination. Operations are conducted according to written procedures. See Section F-
9 3a(3) of this permit for a list of equipment available for emergency use, and see Section G, the
10 contingency plan of this permit, for a description of the locations of this equipment.

11 Pre-job briefings are held, as necessary, to ensure understanding of procedures, safety hazards,
12 and radiological concerns.

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

13 All of the vaults cooling air inlet dampers and outlet dampers have been physically disable in the
14 closed position to prevent operation or have been blind flanged. These actions have isolated the vaults
15 from the atmosphere. In the event of an airborne release from a bin, the vault will contain any airborne
16 material.

F-5. Prevention of Reaction of Ignitable, Reactive, and Incompatible Wastes

17 No ignitable or reactive wastes are stored in the CSSF. Waste compatibility was verified prior to
18 treatment in the calciners. No additional compatibility testing was performed for wastes stored in the
19 CSSF.

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FOR THE

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Attachment 7 - Section G

Preparedness, Prevention, and Contingency Plan

Revision Date: September 21, 2012

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<p>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.</p> <p>(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.</p> <p>40 CFR 264.53 Copies of Contingency Plan A copy of the Contingency Plan and all revisions to the Contingency Plan must be:</p> <p>(a) Maintained at the facility; and</p> <p>(b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide</p>	<p>G-1 General Information The Idaho Nuclear Technology and Engineering Center (INTEC) 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. This Resource Conservation and Recovery Act (RCRA) contingency plan matrix discusses emergency response at the INTEC.</p> <p>This matrix addresses emergency actions to protect human health, the environment, and INTEC facilities and equipment in an event originating from or affecting the permitted units, comprised of the Calcined Solids Storage Facility (CSSF).</p> <p>The Idaho National Laboratory (INL) Emergency Plan/RCRA Contingency Plan (INL EP/RCRA CP) is the implementing document for emergency response across the INL 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 INL EP/RCRA CP.</p> <p>The contingency plan outlines the response to emergencies that occur in personnel accessible areas. However, emergencies that involve the inside of the CSSF tanks and vaults will be monitored from outside of the vaults. Due to high radiation levels (between 180 and 380 R/hr fields in CSSF 1 that should be comparable with all the vaults except CSSF 7) the vaults will not be entered until the calcine is removed at closure.</p> <p>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. Facility personnel trained according to the provisions of this plan manage minor incidents that can be controlled with on-Site resources and do not threaten human health or the environment. Such responses are not considered activation of the contingency plan.</p> <p>The contingency plan, with all subsequent revisions, will be maintained with the RCRA permit at the facility at various locations, including the Plant Shift Supervisor’s office.</p> <p>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 (DOE-ID):</p>

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<p>emergency services.</p> <p>40 CFR 264.54 Amendment of the Contingency Plan. The Contingency Plan must be reviewed, and immediately amended, if necessary, whenever:</p> <p>(a) The facility permit is revised;</p> <p>(b) The plan fails in an emergency;</p> <p>(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;</p> <p>(d) The list of emergency coordinators changes; or</p> <p>(e) The list of emergency equipment changes.</p>	<ul style="list-style-type: none"> • Bingham, Bonneville, Butte, Clark, and Jefferson County Sheriffs’ Departments and City of Idaho Falls Police Department • Rexburg City/Madison County, City of Ammon, City of Chubbuck, and City of Idaho Falls Fire Departments, South Custer Rural, Shelley/Firth Fire Districts, and Central Fire District and Teton County Fire Protection District • Portneuf Medical Center, Eastern Idaho Regional Medical Center, and Bingham County Memorial Hospital • Bingham County Emergency Management Services, Bonneville County Emergency Management Services, Butte County Emergency Services, Clark County Civil Defense, and Jefferson County Emergency Management • Shoshone-Bannock Tribes • Bureau of Land Management, Department of Interior, and Department of Agriculture • State of Idaho and Idaho Transportation Department <p>The contingency plan is reviewed and immediately amended, if necessary, whenever:</p> <ul style="list-style-type: none"> • The HWMA/RCRA permit is modified. • The contingency plan fails in an emergency. • It is determined/known that changes in the permitted units’ 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).
<p>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</p>	<p>G-2 Emergency Coordinators</p> <p>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.</p>

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<p>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.</p> <p>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 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.</p>	<p>The responsibility is best assigned through “redundant primary” EAMs, without alternates.</p> <p>Names, home addresses, and home phone numbers of the CWI EAMs are as follows:</p> <ul style="list-style-type: none"> • Arrowood, Mark S. – 135 Robison Ave, Ammon, ID 83406 – 237-9087 or 406-3510 (home/cell); 533-3600 (work); 5627 (pager) • Blackner, Butch T. – 1011 James Street, Blackfoot, ID 83221 – 604-2506 (home); 526-3100 (work); 2096 or 0032 (pager) • Casteel, Michael S. – 605 Terrace Dr., Idaho Falls, ID 83402 – 521-5620 (home/cell); 526-3100 (work); 2096 (pager) • Newsome, Eugene C. – 281 E. 400 N., Blackfoot, ID 83221 – 785-1658 or 569-0956 (home/cell); 526-3100 (work); 2096 (pager) • Vaden, Randall R. – 515 Vaden Street, Mackay, ID 83251 – 588-3069 (home); 526-3100 (work); 2096 (pager) <p>The business address (P.O. Box 2010, Idaho Falls, Idaho 83403-2010) is the same for all the CWI EAMs. The EAM list above is subject to change due to changes in personnel. The current list of EAMs is maintained in Appendix I of the INTEC Addendum to the ICP EP/RCRA CP.</p> <p>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.</p> <p>The INTEC EAMs are responsible for:</p> <ul style="list-style-type: none"> • 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 INL Fire Department, INL Emergency Operations Center (EOC), and the INL 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. <p>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.</p>

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<p>G-3 Implementation 40 CFR 264.52(a) and 264.56(d)</p> <p>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.</p> <p>40 CFR 264.51 <i>[The text of 40 CFR 264.51 is located in Section G-1, General Information.]</i></p> <p>40 CFR 264.56 Emergency procedures.</p> <p>(a) <i>[The text of 40 CFR 264.56(a) is located in Section G-4a, Notification.]</i></p> <p>(b) <i>[The text of 40 CFR 264.56(b) is located in Section G-4b, Identification of Hazardous Materials.]</i></p> <p>(c) <i>[The text of 40 CFR 264.56(c) is located in Section G-4c, Assessment.]</i></p> <p>(d) <i>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:</i></p> <p>(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</p>	<p>G-3 Implementation</p> <p>The provisions of the contingency plan will be carried out 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 (activation of the contingency plan). Such an occurrence (incident) requires classification, as described below, to aid in expediting the appropriate emergency response.</p> <p>Classification of an occurrence is done in accordance with DOE Orders. Through these orders, the DOE has established definitions for occurrence categories and emergency classes. Occurrences are categorized by severity, in order of increasing severity.</p> <p>An operational emergency at the INTEC may require 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.</p> <p>Operational emergencies are defined as an unplanned significant event or condition that requires time-urgent response from outside the immediate/affected 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:</p> <p>ALERT. Alert shall be declared when events are predicted, are in progress, or have occurred that result in either:</p> <ul style="list-style-type: none"> • An actual or potential substantial degradation in the level of control over hazardous materials (radiological and nonradiological) <p>OR</p>

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<p>(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:</p> <p>(i) Name and telephone number of reporter;</p> <p>(ii) Name and address of facility;</p> <p>(iii) Time and type of incident (e.g., release, fire);</p> <p>(iv) Name and quantity of material(s) involved, to the extent known;</p> <p>(v) The extent of injuries, if any; and</p> <p>(vi) The possible hazards to human health, or the environment, outside the facility.</p>	<ul style="list-style-type: none"> • An actual or potential substantial degradation in the level of safety or security of a facility or process that could, with further degradation, produce a site area emergency or a general emergency. <p>If an actual or potential substantial degradation in the level of control over hazardous materials (radiological and nonradiological) occurs, the radiation dose from any release to the environment of radioactive material or a concentration in air of other hazardous material is expected to exceed either:</p> <ul style="list-style-type: none"> • The applicable Protective Action Guide (PAG) or Emergency Response Planning Guideline (ERPG) at or beyond 30 m from the point of release to the environment <p>OR</p> <ul style="list-style-type: none"> • Ten percent of the applicable PAG or 10% of the ERPG-2 (TEEL-2) value at 100 m <p>AND</p> <p>It is not expected that the applicable PAG or ERPG will be exceeded at or beyond the facility boundary or exclusion zone boundary.</p> <p>SITE AREA EMERGENCY. A site area emergency shall be declared when events are predicted, are in progress, or have occurred that result in either:</p> <ul style="list-style-type: none"> • An actual or potential major failure of functions necessary for the protection of worker or the public <p>OR</p> <ul style="list-style-type: none"> • An actual or potential major degradation in the level of safety or security of a facility or process that could, with further degradation, produce a general emergency <p>AND</p> <p>The radiation dose from any release of radioactive material or concentration in air from any release of other hazardous material is not expected to exceed the applicable PAG or ERPG at or beyond the site boundary.</p> <p>GENERAL EMERGENCY. A general site emergency shall be declared when events are predicted, are in progress or have occurred that result in either:</p>

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	<ul style="list-style-type: none"> • Catastrophic reduction of facility safety or security systems with a potential for the release of large quantities of hazardous materials (radiological or nonradiological) to the environment actually occurring or imminent <p>OR</p> <ul style="list-style-type: none"> • The radiation dose from any release of radioactive material or a concentration in air from any release of other hazardous material is expected to exceed the applicable PAG or ERPG at or beyond the site boundary. <p>The following is a list of personnel and organizations 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:</p> <ul style="list-style-type: none"> • 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, responsible for conducting emergency response within the INTEC and the immediate implementation of the contingency plan • INL 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 (OSC) – With the assistance of the INTEC EAM, assesses situation from the standpoint of tactical deployment of the INL Fire Department and overall effort to address the situation/emergency • INL 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 INL EOC and has jurisdiction over all INL operational emergency response activities • INL Warning Communications Center (WCC) – Serves as the central organization for coordinating efforts between INL EROs and off-Site agencies/support services • Industrial Hygienist – Assists in the assessment of hazards/risk (such as 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

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<p>G-4 Emergency Response Procedures</p> <p>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:</p> <p>(1) Activate internal facility alarms or communications systems, where applicable, to notify all facility personnel; and</p>	<p>INTEC, in which case he would assume a responsibility role.</p> <p>Specific actions which further address 40 CFR 264.52(a) and 264.56(d) are described in Section G-4, Emergency Response Procedures.</p> <p>G-4 Emergency Response Procedures</p> <p>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 Fire Alarm Center (FAC), which will involve the INL Fire Department and personnel located within the building where the alarm was activated. In any event (fire, explosion or release), the person involved/discovering can activate the nearest manual alarms and use communication devices (such as cell phones, hand-held two way radios) to summon assistance, and make notifications to the plant shift supervisor/EAM and/or the INL 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 INL Fire Department is responding. All notifications shall include the following information, as appropriate:</p> <ul style="list-style-type: none"> • 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. <p>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 activate the contingency plan. If necessary, the EAM will also request assistance from the INL Fire Department. The INL Fire Department is contacted by dialing 777 or 526-7777. In case of fire, the INL 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 activated if the incident is considered minor and does not constitute an emergency requiring notification of regulatory agencies (such as 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</p>

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<p>(2) Notify appropriate State or local agencies with designated response roles if their help is needed.</p>	<p>Table 302.4 of 40 CFR Part 302.</p> <p>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 INL Fire Department and security personnel operate separately, but their activities are coordinated through the EAM. DOE-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 INL 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.)</p> <p>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:</p> <ul style="list-style-type: none"> • 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. <p>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 activated. The EAM will ensure that local authorities are notified by phone and/or facsimile. Based on the initial information provided by the EAM or the ED these notifications are made by the INL WCC. The agencies to be contacted include, as appropriate:</p> <p><u>County Dispatch Centers:</u> <u>Butte County</u> (208) 527-3585 Fax Number (208) 527-3916</p> <p><u>Bonneville County</u> (208) 522-1644 or (208) 529-1200 Fax Number (208) 529-1153</p>

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	<p><u>Bingham County</u> (208) 785-7653 Fax Number (208) 785-8067</p> <p><u>Clark County</u> (208) 374-5669 Fax Number (208) 374-5614</p> <p><u>Fort Hall</u> Police Dispatch (208) 233-7451 Public Safety (208) 237-0137 Fax Number (208) 478-4005</p> <p><u>Jefferson County</u> (208) 745-9207 Fax Number (208) 745-9212</p> <p><u>DOE-HQ Emergency Operations Center</u> (202) 586-8100 Fax Number (202) 586-8485</p> <p><u>State of Idaho Communications Center</u> (800) 632-8000 or (208)846-7610 Fax Number (208) 846-7620</p> <p><u>National Response Center</u> 1-800-424-8802</p> <p>The first notification of regulatory agencies will include, as appropriate:</p> <ul style="list-style-type: none">• 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• 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. <p>The ED and EAM will also be available to help the appropriate local, state, or federal officials decide whether local areas should be evacuated.</p> <p>Notification of the General Public The INL Emergency Director or the EAM will notify the general public through the public safety and emergency agencies listed above. DOE policy is to provide accurate and timely information to the public, by the most expeditious means possible, concerning emergency situations that may affect</p>

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<p>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.</p>	<p>employees, off-Site personnel, public health and safety, and/or the environment.</p> <p>G-4b Identification of Hazardous Materials</p> <p>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. In normal storage configuration, the CSSF provides for protection of human health and the environment by isolating the calcined waste from the environment and INTEC personnel.</p> <p>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:</p> <ul style="list-style-type: none"> • 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 INL Fire Department’s findings/reports. <p>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.</p>
<p>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).</p> <p>40 CFR 264.56(d) <i>[The text of 40 CFR 264.56(d) is located in Section G-3, Implementation.]</i></p>	<p>G-4c Assessment</p> <p>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 personal protective equipment (PPE). Robotic equipment and/or portable shielding may be used to determine and reduce the radiological hazards from released waste to protect INTEC personnel. 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.</p> <p>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.</p>

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	<p>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 INL EROs at the appropriate level in response to the incident. These EALs specify the initial protective actions (that is, evacuation or take cover) to be taken in response to the event.</p> <p>The emergency assessment requires determination of hazards involving evaluation of several criteria, including the following:</p> <ul style="list-style-type: none">• 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 (such as 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)• Uncertainties – Considerations for undeterminable or future exposures; uncertain or unknown health effects including future health effects. <p>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 activation of the contingency plan.</p> <p>If the assessment indicates that a potential threat exists to off-Site human health or the environment due to airborne contaminants, the EAM or 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 CSSF.</p>

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<p>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.</p>	<p>G-4d Control Procedures</p> <ul style="list-style-type: none">• Personnel at INTEC do not enter the CSSF vaults because of the radiological hazards. If a release within the vaults is detected by the CAMs, additional radiological characterization will be conducted. This characterization will be completed using radiological instrumentation that can be lowered into the vaults through instrumentation ports. This will allow for radiological characterization of the released waste while still providing adequate protection of human health and the environment. In addition, this monitoring can be completed at multiple points in time to assess whether waste continues to be released within the vaults or if the radiological conditions within the vault have stabilized. In any case, personnel will not enter the vaults to complete cleanup of released materials. The released materials will be removed from the vault as part of the calcine retrieval operations in preparation for treatment or final disposal. <p>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 as appropriate:</p> <ul style="list-style-type: none">• Check to ensure all automatic and manual alarms in the permitted units are working if feasible• Conduct a general survey of the exterior of the permitted units looking for potential problems (including radiological characterization)• Take any necessary corrective measures, however temporary, to rectify potential or real problems• Record all inspection results. <p>Power Failure Should power fail, battery-operated lights will automatically illuminate. In the event of a power failure, personnel will secure any work in progress and leave the area until power is restored.</p> <p>The utilities have backup power replacements as shown:</p> <ul style="list-style-type: none">• Lights – Fixed battery-operated lights will operate• Alarms – Emergency communication and fire alarm systems have battery backup• Communication Devices – cell phone and/or radio networks will be used

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<p>G-4e Prevention of Recurrence or Spread of Fires, Explosions, or Releases 40 CFR 264.56(e) and (f)</p> <p>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.</p> <p>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.</p>	<p>G-4e Prevention of Recurrence or Spread of Fires, Explosions, or Releases</p> <p>Equipment Failure There will be no impact to the permitted units from an equipment failure. Maintenance personnel will repair mechanical failures that do not result in spills.</p> <p>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 may include the following as appropriate:</p> <ul style="list-style-type: none"> • 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 • Over-packing and/or removing damaged containers/drums from affected areas • Repairing damaged equipment and facilities, as appropriate • Constructing, monitoring, and reinforcing temporary dikes, as needed. <p>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 INL Fire Department and ERO, as necessary. If necessary, the EAM may request other INL 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.</p> <p>Emergencies originating at the permitted units will be addressed by activation of the contingency plan under the direction of the EAM. The contingency plan may be activated at any time, at the discretion of the EAM.</p> <p>Fires The design of the bin sets eliminated combustible loading within the vaults therefore, fires within the vaults themselves will not occur. Fires that occur outside the vaults will be addressed as follows. Fires that involve or threaten hazardous or mixed wastes are considered emergencies for the purposes of the contingency plan. Planned actions include:</p>

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	<ul style="list-style-type: none">• The INL Fire Department will be contacted by pulling the fire-alarm call box or by dialing 777 or 526-7777• 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. <p>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 INL Fire Department.</p> <p>An adsorbent 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 containers, and the surface will be cleaned using cleaners appropriate to the identified chemicals.</p> <p>Fire fighting waters will be collected and analyzed, whenever possible, to determine an appropriate disposal method.</p> <p>Explosions</p> <p>The design of the bin sets eliminated the potential for explosions; therefore explosions within the vaults themselves will not occur. Explosions that occur outside the vaults will be addressed as follows. Explosions that involve or threaten hazardous or mixed waste or an explosion that is imminent are considered emergencies for the purposes of the contingency plan. Planned actions include:</p> <ul style="list-style-type: none">• 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.• An adsorbent/absorbent will be poured over all chemical residues

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	<p>resulting from a hazardous waste explosion. Once the liquid is absorbed, the waste will be swept or shoveled back into the drums, and the surface cleaned using cleaners appropriate to the identified chemicals.</p> <ul style="list-style-type: none">• The EAM will ensure all operational units are secured (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. <p>Releases</p> <p>Released materials within the vaults are addressed in Section G-4d. Any other releases that occur outside the vaults will be addressed as follows. The EAM will implement the following, as appropriate, 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:</p> <ul style="list-style-type: none">• Evacuate the immediate area• Review facility records to determine the identity and chemical nature of released material• Don appropriate PPE to prevent exposure to the material• Secure the source of the release, if possible• Build a dike to contain run-off• Ensure storm drains do not receive potentially hazardous run-off or spill material• Build dikes around storm drains or close any valves controlling discharge• 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• Ensure that waste that may be incompatible with the released material will be managed in the affected area until cleanup procedures are complete. <p>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 in situ neutralization or stabilization. Any such alternative will be discussed with the Director of the Idaho Department of Environmental Quality, before implementation.</p>

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<p>G-4f Storage and Treatment of Released Materials 40 CFR 264.56(g)</p> <p>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.</p>	<p>G-4f Storage and Treatment of Released Materials</p> <p>Once initial spill containment has been completed, the EAM will ensure that recovered hazardous materials and waste are properly stored, treated, and/or disposed of, as required by IDAPA 58.01.05.006; 58.01.05.007; and 58.01.05.008 (40 CFR 262, 263, and 264).</p> <p>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.</p> <p>Spills of dry material will be swept or shoveled into a labeled compatible recovery container. Material recovered from the spill will be transferred to a new or clean-washed container. All containers will meet Department of Transportation (DOT) specifications for shipping the recovered wastes and materials.</p> <p>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). In most cases, the hazardous waste inventory logs completed when containers are placed in storage at the permitted units will allow a determination of the hazardous wastes and hazardous waste constituents present in any cleanup of a release or the residues from an emergency condition. 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.</p> <p>If the entire permitted unit has been impacted because of a fire, explosion, or spill, pending decontamination, no hazardous or mixed waste will be accepted for storage or treatment, until it is restored to design status. All cleanup and decontamination residues will be packaged, handled, and stored according to applicable state or federal regulations, DOE orders, and permitted unit procedures. During this period, storage will occur at a less-than-90-day storage site. All liquid wastes will be provided with secondary containment. If unaffected areas of the permitted unit can be used, containers of waste from the affected area(s) will be cleaned, over-packed, placed in spill pans, or transferred to new containers and moved to the unaffected areas.</p>

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<p>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:</p> <p>(1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and</p>	<p>G-4g Incompatible Waste</p> <p>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.</p> <p>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 (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.</p> <p>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 postemergency cleanup operations to remove potentially incompatible materials have been completed.</p>
<p>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:</p> <p>(2) All emergency equipment listed in the CP is cleaned and fit for its intended use before operations are resumed.</p>	<p>G-4h Postemergency Equipment Maintenance</p> <p>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 (that is, 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, or replaced, a postemergency facility and equipment inspection will be performed, and the results will be recorded.</p> <p>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</p>

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<p>G-4j Tank Spills and Leakage 40 CFR 264.194 (c) 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.</p> <p>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:</p> <p>(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.</p> <p>(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 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.</p>	<p>operations will be analyzed for hazardous waste constituents and/or hazardous waste characteristics to determine proper management.</p> <p>When INTEC facility personnel have completed any post-emergency cleanup of waste and hazardous residues and waste management operations are ready to resume, the EAM will ensure the following have occurred:</p> <ul style="list-style-type: none"> • All emergency equipment used in managing the emergency has been cleaned or replaced and is fit for service • Notification of the Director of the Department of Environmental Quality and any relevant local authorities. <p>This postemergency notification complies with IDAPA 58.01.05.008; [40 CFR 264.56(i)].</p> <p>G-4j Tank Spills and Leakage</p> <p>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 and ancillary equipment), all are contained within a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents, and personnel and heavy equipment that may operate within the building(s).</p> <p>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.</p> <p>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. However, the waste will be addressed in as timely a manner as possible to prevent harm to human health and the environment while ensuring the safety of the facility personnel responding to the spill/leak.</p> <p>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:</p> <ul style="list-style-type: none"> • A minor leak from ancillary equipment (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 containment system or portion of the INTEC that can be easily stopped

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<p>(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</p> <p>(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:</p> <p>(1) Prevent further migration of the leak or spill to soils or surface water; and</p> <p>(2) Remove, and properly dispose of, any visible contamination of the soil or surface water.</p> <p>(d) Notifications, reports.</p> <p>(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.</p> <p>(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.</p> <p>(3) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the Reg. Admin.</p> <p>(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 Reg. Admin. as soon as they become available. (iv) Proximity to down-gradient drinking water, surface water, and populated areas; and (v)</p>	<ul style="list-style-type: none"> • A major tank leak from which total loss of contents could be realized. <p>Upon notification of the emergency, the INL Fire Department is responsible for response and mitigation. Once the source of the leak/spill is identified and controlled, trained INTEC facility personnel will assess the extent of the spill/leak and will initiate corrective actions and cleanup activities.</p> <p>In the most extreme case of tank failure, the INTEC EAM will be notified and the contingency plan will be activated.</p> <p>Since all tanks and ancillary equipment for the CSSF are contained within permanent structures, release to soils or surface water is extremely unlikely. 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 of.</p> <p>Any release from the tank system to the soil, groundwater, or surface water will be reported to the Director of the Idaho Department of Environmental Quality within 24 hours of detection, unless:</p> <ul style="list-style-type: none"> • The release has already been reported pursuant to 40 CFR Part 302 • It is a spill of hazardous waste totaling less than or equal to one pound that was immediately contained and cleaned up. <p>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 Director of the Idaho Department of Environmental Quality. This report will, at a minimum, contain the following:</p> <ul style="list-style-type: none"> • 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 down-gradient drinking water, surface water, and populated areas • A description of response actions taken or planned. <p>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 PPE/equipment used in the response will be decontaminated or disposed and replaced.</p>

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<p>Description of response actions taken or planned.</p> <p>(e) Provision of secondary containment, repair, or closure.</p> <p>(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.</p> <p>(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.</p> <p>(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.</p> <p>(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</p>	<p>A variance from secondary containment for the tank systems identified in this permit has been requested. However, once a release has been contained and cleaned up, the affected unit(s) will be inspected and returned to service, provided that:</p> <ul style="list-style-type: none"> • 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.

<p>AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION</p> <p>onground tank), the entire component must be provided with secondary containment in accordance with Sec. 264.193 prior to being returned to use.</p> <p>(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.</p>	<p>COMPLIANCE METHODOLOGY</p> <p>When a tank system repair has been extensive (such as repair of a ruptured primary 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.</p>
<p>G-5 Emergency Equipment 40 CFR 264.52(e)</p> <p>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.</p>	<p>G-5 Emergency Equipment</p> <p>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 available emergency equipment is shown in Table G-1. 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 INL.</p> <p>Examples of safety and emergency equipment located at the CSSF include:</p> <ul style="list-style-type: none"> • Portable fire extinguisher • Plant voice paging and evacuation alarm system • Internal voice paging system • Communication devices • Emergency lights and exit sign. <p>Safety and emergency equipment provide adequate capabilities for trained personnel to respond to and control leaks, spills, and emergency situations until assistance arrives. The INL Fire Department has other emergency equipment including, but not limited to, self-contained breathing apparatus (SCBAs), stretchers, and first-aid kits.</p>

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<p>G-6 Coordination Agreements 40 CFR 264.52(c) and 264.37</p> <p>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.</p> <p>40 CFR 264.37 Arrangements with local authorities.</p> <p>(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:</p> <ol style="list-style-type: none">(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 and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility. <p>(b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the</p>	<p>G-6 Coordination Agreements</p> <p>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 INL resources are obtained, such as on-Site security, medical, and fire assistance, which are available on a 24-hour basis.</p> <p>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 DOE-ID.</p>

<p style="text-align: center;">AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION</p> <p>operating record.</p>	<p style="text-align: center;">COMPLIANCE METHODOLOGY</p>
<p>G-7 Evacuation Plan 40 CFR 264.52(f)</p> <p>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).</p>	<p>G-7 Evacuation Plan</p> <p>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 that 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.</p> <p>The INTEC evacuation system alerts personnel of the need to evacuate the area. 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.</p> <p>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.</p> <p>The following will allow for a safe, coordinated evacuation:</p> <ul style="list-style-type: none"> • When an evacuation is announced, stop work • If possible and directed by the EAM, shut down designated operations that could contribute to further hazards, unless an "immediate" building evacuation is announced • Follow the voice-paging instruction or proceed to the closest building exit, unless blocked by hazards • Do not remain in the affected area, and assist injured personnel in leaving the area, if possible • Exit the facility through the security access points to the designated assembly area • Report to the designated assembly area • Be continually cognizant of wind direction (stay upwind) and emergency equipment • Do not reenter the fenced area of the INTEC, until the EAM authorizes reentry. <p>During an evacuation, all personnel will remain in the designated assembly area, until given further instructions.</p> <p>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.</p>

<p style="text-align: center;">AT KEARNEY FORMAT SECTION REGULATORY REFERENCE/CITATION</p>	<p style="text-align: center;">COMPLIANCE METHODOLOGY</p>
<p>G-8 Required Reports 40 CFR 264.56(j) and 40 CFR 264.56(i)</p> <p>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:</p> <ol style="list-style-type: none"> (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. <p>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.</p>	<p>G-8 Required Reports</p> <p>Any fire, explosion, or unplanned release of hazardous or mixed waste or hazardous constituent requiring activation of the contingency plan will be reported by the Permittee in writing within 15 days to the Director of the Department of Environmental Quality. Such reports will include, as a minimum, the following:</p> <ul style="list-style-type: none"> • Name, address, and telephone number of the facility owner/operator • Name, address, and telephone number of the facility • Date, time, and type of incident (such as 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.). <p>In accordance with IDAPA 58.01.05.008 [40 CFR 264.56(I)], the Permittee will notify the Director of the Department of Environmental Quality that:</p> <ul style="list-style-type: none"> • 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 activated, and the EAM will ensure that local authorities are notified in writing.

Table G-1. Emergency response equipment available at the CSSF.

Emergency Equipment	Location	Capabilities
Fire control		
Portable fire extinguisher (ABC or CO ₂)	Inside the personnel door of each CSSF, or near the door on the outside	Use during incipient stage of fire (10–60-sec discharge time)
Emergency Communication/Alarm System		
Manual fire alarm boxes	Located at each CSSF	Summon INL Fire Department
Communication Devices	Located at each CSSF	On-Site / Off-Site communications
Two-way radios	Used by field personnel	On-Site communications
Sitewide evacuation alarm	Alarm may be sounded throughout the INTEC	Provides immediate notice of evacuation
Internal voice paging system	Located throughout the INTEC	Provides general and emergency information

Note: Fire extinguishers are not currently present at CSSF 7 as it contains no waste.

Exhibit G-1. Evacuation Routes for CSSFs 1–7.

CPP 639

Building Emergency Plan

Emergency Response 777 or 526-7777

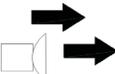
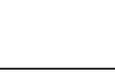
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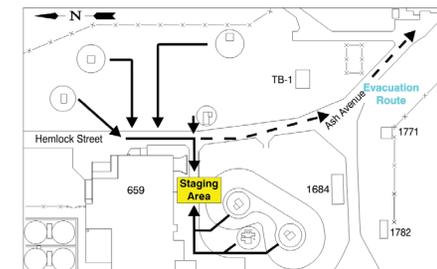
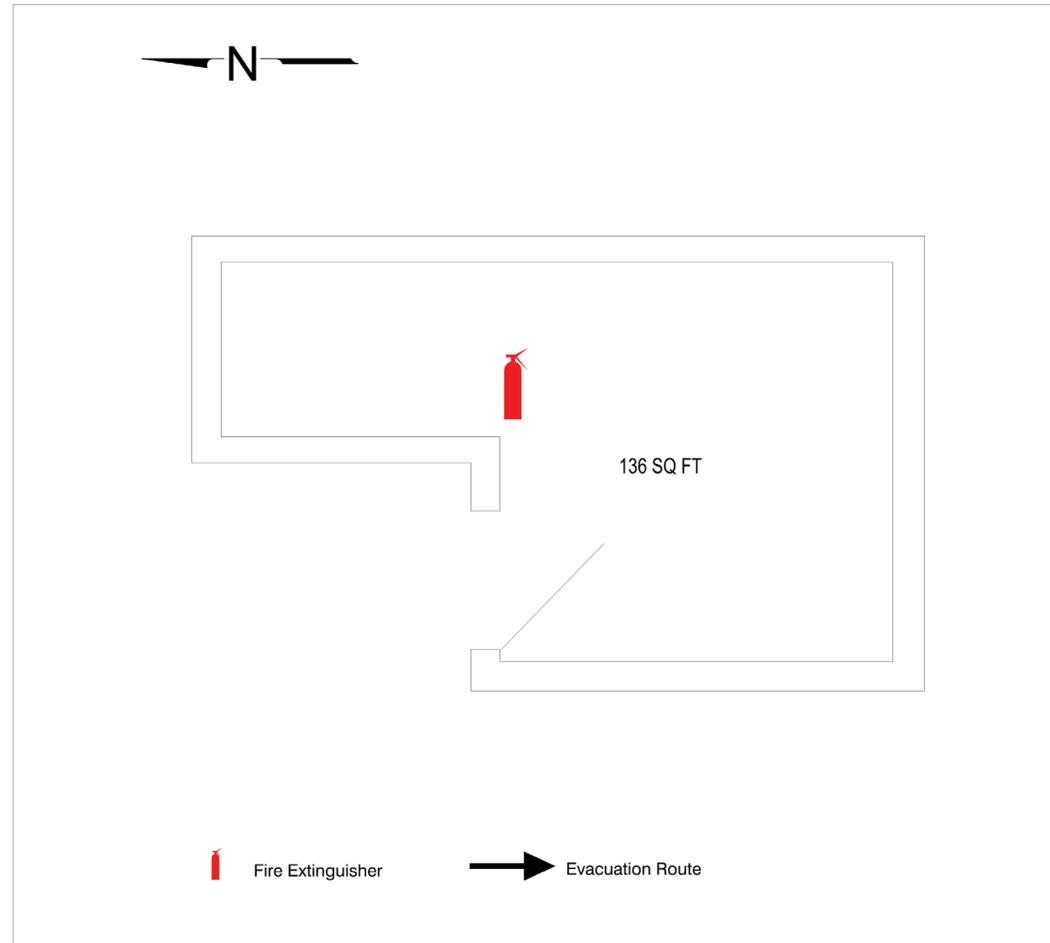
- **Immediately telephone 777 or 526-7777 or activate nearest appropriate alarm**
- **Then call Plant Shift Supervisor at 526-3100 or pager 526-4444 #2096**

Event Reporting Information

- Type of event**
- Location**
- Magnitude**
- Cause needed**
- Affected personnel**

Alarms and Responses:

	<p>Steady Siren</p> <p>Seek shelter in the nearest building. All doors and windows are to be shut. Do not eat, drink, chew, or smoke. Turn ventilation off as directed by management. Prepare for evacuation.</p>	<p>Take Cover</p>
	<p>Steady Siren with Voice</p> <p>Seek shelter in the nearest building. Do not leave work area. Stay away from windows and doors. Listen for instructions over the emergency warning system.</p>	<p>Security Take Cover</p>
	<p>Alternating Siren</p> <p>Proceed immediately to the designated assembly area as indicated by the evacuation route (see inset). Report to your personnel warden.</p>	<p>Evacuate</p>
	<p>Fire Alarm</p> <p>Evacuate immediate area and go to the staging area (see inset).</p>	<p>Fire</p>
	<p>Emergency Warning System</p> <p>Follow directions of message.</p>	<p>Other</p>
<p>Hazards</p>	<p>General hazards associated with storage and handling of nuclear fuel.</p>	



CPP 646

Building Emergency Plan

Emergency Response 777 or 526-7777

Person discovering an event should:

- **Immediately telephone 777 or 526-7777 or activate nearest appropriate alarm**
- **Then call Plant Shift Supervisor at 526-3100 or pager 526-4444 #2096**

Event Reporting Information

Type of event

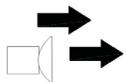
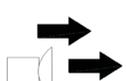
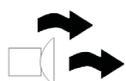
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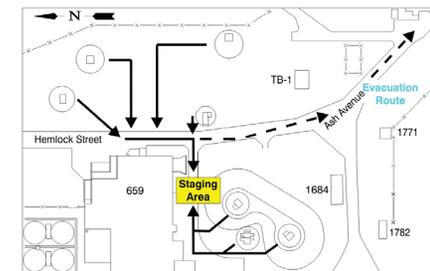
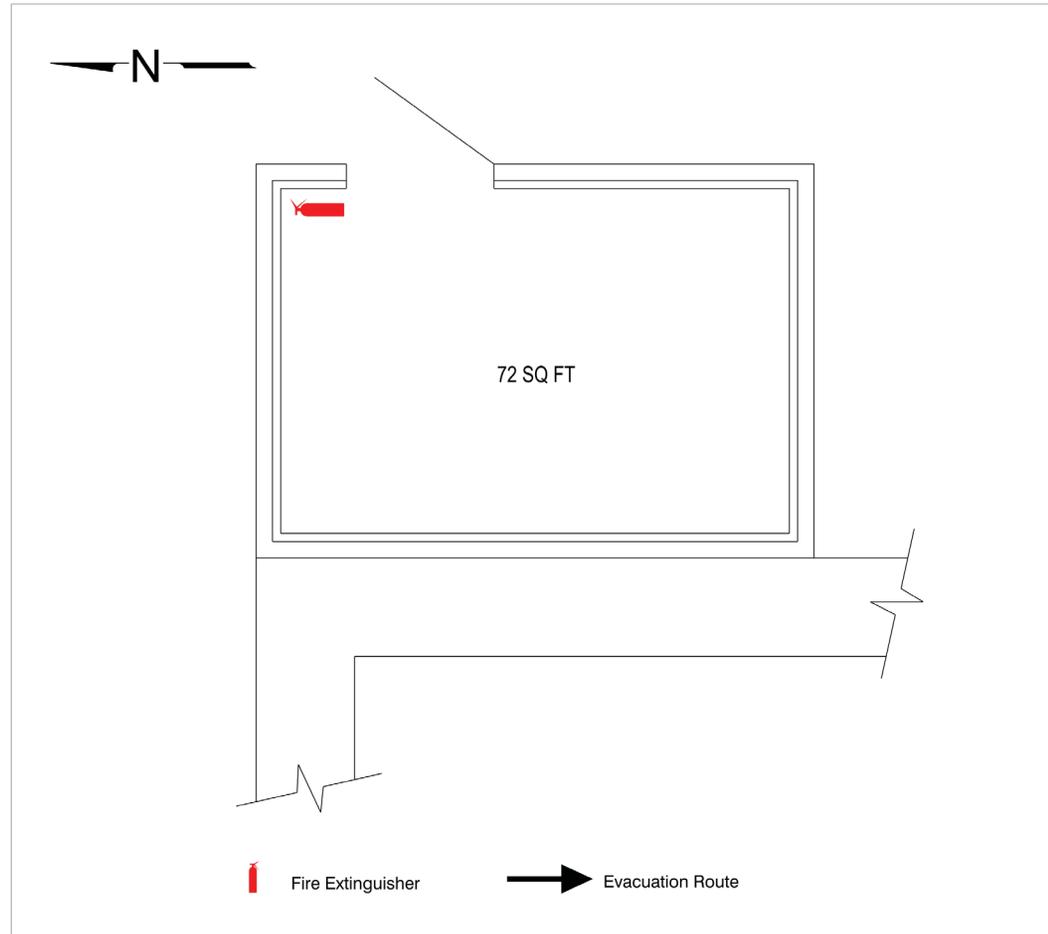
Magnitude

Cause needed

Affected personnel

Alarms and Responses:

	Steady Siren	Take Cover	Seek shelter in the nearest building. All doors and windows are to be shut. Do not eat, drink, chew, or smoke. Turn ventilation off as directed by management. Prepare for evacuation.
	Steady Siren with Voice	Security Take Cover	Seek shelter in the nearest building. Do not leave work area. Stay away from windows and doors. Listen for instructions over the emergency warning system.
	Voice Message	Evacuate	Proceed immediately to the designated assembly area as indicated by the evacuation route (see inset). Report to your personnel warden.
	Fire Alarm	Fire	Evacuate immediate area and go to the staging area (see inset).
	Emergency Warning System	Other	Follow directions of message.
	Hazards		General hazards associated with storage and handling of nuclear fuel.



CPP 647

Building Emergency Plan

Emergency Response 777 or 526-7777

Person discovering an event should:

- **Immediately telephone 777 or 526-7777 or activate nearest appropriate alarm**
- **Then call Plant Shift Supervisor at 526-3100 or pager 526-4444 #2096**

Event Reporting Information

Type of event

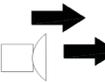
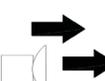
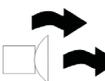
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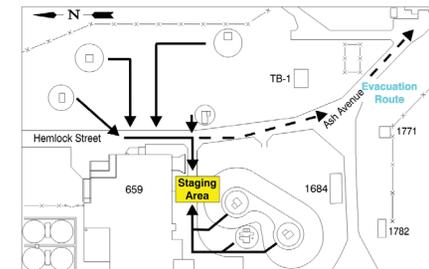
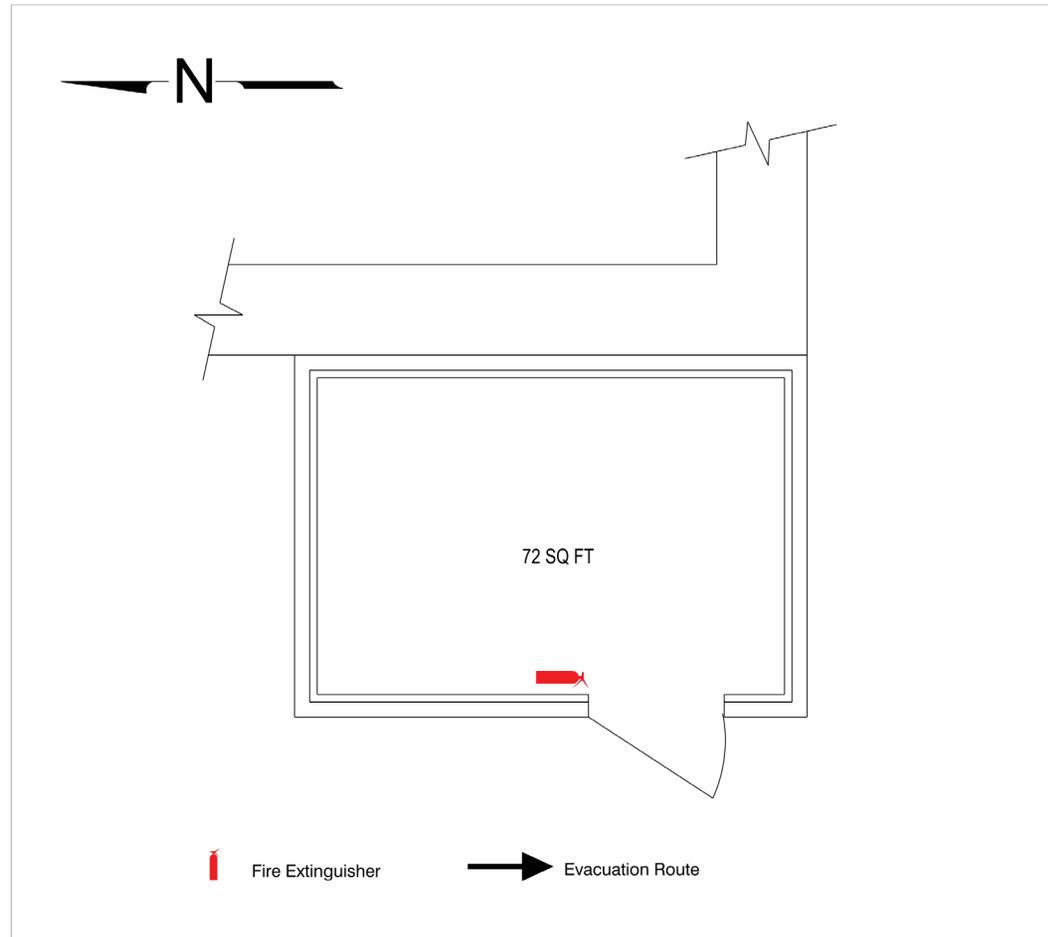
Magnitude

Cause needed

Affected personnel

Alarms and Responses:

    	<p>Steady Siren</p> <p>Seek shelter in the nearest building. All doors and windows are to be shut. Do not eat, drink, chew, or smoke. Turn ventilation off as directed by management. Prepare for evacuation.</p> <p>Steady Siren with Voice</p> <p>Seek shelter in the nearest building. Do not leave work area. Stay away from windows and doors. Listen for instructions over the emergency warning system.</p> <p>Alternating Siren</p> <p>Proceed immediately to the designated assembly area as indicated by the evacuation route (see inset). Report to your personnel warden.</p> <p>Fire Alarm</p> <p>Evacuate immediate area and go to the staging area (see inset).</p> <p>Emergency Warning System</p> <p>Follow directions of message.</p> <p>Hazards</p> <p>General hazards associated with storage and handling of nuclear fuel.</p>	<p>Take Cover</p> <p>Security Take Cover</p> <p>Evacuate</p> <p>Fire</p> <p>Other</p>
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CPP 760/658

Building Emergency Plan

Emergency Response 777 or 526-7777

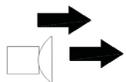
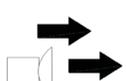
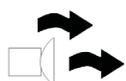
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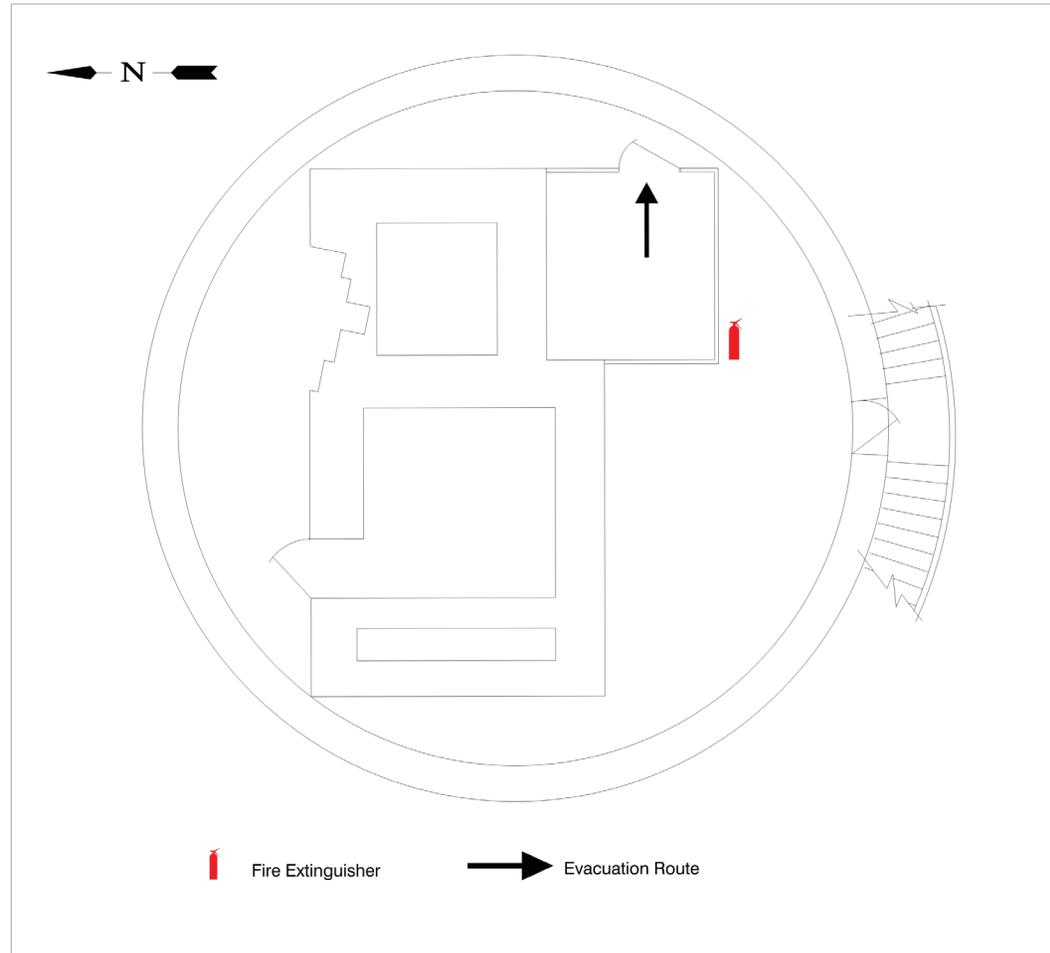
- **Immediately telephone 777 or 526-7777 or activate nearest appropriate alarm**
- **Then call Plant Shift Supervisor at 526-3100 or pager 526-4444 #2096**

Event Reporting Information

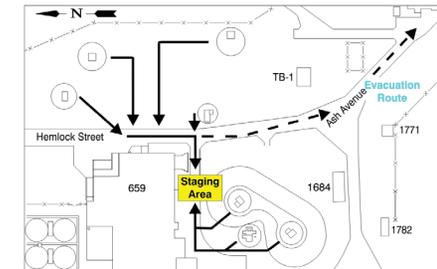
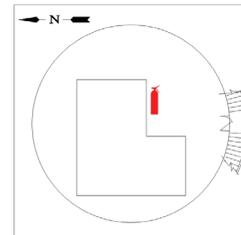
- Type of event**
- Location**
- Magnitude**
- Cause needed**
- Affected personnel**

Alarms and Responses:

	Steady Siren	Take Cover	Seek shelter in the nearest building. All doors and windows are to be shut. Do not eat, drink, chew, or smoke. Turn ventilation off as directed by management. Prepare for evacuation.
	Steady Siren with Voice	Security Take Cover	Seek shelter in the nearest building. Do not leave work area. Stay away from windows and doors. Listen for instructions over the emergency warning system.
	Voice Message	Evacuate	Proceed immediately to the designated assembly area as indicated by the evacuation route (see inset). Report to your personnel warden.
	Fire Alarm	Fire	Evacuate immediate area and go to the staging area (see inset).
	Emergency Warning System	Other	Follow directions of message.
	Hazards		General hazards associated with storage and handling of nuclear fuel.



 Fire Extinguisher  Evacuation Route



CPP 765/671

Building Emergency Plan

Emergency Response 777 or 526-7777

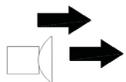
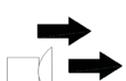
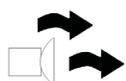
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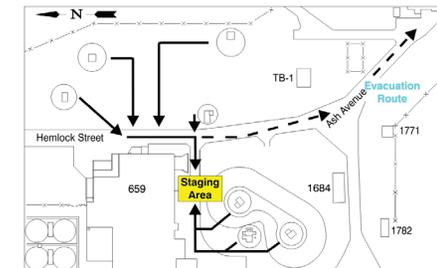
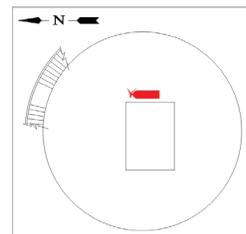
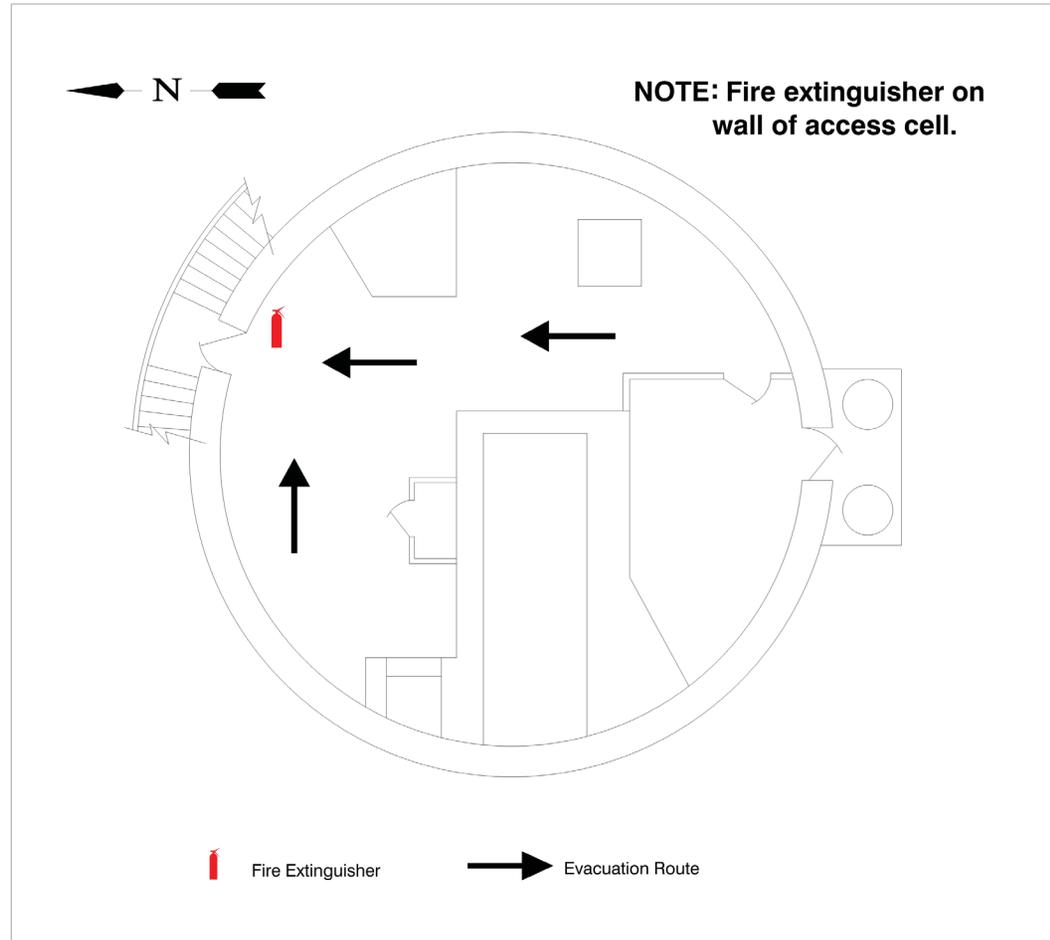
- Immediately telephone 777 or 526-7777 or activate nearest appropriate alarm
- Then call Plant Shift Supervisor at 526-3100 or pager 526-4444 #2096

Event Reporting Information

- Type of event**
- Location**
- Magnitude**
- Cause needed**
- Affected personnel**

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	Fire Alarm	Fire	Evacuate immediate area and go to the staging area (see inset).
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	Hazards		General hazards associated with storage and handling of nuclear fuel.



CPP 791/673

Building Emergency Plan

Emergency Response 777 or 526-7777

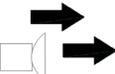
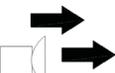
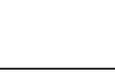
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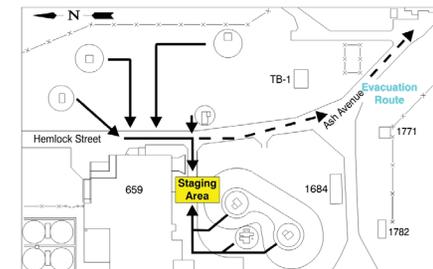
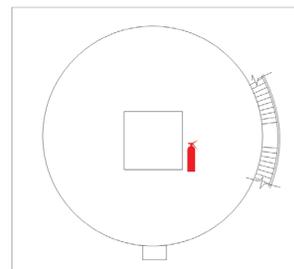
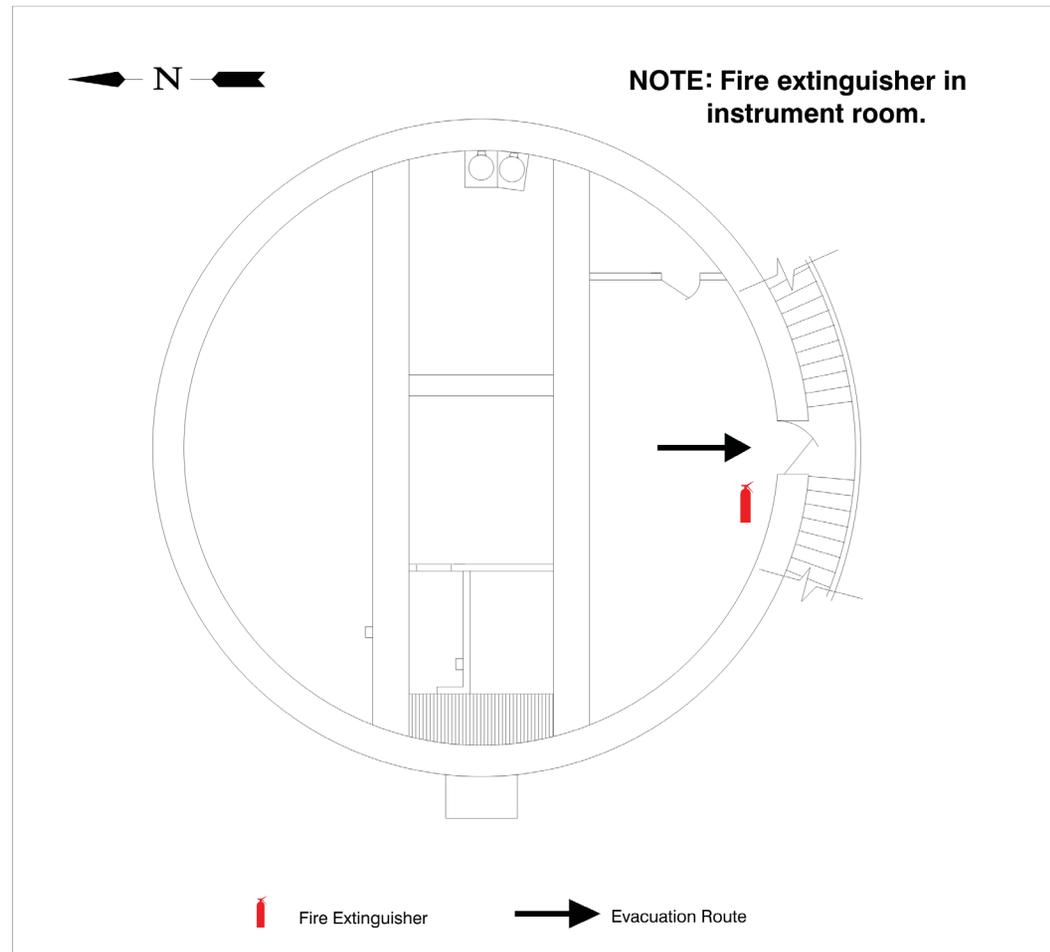
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Event Reporting Information

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- Location**
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- Cause needed**
- Affected personnel**

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	Fire Alarm	Fire	Evacuate immediate area and go to the staging area (see inset).
	Emergency Warning System	Other	Follow directions of message.
	Hazards		General hazards associated with storage and handling of nuclear fuel.



CPP 795/1615

Building Emergency Plan

Emergency Response 777 or 526-7777

Person discovering an event should:

- **Immediately telephone 777 or 526-7777 or activate nearest appropriate alarm**
- **Then call Plant Shift Supervisor at 526-3100 or pager 526-4444 #2096**

Event Reporting Information

Type of event

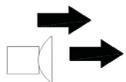
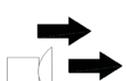
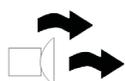
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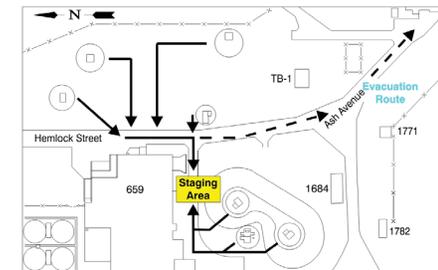
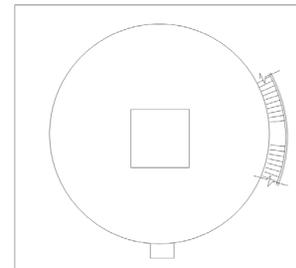
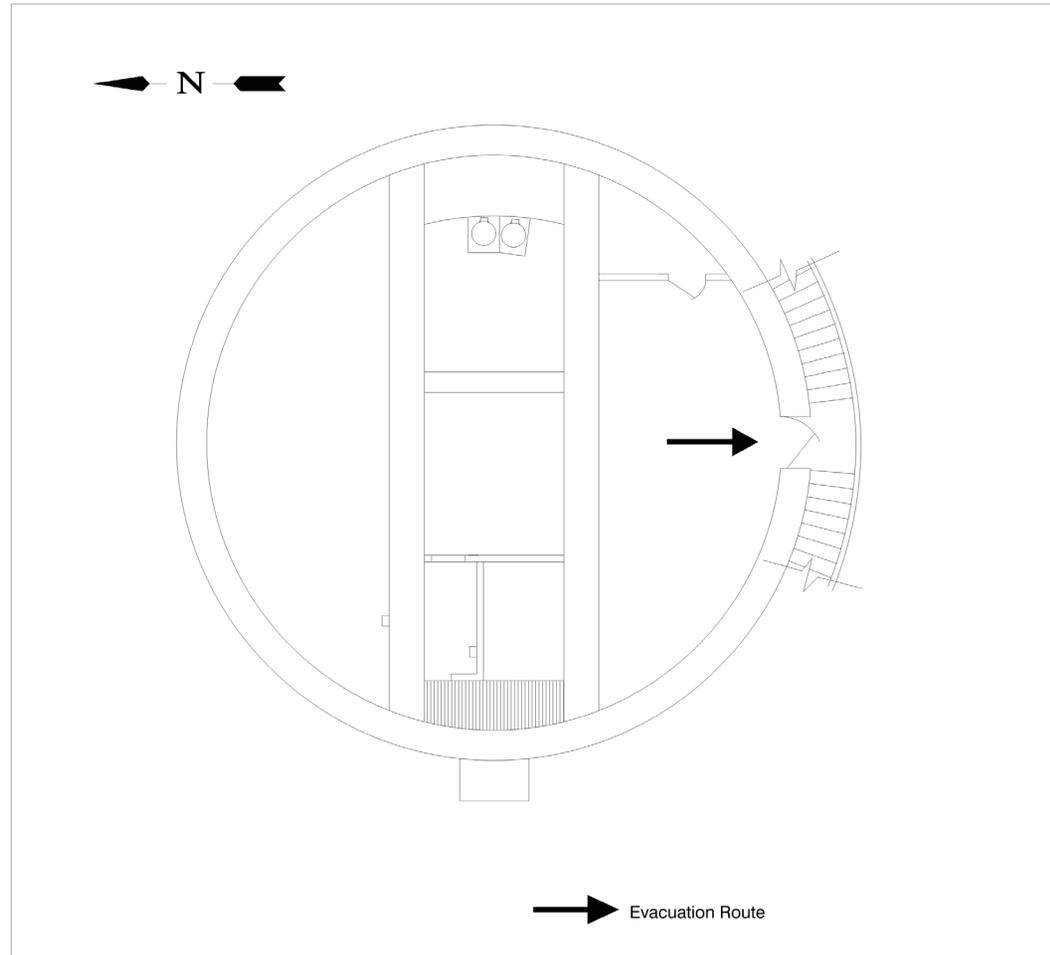
Magnitude

Cause needed

Affected personnel

Alarms and Responses:

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	Voice Message	Fire Alarm	Evacuate immediate area and go to the staging area (see inset).
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	Hazards	Other	General hazards associated with storage and handling of nuclear fuel.



RCRA PART B PERMIT
FOR THE
IDAHO NATIONAL LABORATORY

Volume 22
Idaho Nuclear Technology and Engineering Center
Calcined Solids Storage Facility

Attachment 8 - Section I
Closure and Post Closure Requirements

Revision Date: August 18, 2008

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I. CLOSURE AND POSTCLOSURE REQUIREMENTS

1 This closure plan specifies Idaho Nuclear Technology and Engineering Center (INTEC)
2 performance standards and procedures for the waste management units addressed in this permit. The
3 activities and closure performance standards described in this plan apply only to Hazardous Waste
4 Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA)-regulated wastes. Prior to
5 initiation of closure, all hazardous waste will be removed from the units and disposed of according to
6 applicable laws and regulation.

7 The closure performance standards for decontaminating equipment and components correspond
8 to applicable regulatory guidelines. Closure activities will address contaminated process equipment and
9 building components to be salvaged as scrap metal or other recyclable material; contaminated process
10 equipment and building components to be reused for non-waste management purposes; contaminated
11 process equipment and building components to be disposed of as hazardous waste debris; and
12 residues/wastes resulting from decontamination activities.

I-1. CLOSURE AND POSTCLOSURE REQUIREMENTS [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 270.14(b)(13), 264.111, and 264.112(a)(1) and (2)]

13 This closure plan describes the procedures to be used to remove remaining waste residues and to
14 decontaminate process equipment and building components to achieve closure performance standards
15 specified in the Idaho Administrative Procedures Act (IDAPA) 58.01.05.008 [40 Code of Federal
16 Regulation (CFR) 264.111]. The units addressed in this permit will be operated and closed to prevent
17 releases to the environment. Postclosure escape of hazardous waste constituents to the ground, surface
18 water, or atmosphere will be nonexistent. Therefore, continued maintenance activities after closure is
19 completed will not be required. This closure plan satisfies the requirements of IDAPA 58.01.05.008 (40
20 CFR 264.111 through 264.115 and applicable parts in 40 CFR 264.197).

I-1a. Closure Performance Standards (IDAPA 58.01.05.008; 40 CFR 264.111)

1 The closure process is designed to:

- 2 • Minimize the need for further maintenance
- 3 • Control, minimize or eliminate to the extent necessary to protect human health and the
4 environment, postclosure escape of hazardous waste, hazardous constituents, leachate,
5 contaminated run-off, or hazardous waste decomposition products to the ground or surface waters
6 or to the atmosphere
- 7 • Complies with the closure requirements of applicable portions of 40 CFR 264.

8 The closure performance standards for the units are in accordance with applicable portions of
9 IDAPA 58.01.05.006 through 58.01.05.012 (40 CFR 262 through 270). HWMA/RCRA closure activities
10 are considered precursor efforts to the ultimate facility deactivation and decommissioning (D&D).
11 Technical approaches to this ultimate facility D&D will have practical bearing on the appropriate
12 approach to HWMA/RCRA-regulated closure. At this time, the Department of Energy Idaho Operations
13 Office (DOE-ID) approach to facility D&D for the Calcined Solids Storage Facility (CSSF) has not been
14 determined. Therefore, this plan presents assumptions based on past and current HWMA/RCRA-
15 regulated closure and D&D activities at the INTEC. This integration of HWMA/RCRA closure activities
16 with subsequent D&D activities is reflected in Number 3 below as it relates to contaminated process
17 equipment and building components that would remain in place and undergo subsequent facility D&D.
18 Performance standards, probable scenarios affecting process equipment, building components, and
19 decontamination residuals are indicated below:

- 20 1. Contaminated process equipment and building components salvaged as scrap metal/materials will be
21 decontaminated as described in Section I-1d. Process equipment and building materials will be
22 decontaminated in a manner and degree as specified by the recycle scrap metal/material vendor in
23 conformance with their recyclable material acceptance criteria. To attain the closure performance
24 standard, the subject process equipment and building components may be subjected to
25 decontamination techniques such as sweeping, brushing, scraping, wiping, or rinsing. The selected
26 means of decontamination will be material-specific and dependent on the effectiveness in attaining
27 the contracted recyclable materials vendor acceptance criteria, minimization of the potential spread of
28 contamination, and minimization of decontamination wastes. All decontamination media and other

1 residuals generated from this closure activity will be managed as identified in Section I-1d of this
2 permit.

- 3 2. The performance standard for reusable process equipment and building components will be a degree
4 of decontamination consistent with the intended "postclosure" use of the process equipment or
5 building components as determined by INL-accepted industrial hygiene and health physics protocols
6 and guidelines. The need to decontaminate room, vault or equipment surfaces will be determined
7 initially by reviewing the operating record for evidence that hazardous waste or hazardous
8 constituents came into contact with the structure or equipment in question. In addition to the
9 operational record review, visual observation will be completed by using visual aids such as mirrors,
10 remote cameras, etc.
- 11 3. Other than internal surfaces of tank systems and ancillary equipment, the performance standard for
12 contaminated process equipment and building components that would remain in place and undergo
13 subsequent facility D&D will be a level of chemical or physical decontamination required to render
14 the equipment or structural surfaces "clean," analogous to that specified and identified under
15 IDAPA 58.01.05.011 (40 CFR 268.45). The degree of decontamination will be based on how
16 extensively the equipment or structure was used in waste treatment operations, and the likelihood that
17 it came into direct contact with the hazardous waste. An assessment of the facility operating record
18 and spill records will be conducted to determine the extent of potential waste contamination.
19 Equipment and structures that have documented releases, waste-related stains, or known contact with
20 waste materials will be decontaminated, using an appropriate decontamination solution/method and/or
21 be decontaminated using a method analogous to an alternative treatment technology identified in
22 IDAPA 58.01.05.011 (40 CFR 268.45).

23 In the event that this primary performance standard is not achievable upon the initial decontamination
24 campaign, the appropriateness of the decontamination media will be verified and a second
25 decontamination effort will be undertaken, potentially with different and/or more aggressive chemical
26 agents or physical removal methods. If upon completion of the second decontamination campaign,
27 apparent waste-related stains remain greater than 5% of the equipment or structural surface area, an
28 equipment/building surface sampling regimen will be considered. Design and implementation of this
29 sampling regimen and corresponding data quality objectives and performance standard will be
30 presented to the Idaho Department of Environmental Quality (DEQ) as an amendment to the closure
31 plan. Depending on the timeframes involved, development, DEQ approval and implementation of
32 this sampling regimen would likely require an extension of the timeframe to complete closure

1 pursuant to IDAPA 58.01.05.008, 40 CFR 264.113(a) and 264.113(b). It is anticipated that results
2 from such a sampling effort would be utilized to assess the worker, nonresidential scenario risk posed
3 by residual hazardous constituent contamination, such that the concentrations of contaminants
4 remaining in the units would not pose a risk to human health and the environment.

- 5 4. The performance standard for contaminated process equipment and building components to be
6 managed as hazardous debris will be the alternative treatment standards for hazardous waste debris in
7 IDAPA 58.01.05.011 (40 CFR 268.45), or the equipment/components will be managed as hazardous
8 waste, per IDAPA 58.01.05.006 through .012 (40 CFR 262 through 270). Contaminated process
9 equipment and building components will be managed as hazardous waste debris, either at an INL or
10 off-Site treatment, storage, or disposal (TSD) unit. This may entail decontamination until the
11 standard for attaining a "clean debris surface" is achieved, as verified by visual inspection of the
12 contaminated surface. Clean debris surface means that the surface, when viewed without
13 magnification, shall be free of visible contaminated soil and hazardous waste except that residual
14 staining from soil and waste, consisting of light shadows, slight streaks, or minor discoloration. Soil
15 and waste in cracks, crevices, and pits may be present, provided that such staining and waste and soil
16 in cracks, crevices, and pits shall be limited to no more than 5% of surface area. Table I-1
17 summarizes potential physical and chemical extractive treatment technologies to be employed and the
18 corresponding type of process equipment or building components. Following decontamination and/or
19 equipment removal, the area will be swept clean of debris. Materials will be removed and
20 containerized. All collected decontamination media and collected dirt and debris will be sampled,
21 analyzed, and managed accordingly. An alternative to the described closure activities that may be
22 exercised at the time of closure is dismantling, packaging, manifesting as hazardous waste, and
23 transport of contaminated equipment to be disposed of to an interim status/permitted TSD unit.

- 24 5. Decontamination media, rinsates, residues, and used Personal Protective Equipment (PPE) generated
25 from the decontamination of recyclable scrap metal/material, reusable equipment, and hazardous
26 waste debris will be characterized per the Waste Analysis Plan (WAP) of this permit. As detailed in
27 Section C, characterization will be determined by acceptable process knowledge or sampling and
28 analysis. Management of mixed waste streams will, as necessary, be addressed in the INL Site
29 Treatment Plan and may include incineration, stabilization, or other acceptable means of treatment, as
30 necessary. All characterization activities performed in conjunction with this closure action will be in
31 accordance with the current WAP for this permit.

Table I-1. Potential Unit Closure Debris Treatment Technologies.

Component or Subsystem	Extractive or Immobilization Treatment Technology ¹
Ancillary equipment and surfaces	High-pressure steam and water sprays, ² abrasive blasting, CO ₂ blasting
Structural components (metal wall panels, floor surfaces, structural beams, ceiling materials, etc.)	CO ₂ blasting, abrasive blasting, high-pressure steam and water washing, spraying, ² spalling
Miscellaneous metal ducting	CO ₂ blasting, abrasive blasting, high-pressure steam and water washing, spraying ²
Tank Storage Units and Affected Sumps	
Tanks	Not classified as debris, see Section I-1d(2)
Affected ancillary equipment and surfaces, secondary containment devices, including sump surfaces	High-pressure steam and water sprays, ² abrasive blasting, CO ₂ blasting
<p>1. From IDAPA 58.01.05.011 (40 CFR 268.45, Table 1).</p> <p>2. Would require an Equivalent Technology Approval per IDAPA 58.01.05.011 [40 CFR 268.42(b)].</p>	

I-1b. Partial Closure Activities [IDAPA 58.01.05.008; 40 CFR 264.112(a)(1)]

1 The Bin Sets occupy 7 separate vaults. Each Bin Set will be closed separately. This would
2 constitute a partial closure for this permit. Therefore, partial closure activities would be preceded by
3 notification of the DEQ and undertaking an amendment to the closure plan pursuant to IDAPA
4 58.01.05.008, 40 CFR 264.113(a) and 264.113(b).

I-1c. Maximum Waste Inventory [IDAPA 58.01.05.008; 40 CFR 264.112(b)(3)]

5 This Part B permit includes the Part A hazardous waste permit for units in this permit. The Part
6 A permit application indicates the maximum potential waste inventory for units. In addition, the
7 operating record for each unit will identify the occurrence of waste spills, if any, over the operating life,
8 and the measures taken to mitigate the spill.

I-1d. Inventory Removal and Disposal or Decontamination of Equipment, Structures, and Soils (IDAPA 58.01.05.008; 40 CFR 264.111, 264.112, and 264.114)

9 Selection of specific process equipment and building components, and the degree of
10 decontamination efforts, will be based on whether the equipment and structures have come into direct
11 contact with waste, whether or not there is visual evidence of waste-related staining or streaking, the
12 nature of constituents or contaminants present, and whether the equipment and structures will be managed
13 for recycle, reuse, or disposal as hazardous debris. Due to the design and integrity of the bins at closure,

1 releases to the environment are unlikely. As a result, disposal of contaminated soils pursuant to this
2 permit is not anticipated. Section I-1a., Closure Performance Standards (IDAPA 58.01.05.008; 40 CFR
3 264.111), addresses the protocols for achieving the closure performance standards or management
4 processes for the following groupings of process equipment, contaminated structures and residues:

- 5 • Contaminated process equipment and building components to be salvaged as scrap
6 metal/materials
- 7 • Contaminated reusable process equipment and building components
- 8 • Contaminated process equipment and building components that would remain in place and
9 undergo subsequent facility deactivation and decommissioning
- 10 • Contaminated process equipment and building components to be managed as hazardous debris
- 11 • Decontamination media, rinsate, residues, and used PPE.

12 The selected means of decontamination will depend on effectiveness in attaining the closure
13 performance standard, minimization of the potential spread of contamination, and minimizing the
14 generation of decontamination waste. Room or area surfaces contaminated during decontamination of
15 equipment will be closed in the same fashion. If used, fluids from equipment decontamination using an
16 ancillary pumping system will be collected in containers and stored within the work area. Spill booms,
17 spill control pillows, swabs, or other absorbent material(s) may also be used to contain the residual fluids
18 and facilitate removal.

19 **Process Equipment and Building Components – Selection of**
20 **Potential Debris Treatment Technologies Employed**
21

22 As indicated in Section I-1a, Closure Performance Standard, dismantled contaminated process
23 equipment and building components to be disposed of as solid waste will be managed in accordance with
24 the treatment standards for hazardous debris in IDAPA 58.01.05.011 [40 CFR 268.45(a)]. In general,
25 hazardous debris must be treated for each "contaminant subject to treatment," as defined in
26 IDAPA 58.01.05.011 [40 CFR 268.45(a)], using the technology or technologies specified in
27 IDAPA 58.01.05.011 (40 CFR 268.45, Table 1). The proposed debris treatment and waste storage
28 activities will involve prohibited listed wastes and metal-bearing characteristic wastes. Given this fact,
29 debris treatment conducted as part of facility closure will necessarily consider prohibited listed wastes and
30 TCLP constituents subject to treatment, and the corresponding treatment standards indicated under
31 IDAPA 58.01.05.011 (40 CFR 268.45). While not all-inclusive, Table I-1 indicates the process
32 equipment, building component or subsystem, and the probable corresponding physical and chemical

1 extractive debris treatment technology description. Any contaminant restrictions relative to application of
2 technologies other than the best demonstrated available technology would be presented to the Idaho DEQ
3 Director for approval, prior to implementation.

4 **Alternate Treatment Technology Selection Process**

5
6 Prior to implementation of a given alternative treatment technology specified in Table I-1 or
7 otherwise, a comprehensive engineering evaluation will be made of the given form of debris (such as
8 metal versus plastic), the known hazardous constituents, radiological considerations, industrial hygiene
9 concerns, and any other factors that may affect technology selection. If, based on this evaluation, a
10 suitable alternative treatment technology is not clearly indicated, a treatability study of one or more
11 technologies may be undertaken on that class of debris waste. Based on the initial engineering evaluation
12 or the successful identification of a technology via treatability studies, an alternative treatment technology
13 will be selected for implementation. In all cases, the performance standard for any technology
14 implemented (specified on Table I-1) will be the clean debris surface standard under
15 IDAPA 58.01.05.011 (40 CFR 268.45).

16 **Vault Surfaces**

17 Contaminated vault surfaces as indicated by an assessment will be cleaned of dirt and other
18 residuals, as necessary. Materials will be removed and containerized, followed by decontamination to
19 attain an appearance analogous to the "clean debris surface."

20 **Transfer Areas and General non-Waste Handling Equipment**

21 Equipment and structures that have no documented releases, visible signs of release, or known
22 contact with waste will be decontaminated using customary radiological decontamination practices or
23 standard housekeeping procedures. At a minimum, equipment and structures will be wiped down or
24 mopped with a suitable decontamination medium. Portions of the floor with no known contact with
25 hazardous waste will be mopped or wiped down. Residues generated by this general cleaning or
26 decontamination will undergo a hazardous waste determination in accordance with the current WAP for
27 this permit. Environmental Protection Agency (EPA) SW-846 or equivalent methodologies will be used,
28 matching contaminant of concern with appropriate sample type, quantity, and analysis.

Hazardous Residue Management

Process equipment and building components that undergo decontamination on-Site will be decontaminated in appropriate areas within the INTEC as necessary, or at other approved INL facilities available at the time of closure. If used, fluid resulting from decontamination activities will be contained within the work area and collected in containers using an ancillary pumping or other system as needed. Spill booms, spill control pillows, swabs, or other absorbent materials may be used to contain the residual fluids and facilitate removal. Following decontamination and/or equipment removal, the area will be swept clean of dirt and residuals. Materials will be collected and containerized. Recovered decontamination media and collected dirt and residuals will be characterized in accordance with Section C of this permit and managed according to the results of the analysis. When sampling and analysis is required, EPA SW-846 or equivalent methodologies will be used, matching contaminant of concern with appropriate sample type, quantity, and analyses. An alternative to the described closure activities that may be exercised at the time of closure is dismantling, packaging, and transport of contaminated equipment to be disposed of at an on-Site or off-Site RCRA interim status or permitted facility for required treatment and subsequent disposal.

All of the indicated waste, residue, and decontamination materials and/or rinsates will be containerized and sampled as described and stored in INL HWMA/RCRA-compliant facilities as "Unknown-Pending Sampling and Analysis," until analytical results indicating the hazardous classification, if any, of the waste is received. In addition, all disposable PPE, other disposable equipment, and all other wastes generated during closure activities will be containerized and characterized in accordance with the current WAP. When sampling and analysis is required, EPA SW-846 or equivalent methodologies will be used, matching contaminant of concern with appropriate sample type, quantity, and analysis. Before being moved from any areas undergoing decontamination, reusable PPE will be decontaminated by removing residual materials from booties, gloves, anti-C's, and spraying, washing, and scrubbing all outside protective clothing surfaces. Treatment and disposal of these waste streams will be addressed in the INL Site Treatment Plan and may include incineration, stabilization, or other acceptable methods of treatment, as necessary.

I-1d(2) Closure of Tank Systems [IDAPA 58.01.05.008; 40 CFR 264.197]

Tanks addressed by this closure plan located in CSSFs 1–7. The tank systems will be considered "clean closed" when the following methods are completed to meet the closure performance standards:

- Wastes are removed from the tanks, pipelines, ancillary equipment, and surfaces of the system.

- 1 • If removed from the facility and managed as (1) salvageable scrap metal/materials, or (2) reused
2 as process equipment, the performance standard is that specified in Section I-1a above.
- 3 • If left physically intact, in place and not managed as hazardous waste debris, the tanks, piping,
4 ancillary equipment, and building interiors associated with these tank systems are decontaminated
5 in a manner to achieve the performance standard. Probable decontamination solutions may
6 include one or more acidic or alkaline decontamination solutions, or appropriate combinations of
7 the two.

8 In verifying the effectiveness of decontamination activities, the Management and Operation
9 (M&O) contractor will make use of the following measurements and determinations:

- 10 (1) **Levels of removable hazardous chemical constituents on swipe samples taken from**
11 **decontaminated surfaces.** Swipes will be moistened with mildly acidic (pH 3 to 5) solution,
12 appropriate for removing waste constituents adhering to the tank system surfaces. Closure of the
13 tank systems will be considered successful when concentration of hazardous constituents smear
14 samples do not exceed two times the method detection limit (as defined in the appropriate
15 procedure of Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846,
16 current edition).
- 17 (2) **Levels of hazardous chemical constituents and hazardous characteristics in spent**
18 **decontamination solutions.** Closure of the tank systems will be considered successful when the
19 concentration of hazardous constituents in spent decontamination solutions do not exceed the
20 risk-based action levels. Spent decontamination solutions may be sampled downstream at a
21 suitable storage tank.
- 22 (3) **Radiological surveys of tank exterior walls.** Radiological surveys will be taken of tank exterior
23 walls to verify removal of the solid waste fraction, if any.
- 24 (4) **Boroscope or other visual determination methods.** Boroscope or other visual determination
25 methods will be used for verifying removal of the solid waste fraction, if any.

I-1e. Other Closure Activities [IDAPA 58.01.05.008; 40 CFR 264.112(b)(5)]

26 No other activities such as groundwater monitoring, leachate collection, or run-on/run-off control
27 are appropriate or planned for these units.

I-1f. Schedule for Closure [IDAPA 58.01.05.008; 40 CFR 264.112(b)(6)]

1 The Director of the DEQ will be notified in writing at least 45 days prior to the date that closure
2 operations are planned to begin. The projected schedule for closure of these units is generalized as
3 follows:

Activity	Day Completed
Initiate closure activities	Day 0
Complete equipment decontamination	Day 100
Complete surface decontamination	Day 140
Decontaminate tools, complete waste assessments, remove wastes	Day 160
Complete all closure activities	Day 180
Submit closure certification to the State of Idaho	60 days after completion of closure

4

**I-1g. Extension for Closure Time [IDAPA 58.01.05.008;
40 CFR 264.113(a) and 264.113(b)]**

5 Closure of these units is scheduled for completion within the prescribed 180-day period. No
6 variance is requested at this time. If it is later determined that an extension for the closure time is
7 necessary a permit modification request will be submitted to the Director of DEQ per
8 IDAPA 58.01.05.012 (40 CFR 270.42).

**I-1h. Certification of Closure [IDAPA 58.01.05.012 and 58.01.05.008;
40 CFR 270.11(d) and 264.115]**

9 An independent, registered professional engineer (PE), the M&O contractor, and/or DOE-ID will
10 provide to the DEQ within 60 days of the completion of closure, a certification of closure for each unit in
11 accordance with IDAPA 58.01.05.008 (40 CFR 264.115). The certification will state that each unit was
12 clean closed in accordance with the approved closure plan. Final closure activities will be considered
13 complete upon submittal of supporting documentation to the PE's certification and the certification of
14 closure, and then written acceptance issued by the DEQ. These units will not be closed as a land disposal
15 facility; therefore, a "Notice in Deed" and survey plat are not required.

I-2. Postclosure Plan [IDAPA 58.01.05.012; 40 CFR 264.197(b) and 270.14(b)(13)]

1 Since all hazardous or mixed wastes will be removed prior to closure and any residual hazardous
2 chemical contamination will be removed during closure, a postclosure plan is not required. Also, there
3 have been no releases to the environment that would require a contingent landfill closure plan.

I-3. Postclosure Notices [IDAPA 58.01.05.012; 40 CFR 270.14(b)(14)]

4 Since all hazardous and mixed wastes will be removed prior to closure and any residual
5 hazardous chemical contamination will be removed during closure, postclosure notices are not required.

I-9. State Mechanisms

I-9a. Use of State Required Financial Mechanisms [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR 270.14(b)(18) and 264.149]

I-9b. State Assumption of Responsibility [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR 270.14(b)(18) and 264.150]

6 The INL is owned by the U.S. Department of Energy; therefore, the facility is exempt from
7 providing a closure cost estimate, financial assurance mechanism, meeting liability requirements, or
8 compliance with state mechanisms under IDAPA 58.01.05.012 and 40 CFR 270.14(b)(18) and 264.149
9 and 264.150.

RCRA PERMIT
FOR THE
IDAHO NATIONAL LABORATORY

Volume 22
Idaho Nuclear Technology and Engineering Center
Calcined Solids Storage Facility

Attachment 9
Permit Revision Log

Revision Date: June 1, 2016

PERMIT REVISION LOG

SUBMITTED	APPROVED	PMR CLASS	SUMMARY OF CHANGES
October 24, 2007	November 29, 2007	1*	<ul style="list-style-type: none"> • Permit Condition II.K.1. was deleted as this Permit Condition has been completed and is no longer applicable. Permit Condition II.K.2. was revised to reflect partial completion of the Permit Condition. Permit Conditions II.E.1., II.E.2., and II.E.4. were revised to provide clarification regarding inspection forms • Attachment 1 – Section B, Facility Description topographic map and floodplain information for the INTEC was revised to reflect updated report information • Attachment 1 – Section D, Process Description Exhibits D-2 and D-3 were revised to reflect current INL security requirements • Attachment 3 – Section F-1, Security information was revised to reflect current conditions as INTEC • Attachment 4 – Section F-2, Inspection information was clarified and the most current revision of applicable inspection forms were provided • Attachment 6 – Sections F-3 through F-5, Procedures to Prevent Hazards, INTEC run-off and floodplain information was revised based on updated report information • Attachment 7 – Contingency Plan notification requirements and facility fire extinguishers locations were revised/clarified as necessary

SUBMITTED	APPROVED	PMR CLASS	SUMMARY OF CHANGES
May 2008	August 18, 2008	2	<ul style="list-style-type: none"> • Revise Permit Condition III.G.5. - inspection schedule frequencies for the CSSF Vaults • Delete Permit Conditions II.K.1., II.K.1.a., as they are no longer applicable • Administrative/informational changes throughout the permit attachments.
July 25, 2012	September 21, 2012	Class 2	<ul style="list-style-type: none"> • Revise Permit Condition III.G.5. – perform remote video internal vault inspections of bin sets 1 through 3 from every other year to every fifth year • Add Permit Condition III.G.6. – provide a video camera recording and a summary report to the DEQ within 4 months of remote video internal vault inspection • Add Permit Condition III.G.7. – in conjunction with Permit Condition I.U. a semi-annual report/information describing any earthquakes equal to or greater than 4.0 magnitude within the INL boundary will be provided to the DEQ • Provide updated Part A Permit Application forms as these forms were reissued by the EPA in December 2011 • Other informational/administrative changes as necessary/applicable

SUBMITTED	APPROVED	PMR CLASS	SUMMARY OF CHANGES
April 20, 2016	April 28, 2016	1*	Change in designated contract operator from CH2M-WG Idaho, LLC to Fluor Idaho, LLC with an effective Revision Date of June 1, 2016. Additionally, the Part A Form was updated to use the most current version of the Form as issued by the EPA (expires 01/31/2017)