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Contingent Landfill Closure and Post-Closure Plan for Idaho Nuclear Technology and Engineering Center Tanks in the Tank Farm Facility

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Portage Environmental

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Idaho Operations Office

ABSTRACT

This document presents a contingent landfill closure and post-closure plan for the closure of the Idaho Nuclear Technology and Engineering Center Tank Farm Facility Tanks in accordance with Idaho Hazardous Waste Management Act/Resource Conservation and Recovery Act interim status closure requirements. These tanks will be closed in a series of closures leading to the final closure of the eleven 300,000-gallon tanks and four 30,000-gallon tanks in the Tank Farm Facility. Because the tanks in the Tank Farm Facility do not have adequate secondary containment, a closure plan for removal or decontamination of all waste residues (clean closure) as well as a contingent closure and post-closure plan for closure as a landfill must be prepared. The Tank Farm Facility is an active waste management facility that will remain in operation until 2012. This contingent landfill closure and post-closure plan describes activities for closing the Tank Farm tanks, pending final closure of the entire Tank Farm Facility. The determination as to whether to close the entire Tank Farm Facility as a landfill will not be made until final closure of the Tank Farm Facility.

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ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPP	Chemical Processing Plant
DEQ	State of Idaho Department of Environmental Quality
DOE	U.S. Department of Energy
DOE-ID	U.S. Department of Energy Idaho Operations Office
EPA	U.S. Environmental Protection Agency
FFA/CO	Federal Facilities Agreement/Consent Order
FR	Federal Register
HLW	high-level waste
HWMA	Hazardous Waste Management Act
IDAPA	Idaho Administrative Procedures Act
IDHW	Idaho Department of Health and Welfare
INEEL	Idaho National Engineering and Environmental Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
OU	operable unit
PE	professional engineer
PEW	process equipment waste
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
TFF	Tank Farm Facility
USC	United States Code
WAG	Waste Area Group
WCF	Waste Calcining Facility
WIR	waste incidental to reprocessing

Contingent Landfill Closure and Post-Closure Plan for Idaho Nuclear Technology and Engineering Center Tanks in the Tank Farm Facility

1. INTRODUCTION

Under the terms of the 1992 Consent Order (and subsequent modifications) between the Idaho Department of Health and Welfare[a] (IDHW) and the U.S. Department of Energy (DOE) (IDHW 1992), DOE must permanently cease use of tanks in its Tank Farm Facility (TFF) at the Idaho National Engineering and Environmental Laboratory (INEEL) or bring the tanks into compliance with secondary containment requirements as set forth by Idaho Administrative Procedures Act (IDAPA) 58.01.05.009 (2002) (40 Code of Federal Regulations [CFR] 265.193, 2002). The Consent Order (IDHW 1992) further specifies that this compliance cannot be achieved through an equivalency demonstration or by obtaining a variance as provided by IDAPA 58.01.05.009 [40 CFR 265.193(d)(4) and (h)]. DOE plans to close the TFF tanks because high radiation fields would make compliance with secondary containment requirements difficult, and a need for such storage is not evident after 2012.

The TFF includes eleven belowground 300,000-gal and 318,000-gal tanks (hereafter referred to in this plan as 300,000-gal tanks) and four 30,000-gal tanks. The 300,000-gal tanks are numbered WM-180 through WM-190. The second modification to the Consent Order specifies that DOE must cease use of Tanks WM-182, WM-183, WM-184, WM-185[b], and WM-186 by June 30, 2003, and the remaining tanks by December 31, 2012 (IDHW 1998). Ceasing use of the tanks, as defined in the Consent Order, means that DOE must empty the tanks down to their heels (that is, the liquid level remaining in each tank must be lowered to the greatest extent possible by the use of existing transfer equipment). According to the Idaho Hazardous Waste Management Act of 1983 (HWMA) and the Resource Conservation and Recovery Act (RCRA), the TFF is an interim status hazardous waste management unit (State of Idaho 1983; 42 U.S. Code [USC] 6901, 1976). Because of this, the requirements of 40 CFR 265 (2002) apply to the TFF closure (rather than 40 CFR 264 [2002]).

Closure of the TFF tanks will be performed in phases; Tanks WM-182 and WM-183 are being closed in the first phase. The closure of these two tanks will serve as a proof-of-process demonstration of the waste removal, decontamination, and sampling techniques for the closure of the remaining TFF tanks.

This document presents a contingent landfill closure and post-closure plan for the closure of the TFF tanks as required by IDAPA 58.01.05.009 [40 CFR 265.197(c)(1), 2002]. This provision specifies that for closure of tank systems that do not have adequate secondary containment, both a closure plan for removal or decontamination of all waste (clean closure) as well as a contingent closure plan for closure as a landfill must be prepared. The plan for clean closure is presented in the corresponding Idaho Hazardous Waste Management Act/Resource Conservation and Recovery Act closure plan.

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a. On July 1, 2000, the Division of Environmental Quality, a division within the Idaho Department of Health and Welfare, was elevated to the Idaho Department of Environmental Quality (DEQ). This department now oversees the implementation of the Consent Order.

b. The Consent Order allows Tank WM-185 to be used as an emergency spare tank.

A contingent landfill closure plan for Tanks WM-182 and WM-182 was approved (*Contingent Landfill Closure and Post-Closure Plan for Idaho Nuclear Technology and Engineering Center Tanks WM-182 and WM-183* [DOE-ID 2001a]). The initial plan was to develop a contingent landfill closure plan for each phase of closure. It was later concluded that a single contingent landfill closure plan would be appropriate for the entire TFF.

The activities presented in this plan are those contingent landfill closure activities applicable to the TFF tanks, pending final closure of the entire TFF facility. The determination as to whether to close the entire TFF as a landfill will not be made until final closure of the TFF. At that time, a decision will be made to close the TFF as a landfill based on a comparison of the concentration of hazardous constituents to the action levels for the entire TFF. Activities such as final landfill cap design and maintenance will be presented in a landfill closure plan for the entire TFF before final closure of the TFF. The TFF will not undergo final facility closure (and the necessary landfill closure determination) until after 2012. Should the TFF be determined to require closure as a landfill, it is anticipated that the post-closure care permit currently being prepared for the Idaho Nuclear Technology and Engineering Center (INTEC) Waste Calcining Facility (WCF) will be modified to include post-closure care requirements for the TFF. However, if it appears that the WCF post-closure permit will not address post-closure care of the TFF in a timely manner, a separate plan will be submitted under a negotiated schedule.

This plan also discusses coordination of this closure with other regulatory requirements. As an interim status hazardous waste management unit, closure of the TFF must comply with HWMA and RCRA regulations. However, the TFF is also a high-level waste (HLW) facility regulated by DOE, and closure of the tanks also must comply with DOE requirements as specified in DOE Order 435.1 (DOE 2001a). In addition, the closure must be coordinated with ongoing cleanup of the TFF soils under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 9601, 1980) as well as decisions made pursuant to the *Idaho High-Level Waste and Facilities Disposition Final Environmental Impact Statement* (DOE 2002).

1.1 Tank Farm Description

The TFF is part of INTEC, formerly the Idaho Chemical Processing Plant (CPP). The TFF includes eleven belowground 300,000-gal and four belowgrade 30,000-gal stainless-steel tanks. Aboveground structures in the TFF include the TFF Control House (building CPP-628), the Computer Interface Building (CPP-618), valve boxes, and tank and vault sump riser covers. The belowground structures are the condenser pits (CPP-721 and CPP-722). A perimeter fence encloses the TFF on the west, north, and east sides. Buildings border the east side. Gates are located on the west and north sides of the fence (INEEL 2000a).

The Computer Interface Building is not associated with any closure activities. The TFF Control House contains piping that is associated with the TFF. This piping will be decontaminated and capped or otherwise sealed during this closure. The condenser pits (CPP-721 and CPP-722), valve boxes, and tank and vault sump riser covers will be closed during tank closure.

The TFF was used to store liquid wastes generated by spent nuclear fuel reprocessing operations and decontamination wastes from reprocessing facilities at INTEC. Construction of the TFF began in 1951 with Tanks WM-180 and WM-181. Tanks WM-182 through WM-184 were completed in 1955, Tanks WM-185 and WM-186 were completed in 1957, and Tanks WM-187 and WM-188 were completed in 1959. The last tanks, WM-189 and WM-190, were constructed in 1964. Construction of the four 30,000-gal tanks was completed in 1955. The 30,000-gal tanks were taken out of service in 1983, and the tank inlets have been cut and capped (INEEL 2000a; DOE-ID 2000a).

Eight of the tanks (WM-180, WM-182, WM-183, WM-185, and WM-187 through WM-190) contain stainless-steel cooling coils to minimize tank corrosion. Risers provide access to each tank. Each tank has four or five 12-in. diameter risers. Tanks WM-184 through WM-190 also have two 18-in. diameter risers. Most risers also have installed equipment, such as radio frequency probes for level measurement, corrosion coupons, or waste transfer equipment (steam jets and airlifts). Two steam jets are located inside each tank, except for Tanks WM-189 and WM-190. These two tanks each have one steam jet and one airlift pump. A single steam jet can transfer waste out of a tank at approximately 50 gpm, and an airlift can transfer waste out of a tank at approximately 35 gpm (INEEL 2000a).

Each 300,000-gal tank is contained in a concrete vault. The vaults are approximately 45 ft belowground and are configured in one of three basic designs: monolithic octagonal, pillar and panel octagonal, or monolithic square. The 6-in. thick concrete vault roofs are covered with approximately 10 ft of soil to provide radiation shielding. Tanks WM-182 through WM-186 are contained in pillar and panel octagonal vaults. Because vaults of this design were constructed with prefabricated components, these vaults are not considered as robust as vaults of monolithic design and will be closed first (INEEL 2000a).

Liquid waste transfers to, from, and among the tanks are managed through a system of piping, valves, and diversion boxes. The liquid waste is routed through waste transfer valves located in underground, stainless steel-lined concrete boxes, referred to as valve boxes. Liquids resulting from decontamination efforts or leakage of valve boxes and piping encasements (secondary containment for piping) are drained to tanks or diversion boxes (INEEL 1998).

1.2 Tanks

The TFF tanks will be closed in phases. Any remaining tanks will continue to operate during the closure actions (see Figure 1). Because tanks may share associated piping and ancillary equipment with other tanks in the TFF, definition of the tanks and related components or, more specifically, the tank systems being closed is necessary. For the purposes of these closures, the tank systems comprise the tanks; vaults; ancillary equipment such as piping, pumps, valve boxes; and associated piping and valves within the TFF Control House (CPP-628). The control house contains the steam, water, air, cooling, and instrumentation lines for the tanks. Piping and valves associated with each tank will be capped in the TFF Control House. Piping will be cut and capped upstream of the vaults; valves will be isolated.

1.3 Waste Description

Reprocessing operations at INTEC took place from 1952 until they were phased out in 1992. These operations used a three-cycle solvent extraction process to recover enriched uranium from spent nuclear fuel. The spent nuclear fuel was dissolved in hydrofluoric or nitric acid to form a uranyl nitrate solution suitable for solvent extraction. The fuel types included aluminum, zirconium, stainless steel, graphite, and custom. The fuel dissolution process varied depending on the type of fuel to be reprocessed. The enriched uranium was then extracted using a three-step solvent extraction process. The solution remaining after the first extraction cycle was considered HLW and was stored in the TFF. The liquid remaining from the second and third extraction cycles, as well as solutions resulting from decontamination activities, were first concentrated by evaporation and then stored separately in the TFF. This waste is generally referred to as sodium-bearing waste because of its high sodium content resulting from decontamination activities. Although reprocessing operations have ceased, the TFF continues to receive waste from INTEC plant operations and decontamination activities. This waste is referred to as newly-generated liquid waste (DOE 2002).

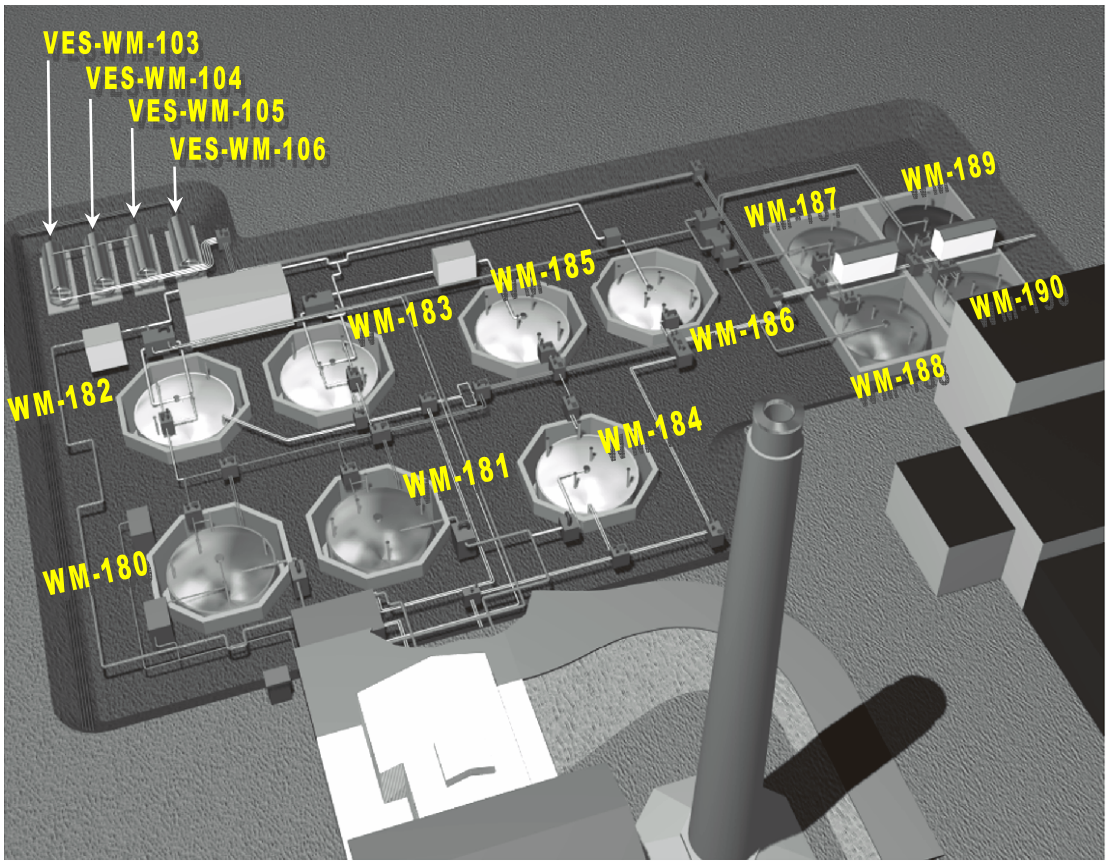

Figure 1. Conceptual overview of the TFF.

Wastes stored in the TFF tanks exhibit the hazardous characteristics of corrosivity (Hazardous Waste Number D002) (40 CFR 261 Subpart D, 2002). Historical data indicate the TFF waste exhibited the characteristic of toxicity for lead (D008), cadmium (D006), chromium (D007), and mercury (D009). Also associated with the waste are four RCRA-listed hazardous waste numbers (Gilbert and Venneman 1999):

- F001 (carbon tetrachloride; 1,1,1-trichloroethane; trichloroethylene)
- F002 (carbon tetrachloride; tetrachloroethylene; 1,1,1-trichloroethane; trichloroethylene)
- F005 (benzene, carbon disulfide, pyridine, toluene)
- U134 (hydrofluoric acid).

1.4 Maximum Inventory of Wastes

The provisions in IDAPA 58.01.05.009 (State of Idaho 1983) [40 CFR 265.112(b)(3) (2002)] require that a closure plan include an estimate of the maximum inventory of hazardous wastes ever onsite over the active life of the facility. The maximum inventory of each tank was administratively limited to 285,000 gal. Each tank has a different waste storage history. A more detailed discussion of fuel reprocessing activities that resulted in waste generation, waste types and composition, and historical analysis will be provided in the specific closure plans.

2. COORDINATION WITH OTHER REGULATORY REQUIREMENTS

As an interim status hazardous waste management unit, the TFF closure must comply with applicable HWMA/RCRA regulations. However, the TFF is also a HLW facility regulated by DOE and must meet DOE closure requirements. In addition, other ongoing INTEC and TFF actions may affect the TFF HWMA/RCRA closure activities. These actions include the CERCLA cleanup of the TFF soils and decisions made pursuant to the *Idaho High-Level Waste and Facilities Disposition Final Environmental Impact Statement* (DOE 2002). These HWMA/RCRA closures will need to be carefully coordinated with each of these other requirements to ensure that the objectives of all activities at the TFF are met efficiently and economically.

2.1 Department of Energy Radioactive Waste Management Requirements

Because the TFF is an HLW facility regulated by DOE, this closure must meet the requirements of DOE Order 435.1 (DOE 2001a) and its associated manual and guidance (DOE 2001b; DOE 1999). Closure requirements for HLW facilities are specified in DOE Manual 435.1-1 (DOE 2001b). The TFF will be closed under an approved DOE closure plan (DOE-ID 2003), in accordance with DOE Order 435.1.

DOE requires a two-tiered approach to closure plan development, review, and approval. The Tier 1 Closure Plan, which must be approved by DOE Headquarters, was based on preliminary information and is intended to define and bound the parameters of the closure action. The first-tier plan includes

- Closure methodology
- Schedules and assumptions
- Closure standards and performance objectives (for the radioactive constituents)
- Strategy for allocating closure standards and performance objectives to individual facilities and units to be closed at the site
- Preliminary assessment of the projected performance of each unit to be closed relative to the allocated performance objectives
- Preliminary assessment of the projected composite performance of all units to be closed at the site
- Alternatives (if any)
- Waste characterization data
- Closure controls plans
- Stakeholder concerns.

The Tier 1 Closure Plan (DOE-ID 2003) has been prepared and is being reviewed. Once DOE Headquarters approves the plan, they will issue an Authorization to Proceed. Cleaning of the tanks can proceed before DOE Headquarters approval. Once the cleaning of WM-184, WM-185, and WM-186 is

complete, a Tier 2 plan will be prepared to discuss the readiness to proceed with final closure (grouting) activities.

2.2 Comprehensive Environmental Response, Compensation, and Liability Act

In November 1989, the INEEL was listed on the National Priorities List (54 Federal Register [FR] 223, 1989). In 1991, the FFA/CO was written to establish a framework for fulfilling CERCLA requirements (IDHW, Environmental Protection Agency [EPA], and DOE 1991). Under the FFA/CO, the INEEL is divided into ten waste area groups (WAGs) and then further divided into operable units (OUs).

The INTEC facility was designated as WAG 3 and originally was subdivided into 13 OUs that were investigated for contaminant releases to environmental pathways (IDHW, EPA, and DOE 1991). During the OU 3-13 Comprehensive Remedial Investigation/Feasibility Study (RI/FS) (Rodriguez et al. 1997) and subsequent remedy development, data gaps were identified. In some cases, insufficient data prevented selection of final remedies. In particular, data were insufficient to select final remedies for TFF soil. In October 1999, a final ROD was issued for INTEC OU 3-13 (DOE-ID 1999) where interim actions were selected for the TFF soils and the Snake River Plain Aquifer sites and OU 3-14 was created. Within OU 3-14, gathering of necessary additional data and coordination with the *Idaho High-Level Waste and Facilities Disposition Final Environmental Impact Statement* requirements (DOE 2002) will occur to support selection of the final remedies.

The RCRA closure of a TFF tank system requires investigation of associated contaminated soils. The TFF contaminated soils will be investigated in accordance with CERCLA requirements as governed by the FFA/CO for the entire TFF. Investigation of the TFF soils will be addressed in the OU 3-14 RI/FS.

The Tank Farm is currently used for interim waste storage of liquid waste (radioactive and hazardous). The TFF soil sites were contaminated from liquid spills and pipeline leaks to the environment from plant liquid transfer operations to and within the Tank Farm. The TFF soils include known radioactively-contaminated soil sites located in the TFF area and adjacent to buildings CPP-604 and CPP-605, which house the process equipment waste (PEW) evaporator. The potential threats posed by these soils are external radiation exposure, leaching and transport of contaminants to the perched water and subsequently the Snake River Plain Aquifer, and a risk from ingestion to future groundwater users.

In fiscal year 2003, new information affecting the OU 3-14 scope, and the Tank Farm interim action (DOE-ID 1999) occurred. The Agreement to Resolve Dispute (INEEL 2003), related to the December 4, 2002, Notice of Violation (EPA 2002), requires separating out the non-Tank Farm soil components (sites CPP-23, CPP-61, CPP-81, CPP-82) from the OU 3-14 RI/FS and revising the OU 3-14 data quality objectives in the existing OU 3-14 RI/FS Work Plan (DOE-ID 2000a). The revised data quality objectives will identify any data gaps needed to support and perform an evaluation of options for implementing an early permanent remedy and propose a recommendation for the feasibly of accelerating the OU 3-14 Record of Decision.

The Tank Farm interim action was designed to restrict potential direct exposure from the soils within the TFF and minimize potential leaching and transport of contaminants to the perched water or Snake River Plain Aquifer (DOE-ID 2000b). These goals will be accomplished by completing all work outside the Tank Farm fence and work on an infiltration barrier over soil release sites CPP-28, CPP-31, and CPP-79 inside the Tank Farm fence in accordance with the Agreement to Resolve Dispute (INEEL 2003). The interim action design will be implemented in two phases (DOE-ID 2000b, INEEL 2003):

- **Phase I (outside the Tank Farm fence):**

  – **Storm Water Drainage System Upgrade**. The storm water drainage system will be upgraded around the TFF and out to the discharge point. This upgrade includes constructing, grading, and lining new and existing ditches with concrete; installing a trench drain, lift station, and manholes; and replacing existing culverts with larger culverts to accommodate the expected increase in storm water flow. Also included are constructing concrete headwalls and endwalls, as necessary, throughout the lined drainage system.

  – **Storm Water Evaporation Pond**. A lined storm water evaporation pond will be constructed outside the INTEC fence to collect storm water runoff that currently discharges into environmentally controlled area 37 A.

- **Phase II (inside the Tank Farm fence):**

  – **Infiltration Barrier**. An infiltration barrier (concrete, asphalt, high-density polyethylene, polyurea, or temporary enclosures that achieve the remedial action objectives identified in the OU 3-13 Record of Decision [DOE-ID 1999]) will be placed over the release sites CPP-28, CPP-31, and CPP-79 in the TFF.

From the 2003 Agreement to Resolve Dispute (INEEL 2003), the work remaining in Phase I includes lining ditches, installing culverts, lining the evaporation pond, and putting the system into operation. The Phase II work remaining includes construction of an infiltration barrier over soil release sites CPP-28, CPP-31, and CPP-79 inside the TFF fence in accordance with the Agreement to Resolve Dispute (INEEL 2003).

2.3 High-Level Waste and Facilities Disposition Environmental Impact Statement

Closure of the TFF also may be affected by the decisions made on the basis of the *Idaho High-Level Waste and Facilities Disposition Final Environmental Impact Statement* (DOE 2002). This environmental impact statement identifies three primary decision-making goals:

- How to treat sodium-bearing waste
- How to treat HLW calcine into final waste form ready to leave the State of Idaho by December 2035
- How to conduct the disposition of associated HLW program facilities, including the TFF.

The three environmental impact statement general closure alternatives are

- Clean closure
- Closure to landfill standards
- Performance-based closure.

The environmental impact statement was prepared to fulfill commitments DOE made as part of the terms of a 1995 settlement agreement and court order with the State of Idaho (State of Idaho, DOE, and

Department of the Navy 1995). Under the agreement and court order, DOE must cease use of the TFF tanks by 2012 and treat all HLW currently at the INEEL so that the waste is ready for removal from the State of Idaho by 2035. To meet this requirement, DOE must issue a Record of Decision no later than December 31, 2009, based on an environmental impact statement that analyzes alternatives for treating INEEL HLW. On September 19, 1997, DOE issued a "Notice of Intent to Prepare a High-Level Waste and Facilities Disposition Environmental Impact Statement, Idaho Falls, Idaho" (62 FR 182, 1997). The EIS was issued in September 2002 (DOE 2002).

Both DOE and the State of Idaho have designated a performance-based closure method as the preferred alternative for disposition of HLW facilities at INTEC. These methods encompass three of the six facility disposition alternatives analyzed in the EIS: clean closure, performance-based closure, and closure to landfill standards. These methods are consistent with the closure approach proposed for the TFF in this closure document. A DOE Record of Decision is expected in 2003.

3. CLOSURE OBJECTIVE

As required by IDAPA 58.01.05.009 (2002) [40 CFR 265.197(c)(1), 2002], this contingent landfill closure and post-closure plan for the closure of the TFF tanks is provided in addition to the closure plans for clean closure of the tanks because TFF tanks do not have adequate secondary containment. The objective of the contingent landfill closure activities described in this plan is to close the TFF tanks in accordance with closure requirements for landfills (IDAPA 58.01.05.009 [2002] [40 CFR 265.310, 2002]) as specified by IDAPA 58.01.05.009 [40 CFR 265.197(b)] pending final closure of the entire TFF. As noted previously, the determination as whether to close the entire TFF as a landfill will not be made until final closure of the TFF. Activities such as final landfill cap design and maintenance will be presented in a landfill closure plan for the entire TFF upon final closure of the TFF. The TFF will not undergo final facility closure (and the necessity of landfill closure determined) until after 2012. At that time, post-closure activities for the TFF will be included in the RCRA Part B Permit for Post-closure Care currently being prepared for the INTEC WCF.

4. CLOSURE REQUIREMENTS

Closure requirements are specified by HWMA/RCRA as implemented by IDAPA 58.01.05.009 and 40 CFR Part 265, “Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities” (2002) IDAPA 58.01.05.009 incorporates 40 CFR Part 265 and all Subparts (excluding Subpart R, 40 CFR 265.149 and 265.150) by reference. The requirements for this contingent landfill closure and post-closure plan are specified in 40 CFR Part 265 Subpart G (Closure and Post-Closure), Subpart J (Tank Systems), Subpart N (Landfills), and Subpart F (Ground-Water Monitoring) (all 2002). For tank systems without secondary containment such as the TFF, 40 CFR 265.197 requires submission of a contingent landfill closure plan that meets the closure requirements for landfills specified in 40 CFR 265.310 (2002). Section 265.310 also requires compliance with post-closure requirements contained in 40 CFR 265.117 through 265.120 and applicable requirements of Subpart F (Groundwater Monitoring).

Table 1 summarizes the HWMA/RCRA closure requirements for this contingent landfill closure and post-closure plan. The matrix is organized by regulatory citation, the strategy planned to meet the requirement, and a reference to the section in this closure plan where the strategy is described in more detail.

Table 1. HWMA/RCRA contingent landfill closure plan compliance matrix.

40 CFR Part 265, Subpart G Interim Status Treatment, Storage, and Disposal Facility Standards—Closure and Post-Closure		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
§ 265.110 Applicability		
(a) §§ 265.111 through 265.115 [closure] apply to the owners and operators of all hazardous waste management facilities	These sections are applicable to this contingent landfill closure.	See matrix below
(b) §§ 265.116 through 265.120 [post-closure care] apply to owners and operators hazardous waste disposal facilities; waste piles and surface impoundments as required by §§ 265.228 or 265.258; tank systems that are required under § 265.197 to meet requirements for landfills; and containment buildings as required by § 265.1102.	These sections are applicable to this contingent landfill closure.	See matrix below
(c) § 265.121 [post-closure requirements for facilities that obtain enforceable documents in lieu of post-closure permits] applies to owners and operators of units that are subject to the requirements of 40 CFR 270.1(c)(7).	Not applicable.	NA
(d) The Regional Administrator may replace all or part of the requirements of this subpart with alternative requirements for closure.	Alternative requirements are not requested.	NA
§ 265.111 Closure performance standard.		
(a) Facility must be closed in a manner that minimizes the need for further maintenance	The removal and decontamination of hazardous wastes and residuals as well as the grout placed in the tanks, vaults, and piping will minimize the need for further maintenance. The caps placed on the piping will also meet this standard.	5
(b) Facility must be closed in a manner that controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere	Removal and decontamination of hazardous wastes and residuals will meet this requirement. The grout placed in the tanks, vaults, and piping and the caps placed on the piping will also minimize the post-closure escape of hazardous constituents.	5
(c) Facility must be closed in a manner that complies with the closure requirements of this subpart, including § 265.197 (tank systems)	The closure plans for clean closure and this contingent landfill closure and post-closure plan are being submitted to meet these requirements.	5

Table 1. (continued).

40 CFR Part 265, Subpart G Interim Status Treatment, Storage, and Disposal Facility Standards—Closure and Post-Closure		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
§ 265.112 Closure plan; amendment of plan.		
(a) Written plan. This section specifies the conditions under which a written closure plan must be maintained.	DOE is required under the Second Modification to Consent Order to the Notice of Noncompliance issued January 29, 1990, to "submit a closure plan to the State of Idaho Department of Environmental Quality (DEQ) under the requirements of Idaho Administrative Procedures Act (IDAPA) 16(58).01.05.009 (40 CFR Part 265, Subpart G) for at least one of these (WM-182 through WM-186) tanks on or before December 31, 2000. A clean closure plan and contingent landfill closure plan were submitted as required in December 2000. The plans will be maintained until closure certification of the facility is provided to the Director, (DEQ).	10
(b) Content of plan. This section specifies requirements for the content of the closure plan: (1) A description of how each hazardous waste management unit at the facility will be closed in accordance with § 265.111.	The clean closure strategy is designed to meet the clean closure requirements as described in the closure plans. The general strategy is to remove waste from the tanks, piping, and vaults followed by decontamination of the tanks, vaults, and piping. Following decontamination, sampling and analysis will be performed, followed by data validation, data evaluation, and comparison to action levels. Grouting of the tank, tank vault, valve box vaults, and piping will occur when the data indicate that waste is not left in place and action levels are met.	5
(2) A description of how final closure of the facility will be conducted in accordance with § 265.111, including the maximum extent of the operation that will be unclosed during the active life of the facility.	Clean closure/final closure of the facility, which is the TFF, will be performed in accordance with approved HWMA/RCRA closure plans. A discussion of the maximum extent of operation unclosed will be provided in the closure plans.	5,8
(3) An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial and final closure, including waste removal methods.	The maximum inventory of hazardous waste ever in the tank system is discussed in the closure plans.	1.4

Table 1. (continued).

40 CFR Part 265, Subpart G Interim Status Treatment, Storage, and Disposal Facility Standards—Closure and Post-Closure		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
(4) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils.	A detailed description of these steps will be given in the closure plans. Soil contamination is present at the TFF because of leaks from ancillary equipment though the contents never leaked to the environment from the tanks. The contaminated soils will be investigated as part of the OU 3-14 RI/FS. The FFA/CO has established that investigations of solid waste management unit releases will be the responsibility of the CERCLA program.	5.1
(5) A detailed description of other activities necessary during the partial and final closure period to ensure that all partial closures and final closure satisfy the closure performance standards.	No other closure activities have been identified at this time.	NA
(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility.	Closure schedule for contingent landfill closure (activities may run concurrently): Activity — Time for Completion Determination made that landfill closure is necessary — 0 day Design final cap — TBD days Prepare post-closure care plan — TBD days Establish institutional controls — TBD days Submit professional engineer certification — 60 days Institutional controls are in place at INTEC — TBD days	9
(7) An estimate of the expected year of final closure for facilities without approved closure plans.	Cease-use of the remaining tanks at the TFF must occur by December 31, 2012. The INTEC facility is estimated to be closed no sooner than 2035.	9
(8) This section applies to facilities where the Regional Administrator has applied alternative requirements at a regulated unit.	Not applicable. Alternative requirements are not requested.	NA
(c) Amendment of plan. This section specifies requirements for amending the closure plan and includes conditions under which the closure plan must be amended, time frames for providing the amendment, procedures for submitting the amended plan, and procedures for responding to a request for amendment by the regulatory agency.	The closure plan will be amended as necessary in accordance with the requirements of this section.	10

Table 1. (continued).

40 CFR Part 265, Subpart G Interim Status Treatment, Storage, and Disposal Facility Standards—Closure and Post-Closure		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
(d) Notification of partial closure and final closure. This section specifies when the closure plan must be submitted, the date when closure is expected to begin, and how opportunities for public comment on the closure plan will be provided.	As required by the 1992 consent order (and subsequent modifications) between IDHW and DOE, this closure plan was submitted to DEQ by December 31, 2000.	9
(e) Removal of wastes and decontamination or dismantling of equipment. Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.	Closure activities will be performed in accordance with the clean closure plans.	All
§ 265.113 Closure; time allowed for closure.		
This section specifies requirements such as when closure activities must begin; when partial and final closure activities must be completed; and when demonstration of conditions requiring an extension must be made.	Not applicable for this contingent landfill closure and post-closure plan. Meeting this requirement will be described in the closure plans.	NA
§ 265.114 Disposal or decontamination of equipment, structures and soils.		
During the partial and final closure periods, all contaminated equipment, structures and soil must be properly disposed of, or decontaminated unless specified otherwise in §§ 265.197, 265.228, 265.258, 265.280, or 265.310. By removing all hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that hazardous waste in accordance with all applicable requirements of part 262 of this chapter.	All contaminated equipment, structures, and soils generated during closure of the tank system will be managed in accordance with applicable IDAPA 58.01.05.006 (2002) (40 CFR Part 262), "Standards Applicable to Generators of Hazardous Waste (2002)," requirements.	7
§ 265.115 Certification of closure.		
This section specifies the schedule and procedure for submitting the closure certification. The certification must be signed by the owner or operator and by an independent registered professional engineer.	Within 60 days of completing the landfill closure of the TFF, a certification that the tank system was closed in accordance with the specifications in the approved closure plan will be submitted to the DEQ Director.	11
§ 265.116 Survey plat.		
This section describes requirements for survey plat requirements for disposal units.	The provisions of this section, including submission of a Notice in Deed; a survey plat; and a record of the type, location, and quantity of hazardous waste disposed of in the TFF, will be met upon final closure of the TFF as a landfill.	12

Table 1. (continued).

40 CFR Part 265, Subpart G Interim Status Treatment, Storage, and Disposal Facility Standards—Closure and Post-Closure		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
§ 265.117 Post-closure care and use of property.		
(a) This section specifies that post-closure care must begin after completion of closure of the unit and continue for 30 years after that date. The post-closure care must include monitoring and reporting in accordance with 40 CFR 265 Subparts F, K, L, M, and N; and maintenance and monitoring of waste containment systems in accordance with these subparts. The Regional Administrator may shorten or extend the post-closure care period as necessary to protect human health and the environment.	This contingent landfill closure and post-closure plan is being submitted as required by 40 CFR 265.197. As requested in a February 13, 2001, letter from DEQ to the DOE, the RCRA Part B Permit Application for Post-closure Care was submitted in August 2001.[b] Because of the proximity of WCF and the TFF, post-closure requirements for the TFF are anticipated to be similar to those of WCF. Therefore, if the TFF must be closed as a landfill, it is anticipated that the WCF post-closure permit will be modified to include the post-closure care requirements for the TFF. However, if it appears that the WCF post-closure permit cannot be modified to include the TFF, a separate plan will be submitted under a negotiated schedule. A determination to clean-close or close the TFF as a landfill will not be made until final closure of the entire TFF. Requirements of Subparts F (Groundwater Monitoring) and N (Landfills) are discussed later in this matrix. Subparts K (Surface Impoundments), L (Waste Piles), and M (Land Treatment) are not applicable to this closure. The owner/operator will comply with changes made by the DEQ Director as required.	6
(b) This section specifies when the Regional Administrator may require that security requirements of § 265.14 must remain in place.	The owner/operator will comply with changes made by the Director as required.	6
(c) This section specifies that post-closure use of the property must never be allowed to disturb the integrity of the containment and monitoring systems unless the Regional Administrator allows the disturbance under certain conditions.	Post-closure use of the property will be maintained as required in the WCF post-closure care permit and/or post-closure care plan if the TFF must be closed as a landfill [see 40 CFR 265.117(a)].	6
(d) All post-closure care activities must be performed in accordance with an approved post-closure plan as specified in § 265.118.	Post-closure care activities will be performed in accordance with the WCF post-closure care permit and/or post-closure care plan if the TFF must be closed as a landfill [see 40 CFR 265.117(a)].	6

Table 1. (continued).

40 CFR Part 265, Subpart G Interim Status Treatment, Storage, and Disposal Facility Standards—Closure and Post-Closure		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
§ 265.118 Post-closure plan; amendment of plan.		
This section specifies when an owner or operator of a hazardous waste disposal unit must have a written post-closure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous wastes at closure must prepare and submit a post-closure plan within 90 days of the date that the unit is determined will be closed as a landfill. This section also specifies requirements for maintenance of the approved post-closure plan; contents of the post-closure plan including planned monitoring and maintenance activities and the frequency at which these activities will be performed to comply with Subparts F (Groundwater Monitoring) and N (Landfills). In addition, this section describes requirements for amending the post-closure plan, when the plan must be submitted, public comment, and modifying the plan and length of the post-closure care period.	This contingent landfill closure and post-closure plan is being submitted in accordance with 40 CFR 265.197. This plan will be furnished to the DEQ Director upon request and maintained as required. Requirements of this section will be met through the WCF post-closure permit and/or post-closure care plan if the TFF must be closed as a landfill [see 40 CFR 265.117(a)]. The permit must comply with provisions of 40 CFR 270.28 (Part B information requirements for post-closure permits), which includes compliance with 40 CFR 270.14(b)(13), which in turn requires compliance with 40 CFR 264.118 (post-closure plan for treatment, storage, and disposal facilities). Requirements of 40 CFR 264.118 parallel those of 40 CFR 265.118.	6
§ 265.119 Post-closure notices.		
This section specifies requirements for notices such as records and deed notations that must be submitted.	Post-closure notices will be provided as required through the WCF post-closure permit and/or post-closure care plan if the TFF must be closed as a landfill [see § 265.117(a)]. As required by §270.14(b)(14), the permit must include documentation that required notices under § 264.119 have been made. Requirements of § 264.119 parallel those of § 265.119.	6
§ 265.120 Certification of completion of post-closure care.		
This section specifies that a certification that post-closure care was performed in accordance with the approved post-closure plan must be submitted no later than 60 days following the end of the post-closure care period.	This requirement will be met upon completion of the post-closure care period if the TFF must be closed as a landfill.	6
§ 265.121 Post-closure requirements for facilities that obtain enforceable documents in lieu of post-closure permits.		
This section specifies requirements for facilities that obtain enforceable documents in lieu of post-closure permits, including requirements for facility information; facility-wide corrective action; and a monitoring and response program. Requirements for public involvement are also specified.	Post-closure requirements for this closure will be met through the WCF post-closure permit and/or post-closure plan, if the TFF must be closed as a landfill [see § 265.117(a)].	NA

Table 1. (continued).

40 CFR Part 265, Subpart J Interim Status Treatment, Storage, and Disposal Facility Standards—Tank Systems		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
§ 265.197 Closure and post-closure care.		
(a) At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste. In addition, the requirements of 40 CFR 265 Subpart G (Closure and Post-Closure) and Subpart H (Financial Requirements) must be met.	The clean closure strategy will be presented in the closure plans to meet this requirement. This contingent landfill and post-closure plan is presented to satisfy the requirements of (c) below.	NA
(b) This section specifies when closure and post-closure care must be performed in accordance with requirements for landfills. If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in § 265.197(a) above, then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (§ 265.310).	The determination to close the TFF as a landfill will be made at final closure of the TFF, which will not take place until approximately 2012. The requirements of this section will be fulfilled if the TFF must be closed as a landfill. Post-closure care will be performed in accordance with the WCF post-closure permit and/or post-closure care plan should the TFF be determined to require closure as a landfill [see § 265.117(a)].	NA
(c) This section imposes additional requirements for a tank system that does not have secondary containment that meets the requirements of § 265.193 (containment and detection of releases):	The TFF tanks do not have secondary containment that meets the requirements of § 265.193.	See below
(1) The tank system closure plan must include both a plan for complying with (a) above and a contingent plan for complying with (b) above	The determination as to whether to close the TFF as a landfill will not be made until final closure of the TFF, which will not take place until after 2012. The clean-closure strategy presented in the closure plans will satisfy (a) above. This contingent landfill closure strategy applies to this partial TFF closure.	1, 4
(2) A contingent post-closure plan for complying with (b) above must be prepared and submitted as part of the permit application	Post-closure care will be performed in accordance with the WCF post-closure permit and/or post-closure plan if the TFF is determined to require closure as a landfill [see § 265.117(a)].	1, 4
(3) The cost estimates calculated for closure and post-closure care must reflect the costs of complying with the contingent closure plan and the contingent post-closure plan	Not applicable. As provided by § 265.140(c), the federal government is exempt from financial requirements.	NA
(4) Financial assurance must be based on (3) above	Not applicable. As provided by § 265.140(c), the federal government is exempt from financial requirements.	NA

Table 1. (continued).

40 CFR Part 265, Subpart J Interim Status Treatment, Storage, and Disposal Facility Standards—Tank Systems		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
(5) For the purposes of the contingent closure and post-closure plans, such a tank system is considered to be a landfill, and the contingent plans must meet all of the closure, post-closure, and financial responsibility requirements for landfills under Subparts G and H of this part.	This contingent closure plan considers the tank system as a landfill and meets the requirements of this section.	NA

40 CFR Part 265, Subpart N Interim Status Treatment, Storage, and Disposal Facility Standards—Landfills		
Regulatory Requirement	Compliance Strategy	Section in Plan[a]
§ 265.310 Closure and post-closure care.		
(a) At final closure of the landfill, the owner or operator must cover the landfill with a final cover designed and constructed to (1) Provide long-term minimization of migration of liquids through the closed landfill (2) Function with minimum maintenance (3) Promote drainage and minimize erosion or abrasion of the cover (4) Accommodate settling and subsidence so that the cover's integrity is maintained. (5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.	The grouted tanks will minimize the migration of liquids through the subsurface. At final closure, a cover that meets the intent of 40 CFR 265.310 will be designed for the TFF. Final closure as a landfill will require integration with CERCLA actions for the TFF soils at INTEC. This action may include a final cover as a landfill.	5
(b) After final closure, the owner or operator must comply with all post-closure requirements contained in §§ 265.117 through 265.120 including maintenance and monitoring throughout the post-closure care period. The owner or operator must	See above citations for compliance with §§ 265.117 through 265.120. Post-closure requirements, including the provisions of this section, will be satisfied through the WCF post-closure permit and/or post-closure plan if the TFF must be closed as a landfill.	6
(1) Maintain the integrity and effectiveness of the final cover	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill. [see § 265.117(a)].	
(2) Maintain and monitor the leak detection system in accordance with applicable leak detection system requirements, including § 265.304(b), monitoring and inspection	Not applicable to a tank system.	NA

Table 1. (continued).

40 CFR Part 265, Subpart N Interim Status Treatment, Storage, and Disposal Facility Standards—Landfills		
Regulatory Requirement	Compliance Strategy	Section in Plan[a]
(3) Maintain and monitor the groundwater monitoring system in accordance with applicable requirements	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement [see § 265.117(a)]. Section § 270.14(c) specifies that the permit must address groundwater protection, including implementation of a groundwater monitoring system.	
(4) Prevent run-on and run-off from eroding or otherwise damaging the final cover	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)].	
(5) Protect and maintain surveyed benchmarks used in complying with § 265.309 (surveying and recordkeeping).	Not applicable. This provision addresses maintenance of landfill cell information.	NA

40 CFR Part 265, Subpart F Interim Status Treatment, Storage, and Disposal Facility Standards—Groundwater Monitoring		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
§ 265.90 Applicability.		
(a) Within one year after the effective date of these regulations, the owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste must implement a groundwater monitoring program capable of determining the facility's impact on the quality of groundwater in the uppermost aquifer underlying the facility, except as § 265.1 and paragraph (c) of this section provide otherwise.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. Section § 270.14(c) specifies that the permit must address groundwater protection, including implementation of a groundwater monitoring system. Section 270.14(c)(2) requires identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including groundwater flow direction and rate, and the basis for such identification. The permit must also meet § 270.14(c)(5), which requires detailed plans and an engineering report describing the proposed groundwater monitoring program to meet the general groundwater monitoring requirements of § 264.97.	6
(b) Except as paragraphs (c) and (d) of this section provide otherwise, the owner or operator must install, operate, and maintain a groundwater monitoring system which meets the requirements of § 265.91, and must comply with §§ 265.92 through 265.94. This groundwater monitoring program must be carried out during the active life of the facility, and for disposal facility, during the post-closure care period as well.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF requires closure as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection. The permit must meet § 270.14(c)(5), which requires detailed plans and an engineering report describing the proposed groundwater monitoring program to meet the general groundwater monitoring requirements of § 264.97.	6

Table 1. (continued).

40 CFR Part 265, Subpart F Interim Status Treatment, Storage, and Disposal Facility Standards—Groundwater Monitoring		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
(c) This section stipulates the conditions under which groundwater monitoring requirements of this subpart may be waived.	Not applicable.	NA
(d) If an owner or operator assumes (or knows) that groundwater monitoring of indicator parameters in accordance with §§ 265.91 and 265.92 would show statistically significant increases (or decreases in the case of pH) when evaluated under § 265.93(b), he may, install, operate, and maintain an alternate groundwater monitoring system.	Not applicable.	NA
(e) This section stipulates conditions under which groundwater monitoring requirements of this subpart may be waived with respect to any surface impoundment.	Not applicable.	NA
(f) This section specifies that the Regional Administrator may replace all or part of this subpart applying to a regulated unit with alternative requirements.	Not applicable.	NA
§ 265.91 Groundwater monitoring system.		
(a) A groundwater monitoring system must be capable of yielding groundwater samples for analysis and must consist of (1) Monitoring wells (at lease one) installed hydraulically upgradient from the limit of the waste management area. (2) Monitoring wells (at least three) installed hydraulically downgradient at the limit of the waste management area. (3) This section specifies how a facility owner or operator may demonstrate that an alternate hydraulically downgradient monitoring well location will meet certain criteria, including the presence of an existing physical obstacle; the practical limit of the waste management area has been reached; the alternate location ensures detection as early as possible of any statistically significant amounts of hazardous waste or constituents that migrate from the waste management area to the uppermost aquifer.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF requires closure as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection. The permit must meet § 270.14(c)(5), which requires detailed plans and an engineering report describing the proposed groundwater monitoring program to meet the general groundwater monitoring requirements of § 264.97.	6
(b) This section specifies that separate monitoring systems for each waste management component of a facility are not required provided that provisions for sampling upgradient and downgradient water quality will detect any discharge from the waste management area.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF requires closure as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6

Table 1. (continued).

40 CFR Part 265, Subpart F Interim Status Treatment, Storage, and Disposal Facility Standards—Groundwater Monitoring		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
(c) This section provides technical requirements for the casings of the monitoring wells.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
§ 265.92 Sampling and analysis.		
(a) The owner or operator must obtain and analyze samples from the installed groundwater monitoring system. The owner or operator must develop and follow a groundwater sampling and analysis plan. He must keep this plan at the facility. The plan must include procedures and techniques for sample collection; sample preservation and shipment; analytical procedures; and chain of custody control.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill (see § 265.117(a)). The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
(b) This section specifies requirements for determining the concentration or value of parameters for characterizing (1) the suitability of the groundwater as a drinking water supply (2) establishing groundwater quality (3) indicating groundwater contamination	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
(c) This section specifies requirements for the owner or operator to establish initial background concentrations or values of all parameters specified in (b) above. In addition, this section stipulates that at least four replicate measurements must be obtained for each sample and the initial background arithmetic mean and variance must be determined by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from upgradient wells during the first year for each of the indicator parameters specified in § 265.92(b)(3).	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
(d) This section specifies the frequencies with which all monitoring wells must be sampled and the samples analyzed after the first year. Samples collected to establish groundwater quality must be obtained and analyzed for the parameters specified in § 265.92(b)(2) of this section at least annually. Samples collected to indicate groundwater contamination must be obtained and analyzed for the parameters specified in § 265.92(b)(3) of this section at least semi-annually.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6

Table 1. (continued).

40 CFR Part 265, Subpart F Interim Status Treatment, Storage, and Disposal Facility Standards—Groundwater Monitoring		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
(e) Elevation of the groundwater surface at each monitoring well must be determined each time a sample is obtained.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
§ 265.93 Preparation, evaluation, and response.		
(a) Within one year after the effective date of these regulations, the owner or operator must prepare an outline of a groundwater quality assessment program. The outline must describe a more comprehensive groundwater monitoring program (than that described in §§ 265.91 and 265.92) capable of determining (1) Whether hazardous waste or hazardous waste constituents have entered the groundwater (2) The rate and extent of migration of hazardous waste or hazardous waste constituents in the groundwater (3) The concentrations of hazardous waste or hazardous waste constituents in the groundwater.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
(b) For each indicator parameter specified in § 265.92(b)(3), the owner or operator must calculate the arithmetic mean and variance, based on at least four replicate measurements on each sample, for each well monitored in accordance with § 265.92(d)(2), and compare these results with its initial background arithmetic mean. The comparison must consider individually each of the wells in the monitoring system, and must use the Student's t-test at the 0.01 level of significance (see appendix IV) to determine statistically significant increases (and decreases, in the case of pH) over initial background.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
(c) (1) If the comparisons for the upgradient wells made under paragraph (b) of this section show a significant increase (or pH decrease), the owner or operator must submit this information in accordance with § 265.94(a)(2)(ii).	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6

Table 1. (continued).

40 CFR Part 265, Subpart F Interim Status Treatment, Storage, and Disposal Facility Standards—Groundwater Monitoring		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
(d)(1) If the analyses performed under paragraph (c)(2) of this section confirm the significant increase (or pH decrease), the owner or operator must provide written notice to the Regional Administrator – within 7 days of the date of such confirmation – that the facility may be affecting groundwater quality.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
(2) Within 15 days after the notification under paragraph (d)(1) of this section, the owner or operator must develop and submit to the Regional Administrator a specific plan, based on the outline required under paragraph (a) of this section and certified by a qualified geologist .	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
(3) This section specifies the requirements of the plan to be submitted under § 265.90(d)(1) or paragraph (d)(2) of this section.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
(4) The owner or operator must implement the groundwater quality assessment plan which satisfies the requirements of paragraph (d)(3) of this section, and, at a minimum, determine (i) The rate and extent of migration of the hazardous waste or hazardous waste constituents in the groundwater (ii) The concentrations of the hazardous waste or hazardous waste constituents in the groundwater.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
(5) The owner or operator must make his first determination under paragraph (d)(4) of this section as soon as technically feasible, and, within 15 days after that determination, submit to the Regional Administrator a written report containing an assessment of the groundwater quality.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6

Table 1. (continued).

40 CFR Part 265, Subpart F Interim Status Treatment, Storage, and Disposal Facility Standards—Groundwater Monitoring		
Regulatory Requirement Summary	Compliance Strategy	Section in Plan[a]
(6) If the owner or operator determines, based on the results of the first determination under paragraph (d)(4) of this section, that no hazardous waste or hazardous waste constituents from the facility have entered the groundwater, then he may reinstate the indicator evaluation program described in § 265.92 and paragraph (b) of this section. If the owner or operator reinstates the indicator evaluation program, he must so notify the Regional Administrator in the report submitted under paragraph (d)(5) of this section.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
(7) This section specifies requirements for an owner or operator who determines, based on the first determination under paragraph (d)(4) of this section, that hazardous waste or hazardous waste constituents from the facility have entered the groundwater.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
(e) Notwithstanding any other provision of this subpart, any ground- water quality assessment to satisfy the requirements of § 265.93(d)(4) which is initiated prior to final closure of the facility must be completed and reported in accordance with § 265.93(d)(5).	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
(f) Unless the groundwater is monitored to satisfy the requirements of § 265.93(d)(4), at least annually the owner or operator must evaluate the data on groundwater surface elevations obtained under § 265.92(e) to determine whether the requirements under § 265.91(a) for locating the monitoring wells continues to be satisfied. If the evaluation shows that § 265.91(a) is no longer satisfied, the owner or operator must immediately modify the number, location, or depth of the monitoring wells to bring the groundwater monitoring system into compliance with this requirement.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6
§ 265.94 Recordkeeping and reporting.		
This section specifies requirements for recordkeeping and reporting of groundwater monitoring.	The WCF post-closure permit and/or post-closure plan will include provisions to meet this requirement if the TFF must be closed as a landfill [see § 265.117(a)]. The permit must meet § 270.14(c), which specifies requirements for groundwater protection.	6

a. NA=not applicable.

b. Brian R. Monson, DEQ, to Dave Wessman, DOE-ID, February 13, 2001, "Post-Closure Plan and Request for Post Closure Permit Application for the Waste Calcine Facility (WCF) at the INEEL INTEC Facility (EPA ID No. ID4890008952)."

5. CLOSURE PERFORMANCE STANDARDS

Closure performance standards are specified in IDAPA 58.01.05.009 (40 CFR 265.111, "Closure Performance Standard," 2002). These standards require that the facility be closed in a manner that minimizes the need for further maintenance; controls, minimizes, or eliminates (to the extent necessary to protect human health and the environment) post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and complies with the closure requirements of 40 CFR 265 Subpart G, including 40 CFR 265.197 (tank systems). This section describes the planned strategy for clean closure of the tanks, the planned activities for contingent landfill closure of the tanks, and how these activities combine to meet the contingent landfill closure requirements.

5.1 Clean Closure Strategy

Clean closure is the removal or decontamination of all hazardous wastes in the tank system. The TFF tanks are planned to be closed to action levels established for the tanks as described in the closure plans.

The clean closure strategy includes removing waste from the tanks, piping, and vaults followed by decontamination of the tanks, vaults, and piping. Waste removal and decontamination will begin in one tank followed by the second tank when decontamination is complete. Following decontamination, sampling and analysis will be performed, followed by data validation, data evaluation, and comparison to action levels. Grouting of the tank, tank vault, valve box vaults, and piping will occur when the data indicate that hazardous waste is not left in place and concentrations of hazardous constituents are below action levels. Grout placement is being conducted to stabilize residuals. The grouting will minimize the escape of hazardous constituents as described above. Furthermore, process piping will also be capped (thus sealing any residues in the pipes) to minimize escape of hazardous constituents. The tank vaults will be decontaminated during decontamination of the pipe encasement, and samples from the vault sumps will be collected. The simplified closure sequence is shown in Figure 2. The clean-closure strategy will be described in detail in the tank-specific closure plans.

5.2 Meeting Performance Standards

Activities to be performed under the planned clean-closure strategy will satisfy the general and landfill closure performance standards described in IDAPA 58.01.05.009 (40 CFR 265.111 "Closure Performance Standard," 2002, and 40 CFR 265.310, "Closure and Post-Closure Care for Landfills," 2002). A discussion of the applicable closure performance standards and how the planned actions will meet the standards is presented below.

1. *40 CFR 265.111(a) The facility must be closed in a manner that minimizes the need for further maintenance*

   The removal and decontamination of hazardous wastes and residuals will minimize the need for further maintenance. The grout placed in the tanks, vaults, and piping and caps placed on piping will also minimize the need for further maintenance.

2. *40 CFR 265.111(b) Controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.*

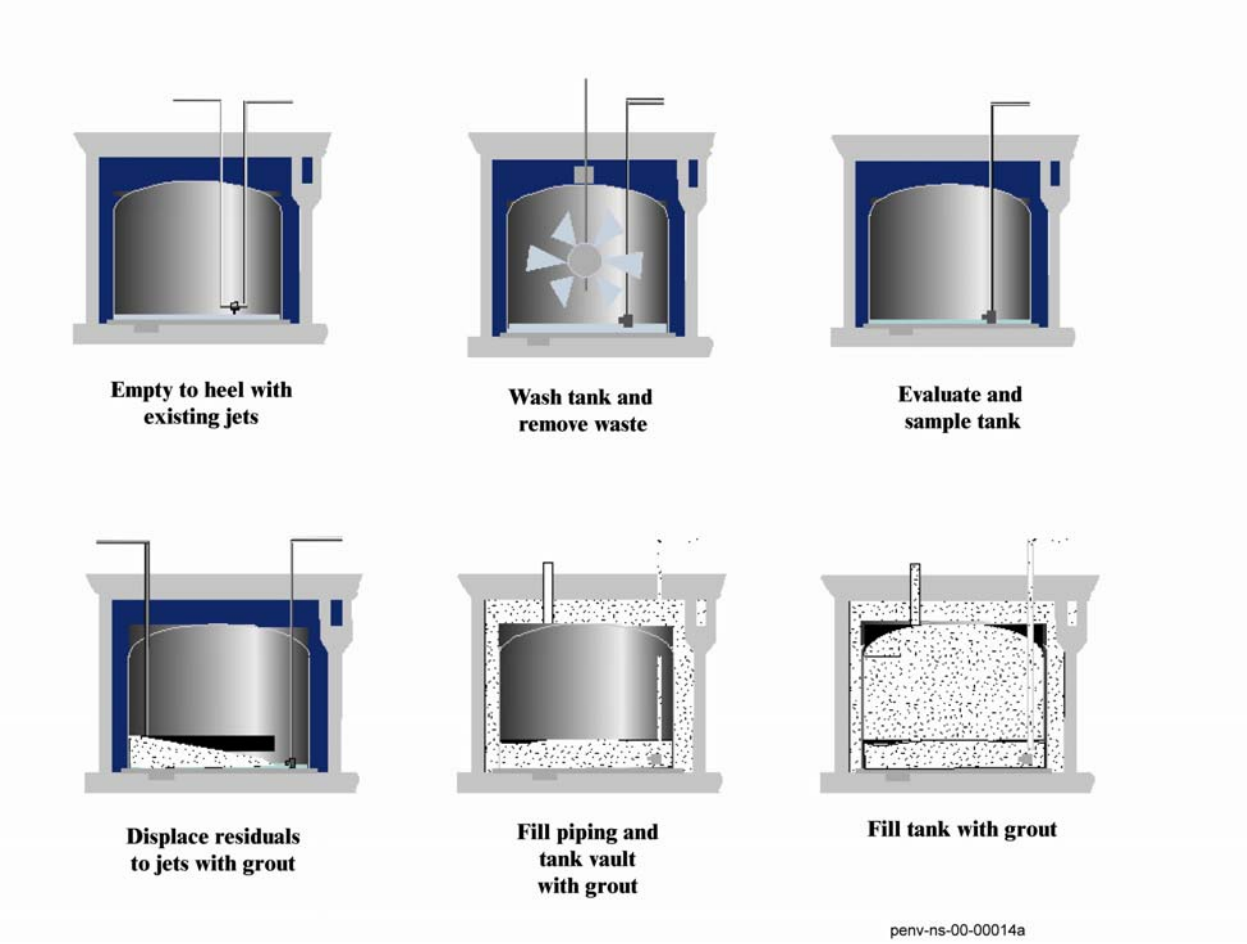

Figure 2. Simplified closure sequence.

Removal and decontamination of hazardous wastes and residuals will minimize the post-closure escape of hazardous constituents. The grout placed in the tanks, vaults, and piping and caps put on piping will also minimize the post-closure escape of hazardous constituents.

3. *40 CFR 265.310(a)(1) At final closure of the landfill, the owner/operator must cover the landfill or cell with a final cover designed and constructed to provide long-term minimization of migration of liquids through the closed landfill.*

   A final landfill cover will be designed, installed, and maintained in accordance with the requirements of 40 CFR 265.310(a)(1) if landfill closure becomes necessary.

4. *40 CFR 265.310(a)(2) The final cover must be designed and constructed to function with minimum maintenance.*

   A final landfill cover will be designed, installed, and maintained in accordance with the requirements of 40 CFR 265.310(a)(2) if landfill closure becomes necessary.

5. *40 CFR 265.310(a)(3) The final cover must be designed and constructed to promote drainage and minimize erosion or abrasion of the cover.*

A final landfill cover will be designed, installed, and maintained in accordance with the requirements of 40 CFR 265.310(a)(3) if landfill closure becomes necessary.

6. *40 CFR 265.310(a)(4) The final cover must be designed and constructed to accommodate settling and subsidence to maintain the cover's integrity.*

   A final landfill cover will be designed, installed, and maintained in accordance with the requirements of 40 CFR 265.310(a)(4) if landfill closure becomes necessary.

7. *40 CFR 265.310(a)(5) The final cover must be designed and constructed to have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.*

   The grouted tanks will meet requirements for minimizing the migration of liquids through the subsurface. At final closure, the cover will be designed per the requirements of 40 CFR 265.310.

6. POST-CLOSURE CARE

For tank systems that don't meet RCRA containment criteria, such as the TFF, 40 CFR 265.197 requires submission of a contingent landfill closure plan that meets the closure requirements for landfills specified in 40 CFR 265.310. Section 265.310 also requires compliance with post-closure requirements contained in 40 CFR 265.117 through 265.120 as well as applicable requirements of Subpart F (Groundwater Monitoring) (all 2002).

In addition, post-closure care must also include

- Maintaining the integrity and effectiveness of the final cover
- Maintaining and monitoring a leak detection system (not applicable to tank systems)
- Maintaining a groundwater monitoring system
- Preventing runon/runoff from eroding or otherwise damaging the final cover
- Protecting and maintaining surveyed benchmarks to comply with surveying and recordkeeping requirements.

This contingent landfill closure and post-closure plan is being submitted as required by 40 CFR 265.197. As requested in a February 13, 2001, letter from DEQ to DOE,[c] a RCRA Part B Permit Application for Post-closure Care at WCF was submitted in August 2001 (DOE-ID 2001b). Because of the proximity of WCF and the TFF, post-closure requirements for the TFF are anticipated to be similar to those for WCF. Figure 3 shows the location of the TFF and WCF at INTEC. Therefore, if the TFF requires closure as a landfill, it is anticipated that the WCF post-closure permit will be modified to include the post-closure care requirements for the TFF. However, if it appears that the WCF post-closure permit cannot be modified to include the TFF, a separate plan will be submitted under a negotiated schedule.

WCF, located at INTEC, calcined and evaporated aqueous wastes generated from the reprocessing of spent nuclear fuel. The calciner operated from 1963 through 1981, and the evaporator system operated from 1983 until 1987. WCF was closed under an approved HWMA/RCRA closure plan (INEEL 1997). WCF was closed with waste in place and covered with a low permeability concrete cap meeting the closure performance standards in IDAPA 58.01.05.009 (2002) (40 CFR 265.111 and 265.310(a), 2002). In accordance with IDAPA 58.01.05.012 (2002) (40 CFR 270.1(c), 2002), owners and operators of landfills that certify closure after January 26, 1983, must have post-closure permits unless they demonstrate closure by removal or receive enforceable documents in lieu of post-closure permits. The approved HWMA/RCRA closure plan indicated that the post-closure care requirements of WCF would be met by ongoing and pending FFA/CO actions at INTEC. DEQ approved the closure certification on November 2, 1999. In this approval, DEQ required that DOE submit a monitoring plan addressing the requirements of IDAPA 58.01.05.009 [40 CFR 265.310(b)] (cap maintenance and groundwater monitoring.) However, the plan was not approved, and on February 13, 2001, DEQ requested submittal of a Part B permit application for post-closure at WCF.

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c. Brian R. Monson, DEQ, to Dave Wessman, DOE-ID, February 13, 2001, "Post-Closure Plan and Request for Post Closure Permit Application for the Waste Calcine Facility (WCF) at the INEEL INTEC Facility (EPA ID No. ID4890008952)."

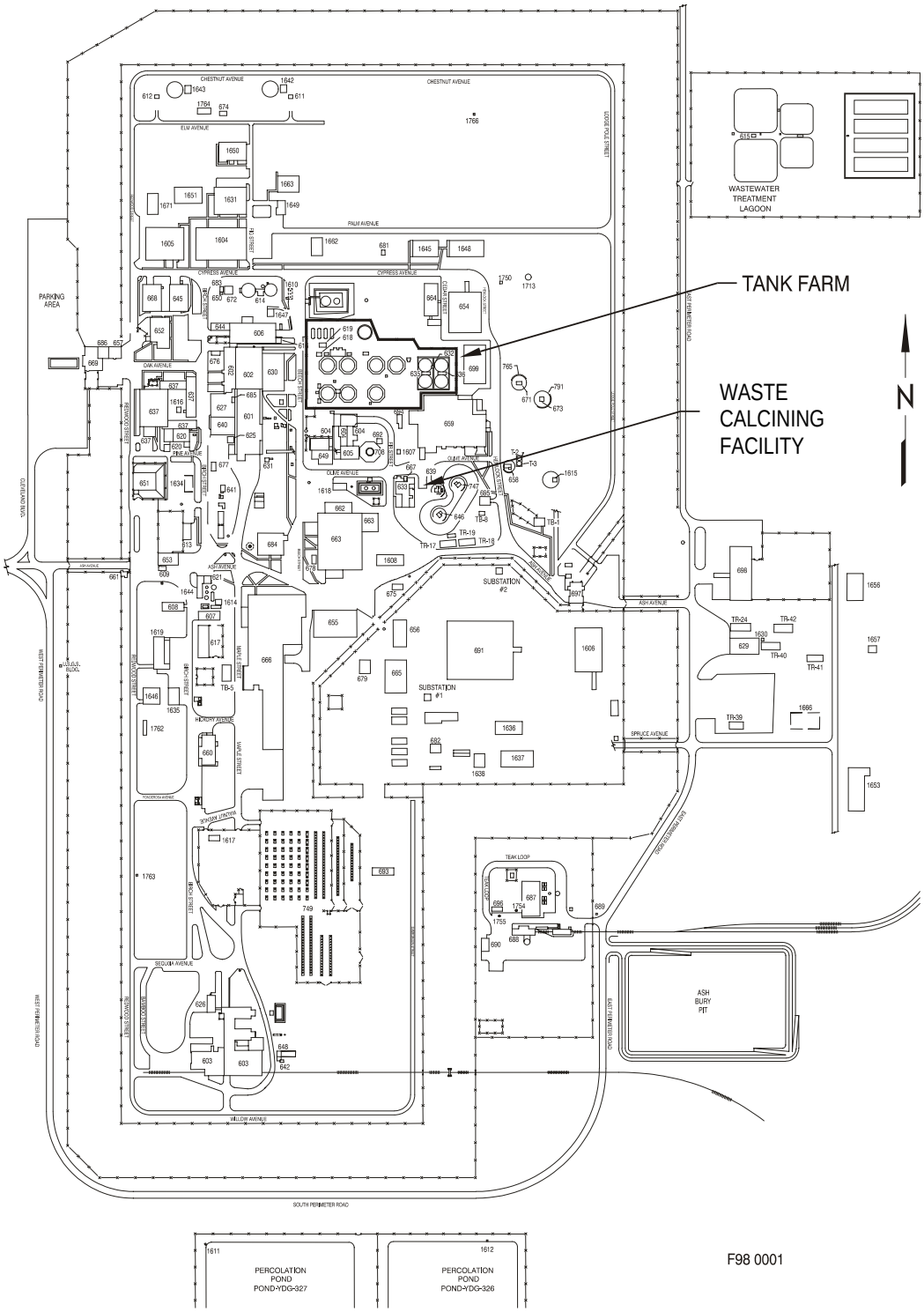

Figure 3. TFF and WCF locations at the Idaho Nuclear Technology and Engineering Center.

The permit application has been prepared in accordance with the requirements of IDAPA 58.01.05.012 (2002) (40 CFR 270.28, 2002), "Part B Information Requirements for Post-Closure Permits" and was submitted to the State on August 14, 2001 (DOE-ID 2001b). The permit application will include the following:

- A general description of the facility [§ 270.14(b)(1)]
- A description of the security procedures and equipment required by § 264.14 [§ 270.14(b)(4)]
- A copy of the general inspection scheduled required by § 264.15(b) [§ 270.14(b)(5)]
- Facility location information [§ 270.14(b)(11)]
- A copy of the closure plan and post-closure plan including the specific requirements of § 264.310 [§ 270.14(b)(13)]
- Documentation that the required notices under § 265.119 have been made [§ 270.14(b)(14)]
- Topographic maps [§ 270.14(b)(19)]
- Summary of the groundwater monitoring data under 40 CFR 265 where applicable [§ 270.14(c)(1)]
- Identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including groundwater flow direction and rate, and the basis for such identification [§ 270.14(c)(2)]
- On the topographic map, a delineation of the waste management area, the property boundary, the proposed "point of compliance," the proposed location of groundwater monitoring wells, and to the extent possible, the information required in § 270.14(c)(2) [§ 270.14(c)(3)]
- A description of any plume of contamination that has entered the groundwater from a regulated unit at the time the application was submitted that (a) delineates the extent of the plume of contamination on the topographic map, and (b) identifies the concentration of each Appendix IX, or Part 264, constituent throughout the plume or identifies the maximum concentration of each Appendix IX constituent in the plume [§ 270.14(c)(4)]
- Detailed plans and an engineering report describing the proposed groundwater monitoring program to meet the general groundwater monitoring requirements of § 264.97 [§ 270.14(c)(5)]
- If the presence of hazardous constituents has not been detected in the groundwater at the time of application, the supporting data and analyses to establish a detection monitoring program in accordance with § 264.98. [§ 270.14(c)(6)]
- If the presence of hazardous constituents has been detected, information for compliance monitoring meeting § 264.99 and except as provided in § 264.98(h)(5), an engineering feasibility plan for corrective action [§ 270.14(c)(7)]
- If hazardous constituents have been detected in groundwater that exceed the limits in § 264.94 Table 1, or if groundwater monitoring conducted during interim status at the waste boundary indicates the presence of hazardous constituents over background concentrations, information,

supporting data, and analyses must be provided to establish a corrective action program or establish alternate concentration limits [§ 270.14(c)(8)]

- Information required for solid waste management units including the location of the unit on the topographic map, the type of unit, general dimensions and structural description, when the unit was operated, specifications on the waste managed, all information pertaining to releases, and results of any investigations conducted [§ 270.14(d)]

- Section 270.14(b)(6) (Waiver of Preparedness and Prevention Requirements), § 270.14(b)(16) (Post-Closure Cost Estimate), and § 270.14(b)(18) (Coverage by a State Financial Mechanism) are not applicable.

7. CLOSURE-GENERATED WASTE HANDLING AND DISPOSAL

In accordance with IDAPA 58.01.05.006 (2002) (40 CFR 262.11, 2002), all solid waste generated during the tank closure process is required to be properly characterized to determine if the waste is a hazardous waste. If so, the waste must be managed as a hazardous waste in accordance with all applicable HWMA/RCRA regulations. This section provides a brief discussion of waste management strategies for all waste to be generated during the closure. A detailed discussion of management of closure-generated waste will be provided in the closure plans. Circumstances may arise during closure implementation that require removal of equipment and treatment for reuse or disposal rather than leaving the equipment in place as planned. Conversely, leaving some equipment in place may be necessary or desirable to limit personnel radiation exposure. Contaminated equipment from tank closure activities will be decontaminated or treated for all hazardous constituents present as indicated by the baseline sampling results and the historical inventory of wastes managed in the tanks. Equipment to be disposed of as solid waste will be disposed of in accordance with applicable local, state, and federal requirements. Equipment to be re-used will be decontaminated.

INTEC storage and treatment systems (e.g., PEW evaporator and the TFF) may be used to store and treat generated wastes. Alternatives for treatment and disposal methods for the liquid sodium-bearing and calcined wastes are addressed in the *Idaho High-Level Waste and Facility Disposition Final Environmental Impact Statement* process (DOE 2002). Current waste inventory will be disposed of in accordance with the findings of this study.

Management of soils excavated during TFF closure activities will be conducted consistent with the approved methods outlined in the INTEC C-40 Valve Box Soil Work Plan (INEEL 2000b). TFF closure actions, which may include soil excavation, are expected to require a typical construction season but may be delayed by unexpected circumstances. The project will require excavation of about 20 yd^3 of soil. Soil excavated during TFF closure activities will be used as backfill for this project only.

8. MAXIMUM EXTENT OF THE OPERATION UNCLOSED

Closure of the TFF tanks and final closure of the TFF represent a partial closure of the INEEL facility. Final closure of the remaining HWMA/RCRA-regulated operational units at the INEEL will be conducted in accordance with applicable interim status or approved HWMA/RCRA Part B closure plans. In accordance with the information required under IDAPA 58.01.05.009 (2002) (40 CFR 265.112(b)(2), 2002), "the maximum extent of the operation which will be unclosed during the active life of the facility" must be identified. Therefore, an estimate of the maximum extent of operations that will remain unclosed (open) at the INEEL after closure of the TFF tanks will be determined. An estimate of the maximum extent of operations that will remain unclosed at the INEEL is available in the *HWMA/RCRA Part A Permit Application for the Idaho National Engineering and Environmental Laboratory* (DOE-ID 2000c) and other approved HWMA/RCRA Part B permits for the INEEL.

9. TIME ALLOWED FOR CLOSURE/EXTENSION

IDAPA 58.01.05.009 (2002) (40 CFR 265.113, 2002) (Closure and Time Allowed for Closure) requires that closure of the TFF must commence within 90 days after receiving the final volume of hazardous wastes or within 90 days after approval of the closure plan, whichever is later. The regulations all DEQ to approve a longer period to commence closure if:

- "The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete;"
- The operator "has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements."

The Second Modification to the Consent Order specifies that DOE must cease use of Tanks WM-182 through WM-186 by June 30, 2003, and must cease use of the remaining tanks by December 31, 2012 (IDHW 1998). Ceasing use of the tanks means that DOE must empty the tanks to their heels (i.e., the liquid level remaining in each tank must be lowered to the greatest extent possible by the use of existing transfer equipment). As described in the Tier 1 Closure Plan (DOE-ID 2003), closure of the TFF will be conducted in phases, with partial closures of groups of tanks leading to final closure of the TFF. Partial closure activities will begin 90 days after an approved closure plan is received. The contingent landfill closure would commence after the tanks had been decontaminated, isolated, and grouted, and the determination made that landfill closure of the TFF was necessary.

The description of planned activities for landfill closure is as follows:

- 0 day — Determination made that landfill closure is necessary
- TBD day(s) — Design final cap
- TBD day(s) — Prepare post-closure plan
- TBD day(s) — Establish institutional controls (Institutional controls are in place at INTEC)
- 60 days — Submit professional engineer (PE) certification.

IDAPA 58.01.05.009 (2002) (40 CFR 265.112(b)(7), 2002) states that an estimate of the expected year of final closure for facilities without approved closure plans should be provided. The HWMA/RCRA facility is the TFF, which must cease use of the remaining tanks by December 31, 2012. The INTEC is a facility that has a future use projection; however by 2035, INTEC will be approaching the end of its useful life if no new mission is identified (DOE-ID 1995). Therefore, it is estimated that the INTEC facilities will be closed no sooner than 2035.

10. CLOSURE PLAN MAINTENANCE AND AMENDMENTS

In accordance with IDAPA 58.01.05.009 (2002) (40 CFR 265.112(a), 2002), a copy of the most current version of the closure plan will be maintained by the facility until closure is certified. The plan will be given to the DEQ Director, upon request, any time before closure certification. This closure plan will be modified, as necessary, in accordance with IDAPA 58.01.05.009 [40 CFR 265.112(c)] and as follows:

- Whenever changes in operating plans or facility design affect the closure plan
- If there is a change in the expected year of closure
- If, in conducting closure activities, unexpected events require a modification
- If a change in state or federal laws or regulations require a change in the closure plan
- If the regulatory authority requests modification of the closure plan in accordance with IDAPA 58.01.05.009 [40 CFR 265.112(c)(4)]
- At the time of closure to address the schedule for closure, changes to regulatory standards for cleanup, biased sampling based on the operating record, specific decontamination methods/technologies to be employed, changes to how and where disposal of equipment and structures will take place, and other changes necessary to accomplish the landfill performance standard.

Written notifications or requests for amendment or modification of this closure plan will be submitted, along with a copy of the amended plan, to the appropriate regulating agency 60 days before a proposed changed in operating plans or design of the waste management unit or facility; or no later than 60 days after an unexpected event occurs that affects the closure plan; or no later than 30 days after an unexpected event occurs during closure (IDAPA 58.01.05.009 and 40 CFR 265.112(c), “Amendment of Plan”).

11. CERTIFICATION OF CLOSURE

Certification of closure will be provided by an independent, Idaho-registered PE and the facility contractor and/or DOE-ID at final closure of the TFF system in accordance with IDAPA 58.01.05.009 (2002) (40 CFR 265.115, 2002). Certification of partial closure is not required (NTIS: SNB-9224-98-002; EPA 530-R-98-0056). The TFF tanks will not be certified closed until all the tanks have been decontaminated. Within 60 days of completion of landfill closure of the TFF, the owner or operator must submit to the DEQ Director, by registered mail, a certification that the portion of the hazardous waste management unit has been closed in accordance with the specifications in the approved closure plan. The certification will be signed by the owner or operator and by the PE. Documentation supporting the PE's certification must and will be furnished to the DEQ Director. The certification of closure as stated in IDAPA 58.01.05.009 (40 CFR 265.115) will be met with these actions. The PE and owner/operator certification will be submitted 60 days after the final closure of the TFF.

12. SURVEY PLAT

A “Notice in Deed” and survey plat will be submitted to the Butte County Courthouse in accordance with IDAPA 58.01.05.009 (2002) (40 CFR 265.119, 2002). The survey plat, prepared and certified by an Idaho professional land surveyor, will indicate the location and dimensions of the TFF, including the tank system components that required closure to the landfill standard. The “Notice in Deed” shall state

- The land has been used to manage hazardous waste
- The land use is restricted under IDAPA 58.01.05.009 (2002) (40 CFR 265.117, 2002)
- The facility contractor’s and/or DOE-ID’s obligatory commitment to restrict disturbance of the closed landfill unit.

Additionally, a record of the type, location, and quantity of hazardous waste disposed of in the TFF, including the tank system components, will be submitted to the appropriate regulatory authorities (e.g., DEQ and Butte County Commissioners [IDAPA 58.01.05.009 and 40 CFR 265.119]).

Closure activities for the TFF tanks under this closure plan will be considered complete upon submittal of the supporting documentation from the independent PE to DEQ.

13. COST, FINANCIAL ASSURANCE, AND LIABILITY REQUIREMENTS

The INEEL is owned and operated by the U.S. Government. Therefore, the facility is, in accordance with IDAPA 58.01.05.009 (2002) (40 CFR 265.140(c), 2002), exempt from the financial requirements of IDAPA 58.01.05.009 (40 CFR Part 265, Subpart H).

14. REFERENCES

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40 CFR 265, Subpart R, 2002, "Underground Injection," *Code of Federal Regulations*, Office of the Federal Register, July 1.

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40 CFR 265.113, 2002, "Closure; Time Allowed for Closure," *Code of Federal Regulations*, Office of the Federal Register, July 1.

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40 CFR 265.115, 2002, "Certification of Closure," *Code of Federal Regulations*, Office of the Federal Register, July 1.

40 CFR 265.116, 2002, "Survey Plat," *Code of Federal Regulations*, Office of the Federal Register, July 1.

40 CFR 265.117, 2002, "Post-Closure Care and Use of Property," *Code of Federal Regulations*, Office of the Federal Register, July 1.

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40 CFR 265.119, 2002, "Post-Closure Notices," *Code of Federal Regulations*, Office of the Federal Register, July 1.

40 CFR 265.120, 2002, "Certification of Completion of Post-Closure Care," *Code of Federal Regulations*, Office of the Federal Register, July 1.

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