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EXHIBITS

TABLES

I. CLOSURE AND POST-CLOSURE REQUIREMENTS [Idaho Administrative Procedures Act (IDAPA) 58.01.05.008; 40 Code of Federal Regulations (CFR) 264.112(a)]

This closure plan contains information regarding closure and post-closure requirements for the Primary Sodium System (PSS) and the Secondary Sodium System (SSS) Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA)-regulated tank storage and treatment units and two container storage areas (reactor building storage holes and storage pit). The PSS is comprised of the primary sodium tank and ancillary equipment. The SSS is comprised of the secondary sodium drain tank (SSDT) and its ancillary equipment and the Intermediate Heat Exchanger (IHX) tank. Exemptions from the post-closure and financial requirements are noted in the applicable subsections.

I-1 Introduction

This closure plan describes the methods for achieving clean closure of the PSS and SSS units, and container storage areas. The primary method for closing the unpassivated side of the SSS (SSDT and ancillary equipment) is the steam treatment described in Section D.1.3 and Appendix D-1. The methods for treating the PSS and the remainder of the SSS (passivated) are described in Section D and this closure plan and involve treatment with an aqueous solution under an inert cover gas. The treatment solution will be added to the sodium, sodium bicarbonate and sodium oxides, and will simultaneously react sodium, dissolve and neutralize caustic byproduct and dissolve and react sodium bicarbonate and oxides in situ. The solution will be recirculated to ensure complete reactions with the sodium and sodium bicarbonate. Several parameters will be monitored to ensure safe and complete treatment.

The clean closure performance standards will be achieved by visual inspection and/or hydrogen monitoring to determine if the sodium treatment is complete, and samples of the treatment/decontamination solution will be collected from each system to determine if the concentrations of metals are below the EQLs. The container storage areas will be closed by removing the hazardous waste and conducting visual inspections. If visual inspections determine closure of the container storage areas is not complete they will be decontaminated and the final decontamination solution will be sampled to determine if the concentrations of

metals are below the EQLs. During closure, piping and components may be removed in lieu of treatment/decontamination and appropriately managed.

I-1(a) Two-Phased Process for the EBR-II Primary and Secondary Sodium Systems

A two-phased process described in this permit application provides the methodology for reaching final closure of the PSS and SSS. The first phase is the active tasks for the storage and treatment units. These active tasks are the storage, removal and treatment of sodium residuals remaining in the PSS and the SSS. Closure activities completed as part of phase one process are described in section D (Process Description) of this permit. The second phase, described in Section D and this closure plan, includes the activities for final closure of the SSS, the PSS, and the two container storage areas. The second phase provides the following:

(1) Activities that provide verification of the removal and treatment activities described in section D of this permit for the PSS and the SSS, and the container storage areas.

(2) The treatment/decontamination of sodium bicarbonate and oxides residuals and the sampling of the final treatment/decontamination solutions from the PSS and the SSS (passivated and unpassivated components) and the container storage units.

I-2 Closure Plan [IDAPA 58.01.05.008; 40 CFR 264.112(a)]

The following subsections present the closure plan for PSS and the SSS units and the container storage areas. This closure plan includes the closure performance standards, maximum waste inventory and closure activities. An extension to the 180-day closure schedule will be requested for the Phase I and Phase II activities, with final HWMA/RCRA closure estimated to be completed by end of calendar year 2013. A detailed schedule and request for extension is provided in Subsection 1-2(f).

I-2(a) Closure Performance Standards [IDAPA 58.01.05.008; 40 CFR 264.111 (a-c) and 264.112(b)(1) and (b)(2)]

This closure plan is designed for clean closure of PSS and SSS units and the container storage units in a manner that achieves the closure performance standards defined below:

- The need for further maintenance and controls after final closure of the container and tank storage units is minimized
- Post-closure release of mixed waste (MW), hazardous constituents, or waste decomposition products to the ground, surface waters, or atmosphere from the container and tank storage units is controlled, minimized, and/or eliminated, to the extent necessary to protect human health and the environment
- Closure of container storage units and the PSS and SSS units complies with federal and state regulatory closure requirements for containers per IDAPA 58.01.05.008 (40 CFR 264.178) and for tanks per IDAPA 58.01.05.008 (40 CFR 264.197).

A qualified professional engineer and the owner and operator will certify that the closure process described in Section D and this closure plan has been performed in accordance with established closure specifications. If during closure, there are modifications to the closure methods, the DEQ will be notified and the changes will be addressed in the closure certification. Modifications to the permitted units necessary to support the closure and treatment activities will be documented in the closure certification.

The container storage, PSS and SSS units will be closed using a multi-step evaluation and review process to ensure successful certification of the clean closure performance standards as summarized in Exhibit I-1. This multi-step process, as detailed in Exhibit I-1, will include verification that the removal and treatment activities have been completed under closure (as described in Section D of the permit application). Upon successful completion of the closure activities shown in Exhibit I-1, closure will be certified or a revised closure plan will be developed.

Those actions identified in Exhibit I-1 and in Section D and this closure plan for clean closure of the two container storage areas and the PSS and SSS units will eliminate/minimize any present or potential threat to human health or the environment as a result of exposure to HW, MW, or hazardous constituents by removing the exposure (hazardous constituents) source from equipment or structures that remain in the storage areas.

The container storage units and the PSS and SSS tank storage units were designed and are operated in a manner that minimizes the potential for contamination of facility structures and surrounding property. Waste management storage operations are limited to specific areas and treatment operations to specific system components that have been identified for in situ treatment.

The facility and the waste management unit designs, coupled with frequent inspections and facility maintenance, provide for safe operations that will minimize the need for cleanup and decontamination of surrounding areas during the closure process.

Any spills, leaks, or other discharges that occurred during storage and treatment activities have been or will be handled immediately during the operational life of the facility. No additional hazardous constituents other than sodium, sodium potassium alloy, and metals identified in Table I-1(a), have been identified through a preliminary review of operating records, spill records and interviews with senior operating personnel for the EBR-II primary and secondary sodium systems (Attachment I-1 of the permit application).

Project personnel will ensure these activities will be conducted in a manner that removes all waste and appropriately decontaminates all structures and equipment and surrounding areas.

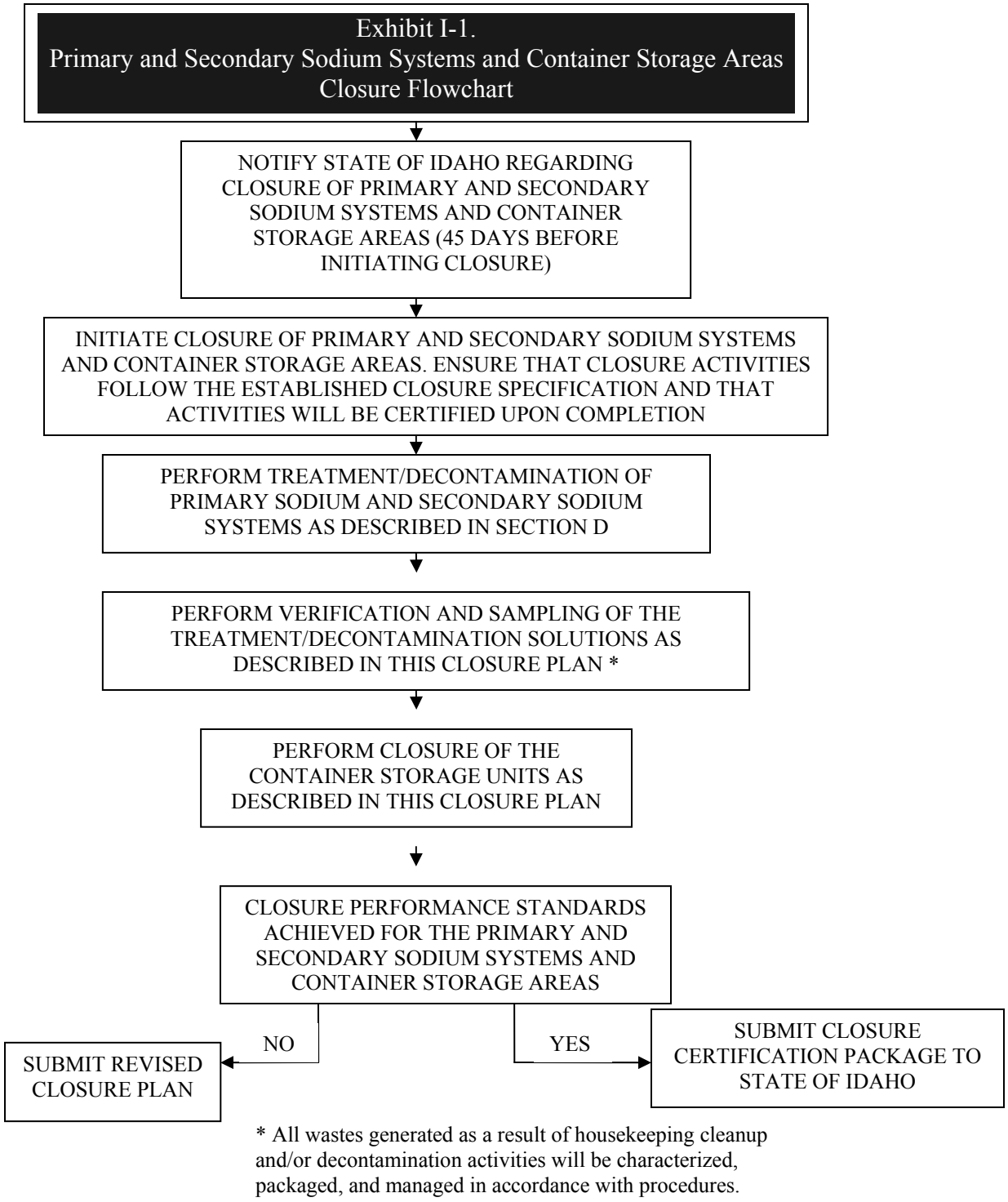

Exhibit I-1. PSS, SSS and Container Storage Areas Closure Flowchart.

I-2(a)(1) Treatment and Closure Verification Activities

Verification activities such as visual inspection will occur during closure of the container storage units and the PSS and SSS units. For instance, decontamination activities for the container storage areas may be required if determined necessary due to results of the visual inspection. Decontamination/treatment and verification activities involve meeting the Closure Performance Standard presented in Table I-1(b). Upon meeting the requirements in Table I-1(b), the components and storage areas will have met the closure performance standards and will be certified clean closed.

Table I-1(a). Hazardous Constituents

Analytes	Primary Sodium Analytical Data (totals, ug/g)	Secondary Sodium Analytical Data (totals, ug/g)
Arsenic	<1.2	<1.2
Antimony	<0.25	<0.25
Barium	<4.0	<4.0
Beryllium	<0.1	<0.1
Cadmium	2.6	<0.4
Chromium (total)	<0.02	<0.02
Lead	11*	0.6*
Mercury	<0.3	<0.3
Nickel	<0.06	<0.04
Selenium	<1.3	<1.3
Silver	0.07*	<0.03
Thallium	<1.0	<1.0

*: Denotes actual concentration measured. Ref: Letter S. A. Barker to J. R. Krsul, "Chemical Analysis of Feedstock Sodium Destined for the Sodium Process Facility," 09/26/97

I-2(a)(2) Hazardous Constituents of Concern

Identification of the hazardous constituents of primary concern is required for this Closure Plan.

Analytical data and process knowledge were used to determine the hazardous constituents in the Na/NaK from the EBR-II primary and secondary Na and NaK systems. Information regarding this analytical data and process knowledge is provided in Attachment I-2 (of the permit application). Additionally, no additional hazardous constituents have been identified other than sodium, sodium potassium alloy and those metals identified in Table I-1(a).

The probability that listed organic compounds would exist in Na/NaK exposed to operating reactor environments is extremely small. This statement is based upon the fact that the primary role of alkali metal in alkali metal-hydrocarbon reactions is that of a strong reducing agent. Furthermore, chemical analyses show the carbon content in the metal is very low (Attachment I-2 of the permit application).

Determination of the hazardous constituents of primary concern (COPC) for analyses and comparison to action levels was based on those constituents that were detected in the primary and secondary sodium above the EQL and constituents identified in the preliminary review (Attachment I-1 of the permit application).

The COPC from the analyses of primary and secondary sodium are silver, cadmium, and lead [see Table I-1(a)]. Through a preliminary review of operating records, spill records and interviews with senior operating personnel for the EBR-II primary and secondary sodium systems (Attachment I-1 of the permit application), silver and mercury were identified as COPC.

Table I-1(b) provides the constituents to be analyzed in rinsates from final treatment/decontamination of the primary and secondary sodium systems and IHX and final decontamination rinsates of the container storage areas, if applicable. Chromium was added to the list of constituents in Table 1-1(b) because it was detected in concentrations above TCLP in samples of liquids resulting from the 2010 steam treatment of the SSDT.

Table I-1(b). Clean Closure Standards.

Samples	Action Levels		Analytical Method
pH - final rinsate for PSS and SSS.	greater than 2 or less than 12.5		pH meter
Visual or Hydrogen generation[2] (SSS and PSS)	No white carbonate deposit visible[1]		naked eye and/or video inspection
	During treatment/decontamination the concentration of hydrogen steadily decreases below 4.0%, and remains below 4.0%, for 6 hours.		Hydrogen monitor
Visual: Staining (storage pit)	Less than 5% per square inch		naked eye and/or video inspection
Visual: Sodium bicarbonate and oxides (storage pit and holes)	Sodium bicarbonate and oxides less than 1 inch in depth[3]		Naked eye and/or video inspection
Final rinsate for PSS and SSS and final decontamination rinsate for container storage areas	Cadmium	<EQL[4] = 0.02 mg/L	SW-846: Method 7000 (current revision) (Furnace)
	Lead	<EQL = 0.25 mg/L	SW-846: Method 6010/7000 (current revision) (ICP/Flame)
	Mercury'	<EQL = 0.007 mg/L	SW-846: Method 7000 (current revision) (Cold Vapor)
	Silver	<EQL = 0.04 mg/L	SW-846: Method 6010/7000 (current revision) (ICP/Flame)
	Chromium	<EQL = 0.05 mg/L	SW-846: Method 6010/7000 (current revisions) (ICP/Flame)
Appropriately manage lines and components that will be removed in lieu of treatment			Hazardous Waste Determination

NOTE – Visual and/or hydrogen generation may be used during treatment of the SSS and PSS units to determine when sodium treatment is complete

(1) Visual – White carbonate deposits detectable by the naked eye and/or video inspection may be used where applicable to verify no sodium or NaK remains in the units or the sodium treatment is complete.

(2) Hydrogen generation – During decontamination/treatment the concentration of hydrogen will be monitored and may be used to verify no sodium or NaK remains in the units. While using an inert purge gas to ensure flow, the concentration of hydrogen will be measured over time for each subsystem or component. Treatment will be deemed complete when the hydrogen concentration steadily decreases to a concentration less than 4.0%, and remains below 4.0%, for 6 hours.

(3) Studies show there would be no unreacted sodium beneath a layer of less than 1 inch of sodium bicarbonate or oxides.

(4) Estimated Quantitaton Limit (EQL) – The EQL is the lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. It is considered the lowest concentration that can be accurately measured, as opposed to just detected. The EQL is generally 3 to 10 times above the Minimum Detection Limit (MDL).

I-2(a)(3) Hazardous Materials—Sampling

Rinsate Sampling

During closure, after the hydrogen generation has determined the treatment process is complete, addition of treatment solution will cease, and samples of the PSS and SSS treatment/decontamination solution will be taken in accordance with SW-846 sampling requirements and with the sampling and analysis plan that will be provided to the DEQ. At least three grab samples of treatment solution will be collected from the PSS, the passivated SSS components, and unpassivated SSS (i.e. SSDT). The systems will be recirculated prior to sampling to ensure the solution is thoroughly mixed and representative samples of the solution are collected. The closure sampling procedure will address the data quality objectives, number of samples, and sampling methods. The samples will be analyzed for the parameters specified in Table I-1(b). The IHX will not be sampled separately as it will be decontaminated/treated along with the inside of the primary sodium tank. Clean closure will be complete when the true mean concentration (as estimated by the 95% upper confidence limit) of each COC is less than the EQL.

If the container storage units require decontamination, an appropriate rinsate solution will be used. The rinsate will be applied by an appropriate method (i.e., rags, mop, rinsing, or flushing). After the area has been decontaminated, samples of the final rinsate solution will be collected according to the sampling plan and analyzed for the COPC (see Table I-1(b)). Decontamination of the area will be complete if the true mean concentration of each COC is less than the EQL.

I-2(b) Tasks for Closure of the PSS and SSS Tank Storage Units

Complete sodium decontamination/treatment activities for the three storage tanks, as well as ancillary equipment (such as piping, valves, and pumps), will be accomplished by performance of the following steps identified in Subsection I-2(b)(1). The deactivation activities described below are based on current technology.

The tasks for closure of the PSS and SSS units are discussed below. The discussion for the HWMA/ RCRA closure is based on current knowledge of tasks necessary for clean closing these units.

I-2(c) Maximum Waste Inventory [IDAPA 58.01.05.008; 40 CFR 264.112(b)(3)]

I-2(c)(1) Primary and Secondary Sodium System Inventory (Na and NaK)

The maximum inventory of Na waste in storage in the PSS tank storage unit was approximately 87,000 gal of Na. Upon completion of the transfer of the bulk Na from the primary tank to the SPF, the estimated maximum residual sodium that is remaining is less than 500 gals (see Table I-2). The residual sodium remaining in the primary sodium tank ancillary equipment was calculated and is estimated to be at less than 350 gals (see Table I-2).

The maximum inventory of waste in storage in the SSS storage unit was approximately 13,000 gal of Na. Since the transfer of the bulk Na to the SPF, the estimated maximum residual Na remaining in the SSS is less than 780 gals. The volume estimated, in gallons, was based on actual measurement of the sodium remaining in the SSDT after transfer of the bulk sodium to SPF. The residual sodium remaining in the ancillary equipment was calculated and is based on what remains in dead legs and low-flow areas. The IHX is estimated to contain less than 150 gal of sodium. The containers storage areas are estimated to contain less than 50 gals of sodium. Total estimated residual sodium is shown in Table I-2.

Table I-2. Estimated Quantities of Sodium Remaining in EBR-II.

Item	System	Estimated Quantity of Sodium (Gallons)
1	Primary Sodium Tank	Less than 500
2	Primary Sodium Tank Ancillary Equipment	Less than 350
3	Secondary System (includes auxiliary systems)	Less than 780
4	Intermediate Heat Exchanger	Less than 150
5	Container Storage Areas	Less than 50
	TOTAL SODIUM RESIDUALS	Less than 1830

The maximum inventory of NaK waste in storage in the PSS and SSS tank storage units was approximately 454 gals of NaK. Approximately 284 gals of NaK from the emergency shutdown coolers was transferred to the primary sodium in December 1999. In April 2001, approximately 120 gals of NaK from the primary purification system was drained into containers and place in permitted storage at

MFC. The estimated maximum residual NaK that will be stored at the EBR-II Complex is less than 50 gals (see Table I-3).

Closure-generated waste will be stored in the facility being closed. For purposes of this closure the facility being closed is the area surrounding the EBR-II complex. All generator requirements of IDAPA 58.01.05.006 (40 CFR 262) will be met except that the 90-day administrative timeframe stipulated in IDAPA 58.01.05.006 [40 CFR 262.34(a)(1), "Generator Standards: Accumulation Time"] will not apply to closure-generated waste. An additional 180 days (270 days total) is being requested primarily to allow for consolidation and storage of piping and components until treatment in the SSDT or PST. Information regarding waste management during closure activities will be provided to the PE for closure certification. Piping and components removed in lieu of being treated will be managed appropriately based on a hazardous waste determination. Any hazardous waste that is not treated or stored at MFC will be sent to a treatment or storage unit that is approved for the acceptance of this type of waste.

Table I-3. Estimated Quantities of NaK in EBR-II

Item	System	Estimated Quantity of NaK (Gallons)
1	Pressure transmitters (primary and secondary systems)	Less than 0.3
2	Shutdown coolers bayonets (Includes captive gallons)	Less than 50
	TOTAL NaK	Less than 50

I-2(d) Disposal or Decontamination of Equipment, Structures, and Soils [IDAPA 58.01.05.008; 40 CFR 264.112(b)(4) and 264.114]

Any hazardous debris generated during decontamination and closure activities as described in the following subsections will be characterized, stored, treated, managed, and disposed of in accordance with all applicable regulations.

I-2(d)(1) Closure of Containers [IDAPA 58.01.05.008; 40 CFR 264.178]

Closure of the reactor building container storage holes, and storage pit areas will be accomplished by performing the steps described in this subsection.

Storage Holes (Pentagon Area)

The storage holes contain equipment such as test drives and control drives, most of which are suspended from the top of the holes as described in Section D. Recent remote video inspection of the holes indicate lead shot was added to provide shielding at the base of the storage holes. Radiation dose rates in the holes range from 2R/Hr to over 350 R/Hr. The equipment in the container storage holes had been partially immersed in liquid sodium at least one or more times then placed in the storage holes where the equipment was exposed to air. The video inspection showed a thin film of reacted or oxidized sodium on the equipment and in some cases on the walls of the holes. These surfaces were determined to be completely reacted due to the thin layer of sodium being exposed to air for many years. Portions of the equipment such as the bottoms of the drives may have a hold up of sodium bicarbonate or oxides greater than 1 inch which may not have completely reacted with exposure to air.

Closure of the reactor building container storage holes will occur by performing the following actions:

The equipment in the storage holes will be removed, sized appropriately, and placed in the primary sodium tank for treatment. The lead shot will be removed from the container storage holes and containerized for disposal. The holes will be visually inspected to confirm the equipment, lead shot, and any other hazardous waste has been removed and there is no residual sodium bicarbonate or oxides greater than 1 inch in depth. The container storage units will be closed upon successful completion of visual inspection.

If removal of the all equipment and hazardous waste from any of the storage holes is not possible or if the visual inspection determines there is residual sodium bicarbonate or oxides greater than 1 inch in depth remaining in any of the storage holes after the equipment and lead have been removed, the container storage holes will be closed by performing the following:

Using an appropriate decontamination solution, wipe down or rinse/flush the hole and analyze the final rinse solution for hazardous constituents of concern according to the closure sampling procedure. If hazardous constituents are not detected above the EQL (Table I-1b) as described in I-2(a)(3), then closure is complete. If concentrations of hazardous constituents are detected above the EQL, the decontamination solution will be removed, and if hazardous, will be managed at a permitted treatment, storage and disposal facility. Further decontamination using appropriate methods and new rinse solution will be performed. A hazardous

waste determination will be performed on the final decontamination solution generated from the decontamination of the storage holes and the solution will be managed appropriately.

Storage Pit

Most of the contents of the storage pit have been removed and disposed or are in storage within the facility being closed pending treatment in the primary sodium drain tank. Closure of the storage pit will involve removing components or equipment from the pit for disposal or treatment in the primary tank. The storage pit will then be visually inspected. If stains are evident greater than 5% per square inch as shown in Table I-1(b), then, using an appropriate decontamination solution, wipe down or rinse/flush the area, and sample and analyze the final rinse solution for hazardous constituents of concern. If hazardous constituents are not detected above the EQL (Table I-1b), the closure performance standards have been met. If hazardous constituents are detected above the EQL, the decontamination solution will be removed, and if hazardous, will be managed at a permitted treatment, storage and disposal facility. Further decontamination using appropriate methods and new rinse solution will be performed. When hazardous constituents are not detected above the EQL(Table I-1b) as described in I-2(a)(3), closure is complete. A hazardous waste determination will be performed on the solutions generated from the decontamination of the storage pit and the solution will be managed appropriately.

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

I-2(d)(2)(a) Primary Sodium Tank/Intermediate Heat Exchanger/Secondary Sodium Drain Tank

The Primary Sodium Tank, IHX, and SSDT each require closure. Following the treatment/decontamination of these tanks systems (as described in Section D and this closure plan) the final treatment solution will be sampled to determine if the concentrations of COCs are below the EQLs and the closure performance standards have been met. If the concentrations of metals in the final treatment solution exceed the EQLs, the liquid will be removed and, if hazardous, disposed at an appropriate facility. Further decontamination/treatment with new solution will be performed and the solution will be sampled and analyzed to determine if the concentrations of COCs are below the EQLs as described in I-2(a)(3). The

final condition of these storage and treatment tanks will be that there are no removable HWMA/RCRA hazardous constituents to serve as a source term for human exposure from the equipment.

I-2(d)(2)(b) Primary Sodium Tank

[1] Verify that the primary sodium tank and ancillary equipment containing Na/NaK has been, as described in section D of this permit application, treated in place or removed to the primary sodium tank for treatment or to a permitted storage unit for further treatment at another TSD.

[2] Place piping sections and components from the PSS and SSS into the Primary Sodium Tank as described in D.2.4(a)

[3] Breach the IHX to allow draining/melting of sodium into the primary tank (see Section D.2.5) and to allow access for the treatment solution into the IHX. Items number 2 and 3 may be performed out of sequence.

[4] Rotary spray balls and nozzles for treatment solution will be used to treat the interior of the Primary Sodium Tank and equipment and components inside the tank as described in D-2.1(b). Hydrogen generation and/or visual inspection will be used to determine when the sodium treatment is complete [Table I-1(b)]. When sodium treatment is complete, the addition of treatment solution to the tank will cease.

[5] At least three samples of the decontamination/treatment solution will be collected according to the closure sampling procedure. If the resultant metal concentrations are below the EQLs (Table I-1(b)) as described in I-2(a)(3) then the clean closure performance standards have been met no further decontamination is required.

[6] If the concentrations of metals in the final treatment solution exceed the EQLs, the solution will be removed, a hazardous waste determination will be performed, and if the treatment solution is determined to be a hazardous waste, the newly generated waste will be removed and transported to an appropriate treatment, storage, and disposal facility. Further decontamination/treatment with new solution will be performed and the rinsate will be sampled and analyzed to determine if the concentrations of COCs are below the EQLs as described in I-2(a)(3).

[7] The solution remaining when the clean closure performance standards have been met will be nonhazardous and may be used in the grout formulation for the end state of the primary sodium tank or removed and managed in accordance with regulatory requirements.

I-2(d)(2)(c) Secondary Sodium System

[1] Verify that the SSDT and ancillary equipment containing Na/NaK has been, as described in section D of this permit application, treated in place or removed to the SSDT or PST, or moved to a permitted storage unit for further treatment at another TSD.

[2] Treat/decontaminate the passivated SSS and unpassivated SSS (i.e., SSDT and ancillary equipment), using any of the methods described in Section D.2.4(a). Hydrogen generation and/or visual examination will be used to determine when sodium treatment is complete (Table I-1(b)). When treatment is complete, the addition of treatment solution to the system will cease.

[3] At least three samples of the decontamination/treatment solution will be collected from the both the passivated and unpassivated sections of the SSS according to the closure sampling procedure. If the resultant metal concentrations are below the EQLs (Table I-1(b)) as described in I-2(a)(3) then no further decontamination/treatment will be required and the HWMA/RCRA clean closure performance standards will be met.

[4] If the concentrations of metals in the final treatment solution exceeds the EQLs, the solution will be removed, a hazardous waste determination will be performed, and if the treatment solution is determined to be a hazardous waste, the newly generated waste will be removed and transported to an appropriate treatment, storage, and disposal facility. further decontamination with new treatment solution will be performed and rinsate samples will be collected.

[5] The solution remaining when the clean closure standards have been met will be nonhazardous and may be used in the grout formulation for the end state of the Primary Sodium Tank or building or removed and managed in accordance with regulatory requirements.

I-2(d)(2)(d) Intermediate Heat Exchanger

The IHX will be breached to allow remaining sodium and passivated residuals to drain into the primary sodium tank and be treated in conjunction with the treatment of other components within the Primary Sodium Tank. Sampling to meet EQLs will be accomplished by sampling the final decontamination/treatment solution for the primary sodium tank.

I-2(e) I-2(e) Ancillary Closure Activities [IDAPA 58.01.05.008; 40 CFR 264.112(b)(5)]

No additional activities for clean closure have been identified.

I-2(f) Schedule for Closure [IDAPA 58.01.05.008; 40 CFR 264.112(b)(6)]

The anticipated final closure date for the container storage areas, the PSS, the IHX and the SSS tank storage units is expected to be in CY 2013.

The director, Idaho Department of Environmental Quality (DEQ), will be notified in writing at least 45 days prior to the expected date that closure operations will begin. Notification of initiation of closure activities was submitted to the DEQ on January 28, 2010.

Prior to the 45-day notice of closure activities, between the approval of this closure plan and the final closure date (CY 2013), a yearly activity report on the storage, removal and treatment activities that lead up to final closure of the PSS and SSS closures will be submitted to DEQ. This activity report will provide planned removal and treatment activities for the upcoming fiscal year (FY) that are funded by the Department of Energy (DOE) and a report on activities completed in the previous FY. The activities report will be provided to the DEQ with the February Permit Condition I.U. Report. In addition, quarterly progress reports for closure activities will be completed and transmitted to the DEQ by April 30th, July 31st, October 31st, and January 31st following the start of closure.

The closure process for reactor building container storage units and the PSS and SSS tank storage units is expected to take more than 180 days to complete. The extended closure schedule is shown in Table I-4.

Table I-4. Closure Schedule.

Activity	Completion	
	Day	Date
Approval of PMR	Day 0	March 15, 2010
Complete treatment of the SSDT	Day 120	July 13, 2010
Complete sodium treatment of the primary sodium system (piping, primary sodium tank, intermediate heat exchanger) and miscellaneous piping and components in the primary tank	Day 753	April 16, 2012
Complete video inspections and waste management activities for the storage pit and holes	Day 824	June 16, 2012
Complete final water rinse and sampling and removal of components and lines to be disposed in lieu of treatment	Day 871	August 2, 2012
Closure complete	Day 960	October 30, 2012
Qualified PE and owner/operator certification submitted to DEQ.[1] (60 days after completion of closure)	Day 1020	December 29, 2012

[1] Should clean closure of any of the permitted units be completed early, a separate closure certification may be submitted to the DEQ.

I-2(g) Amendment of Closure Plan [IDAPA 58.01.05.008; 40 CFR 264.112(c)]

Upon determining that an amendment to this closure plan is necessary, a written request and a copy of the amended closure plan will be submitted to the IDEQ requesting applicable changes, prior to 45-day notice for partial or final closure. For those instances requiring amendment to the closure plan after partial of final notice of closure, the amended closure plan will be submitted to IDEQ in accordance with the times identified in IDAPA 58.01.05.008 and 40 CFR 264.112(c).

I-2(h) Extensions for Closure Time [IDAPA 58.01.05.008; 40 CFR 264.113(a) and (b)]

An extension to the 180-day closure period is being requested, to protect human health and the environment and to adequately perform closure activities. Treatment and closure activities cannot be completed within the 180-day time

frame due to the following: 1) the hazards associated with treating sodium and NaK; 2) the complexity of the units being closed such that different treatment systems will be used for the PSS and SSS units; 3) the treating and storing of equipment and components containing radioactively contaminated sodium; and 4) to ensure that data of adequate quality are collected to show compliance with the closure performance standards. (See Table I-4)

I-2(i) Certification of Closure [IDAPA 58.01.05.008; 40 CFR 264.115]

The closure process will be monitored by a qualified Professional Engineer and project management. At the conclusion of the closure process, the owner and operator and the qualified Professional Engineer will certify that closure has been successfully completed in accordance with this closure plan. These certifications will be submitted for approval within 60 days of completion of final closure to:

Director, Idaho Department of Environmental Quality
1410 North Hilton, 3rd Floor
Boise, ID 83706-1255

A closure certification package will be written documenting compliance with the closure plan and include final disposition of waste generated as a result of closure.

The closure certification package will also be retained as part of PSS, IHX and SSS operating records.

I-3 Post-Closure Plan [IDAPA 58.01.05.008; 40 CFR 264.110(b)(1)]

Because PSS, IHX, and SSS are to be clean closed and are not disposal facilities, the post-closure requirements of IDAPA 58.01.05.008 and 40 CFR 264.116 through 264.120 do not apply.

I-4 Post-Closure Notices [IDAPA 58.01.05.008; 40 CFR 264.119]

This requirement does not apply because post-closure plans are not required.

I-5 Closure Cost Estimate [IDAPA 58.01.05.008; 40 CFR 264.142]

Under IDAPA 58.01.05.008 and 40 CFR 264.14(c), the federal government, as owner , is exempt from requirements to provide cost estimates for closure.

I-6 Financial Assurance Mechanism for Closure [IDAPA 58.01.05.008; 40 CFR 264.143]

Under IDAPA 58.01.05.008 and 40 CFR 264.40(c), the federal government, as owner, is exempt from requirements to provide a financial assurance mechanism for closure.

I-7 Post-Closure Cost Estimate [IDAPA 58.01.05.008; 40 CFR 264.144]

This requirement does not apply because post-closure plans are not required.

I-8 Financial Assurance Mechanism for Post-Closure Care [IDAPA 58.01.05.008; 40 CFR 264.145]

This requirement does not apply because post-closure plans are not required.

I-9 Liability Requirements [IDAPA 58.01.05.008; 40 CFR 264.147].

Under IDAPA 58.01.05.008 and 40 CFR 264.140(c), the federal government, as owner, is exempt from liability requirements.

I-10 Use of State Required Mechanism and State Assumption of Responsibility [IDAPA 58.01.05.008; 40 CFR 264.1491

Under IDAPA 58.01.05.008 and 40 CFR 264.140(c), the Federal government, as owner, is exempt from these requirements.