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## Department of Energy

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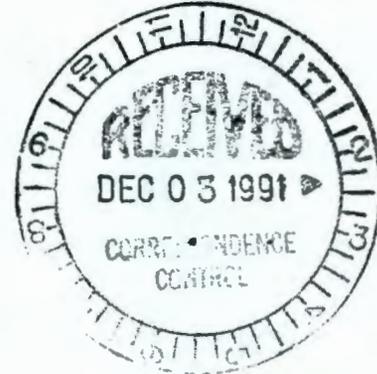
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

NOV 19 1991

91-RPB-023

Mr. Randall F. Smith, Acting Director  
Hazardous Waste Division  
U.S. Environmental Protection Agency  
1200 Sixth Avenue  
Seattle, Washington 98101

Mr. Timothy L. Nord  
Hanford Project Manager  
State of Washington  
Department of Ecology  
Mail Stop PV-11  
Olympia, Washington 98504-8711



Dear Messrs. Smith and Nord:

### 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN NOTICE OF DEFICIENCY RESPONSE TABLE

The 105-DR Large Sodium Fire Facility Notice of Deficiency (NOD) Response Table is submitted by DOE Field Office, Richland (RL) and Westinghouse Hanford Company (WHC) for approval by the State of Washington Department of Ecology (Ecology). Submittal of the closure plan fulfills the November 22, 1991, commitment date.

The NOD response comments address some proposed changes to the closure strategy presented in the original closure plan. These include deferring cleanup of a portion of the facility to the reactor decommissioning phase of remediation, and dispensing with much of the characterization sampling in favor of initial cleaning of the facility.

Copies of the documents will be distributed to representatives of your respective organizations as follows:

- Mr. D. L. Duncan, U.S. Environmental Protection Agency (2 copies)
- Mr. S. E. McKinney, Ecology (4 copies)
- Mr. D. C. Nylander, Ecology (1 copy).



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Messrs. Smith and Nord  
91-RPB-023

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If you have any questions regarding the documents mentioned above, please contact Ms. A. L. Rodriguez of RL on (509) 376-6340 or Ms. S. M. Price of WHC on (509) 376-1653.

Sincerely,



R. D. Izatt, Program Manager  
Office of Environmental Assurance,  
Permits and Policy  
DOE Field Office, Richland

EAP:ALR



R. E. Lerch, Manager  
Environmental Division  
Westinghouse Hanford Company

Enclosure:  
105-DR Large Sodium Fire  
Facility Notice of Deficiency  
Response Table

cc: D. L. Duncan, EPA  
  
S. E. McKinney, Ecology  
D. C. Nylander, Ecology

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THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 1 of 29

No.	Comment/Response	Ecology Concurrence
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1. Comment - The 105-DR Large Sodium Fire Facility Closure Plan should follow the recommendations made in the letter from T. Nord of Ecology, to R. D. Izatt, USDOE, and R. E. Lerch, WHC, dated May 2, 1990. In this letter Ecology provides guidance on standardized outlines for Closure/Postclosure plans. In particular item #3 should be addressed. Also, in accordance with the Tri-Party Agreement, page 5-3 of the Action Plan, treatment, storage, and/or disposal units undergoing closure will do so in accordance with final facility standards as outlined in WAC 173-303-610. In order to fulfill this requirement a variety of items must be included in the closure plan. Refer to the cover letter for examples.

This plan also mentions that parts of the Large Sodium Fire Facility may be left for the Reactor Decommissioning and Decontamination activities. However the Records of Decision has not been made for this action, and it is not clear whether the Large Sodium Fire Facility was included in the Environmental Impact Statements for these activities. It must be specifically stated how the Fire Facility is addressed in to the EIS, and what the Record of Decision is for the reactor decommissioning activities.

DOE-RL/WHC Response: Additional detail will be provided where needed. Closure standards developed by the Nuclear and Mixed Waste Management Program will be addressed when this policy is released. The responses to the suggestions in Ecology's letter of May 2, 1990, are as follows.

1. Line numbering was used in this Revision 0 and will continue to be used.
2. The Part A permit application will be moved from the introduction to a separate section.
3. A brief description of each chapter and appendix will be included in the introduction, similar to Part B permit applications.
4. A bar graph was included in Revision 0 and will continue to be used in the closure plan.
5. This information will be included in a postclosure plan if one is required for this facility; however, this information is not required for a closure plan.
6. Official notifications are provided in separate sections in Revision 0. Certification of Closure is a closure activity (Chapter 7.0) and is in Section 7.8. The Notice In Deed is part of the Postclosure (Chapter 8.0) and is in Section 8.1.

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 2 of 28

No.	Comment/Response	Ecology Concurrence
	<p>The Draft Environmental Impact Statement addressing the decommissioning of eight surplus reactors (DOE/EIS-0119D) does not specifically mention the Large Sodium Fire Facility (LSFF). However, all decommissioning activities will have to deal with dangerous wastes, and the portion of the 105-DR reactor shared with the LSFF is no exception.</p>	
2.	<p><u>Page 1-1, line 25 - Comment-</u> The reference to the WAC date should reflect the most recent changes to the dangerous waste regulations which were revised April of 1991.</p> <p><u>Requirement-</u> Revise the text to state that the most recent edition of the WAC 173-303 requirements will be followed.</p> <p>DOE-RL/WHC Response: The most recent edition of WAC 173-303, 1991, will be referenced throughout the closure plan and in Chapter 9.</p>	
3.	<p><u>Page 1-1, line 46- Comment</u> - The clean-up policy now being developed by the Nuclear and Mixed Waste Management Program will help staff determine appropriate clean-up levels necessary for this facility, and what, if any, dangerous waste constituents will be left for later remediation. WAC 173-303-610 provides only two means for closure of a TSD; clean-closure and closure as a landfill with accompanying groundwater monitoring, capping and post-closure requirements.</p> <p><u>Requirement:</u> The clean-up policy will be issued by Ecology as soon as completed. This will dictate whether it is feasible to close the 105-DR Large Sodium Fire Facility (LSFF) under clean closure or not.</p> <p>DOE-RL/WHC Response: The clean-up levels proposed by the Nuclear and Mixed Waste Management Program clean-up policy will be addressed when that policy is released. If remediation of some portion of the LSFF is not feasible, closure of that portion will be deferred to reactor decommissioning activities.</p>	
4.	<p><u>Page 2-1, line 46 - Comment</u> - The plan states that burn pans and equipment were cleaned. What was the process used to clean the pans and equipment and what solutions were used other than water?</p> <p><u>Requirement:</u> - State in the plan how this equipment was cleaned, what cleaning solutions or chemicals were used, and what was done with the rinsate from the cleaning.</p> <p>DOE-RL/WHC Response: The following text will be included in the closure plan:</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 3 of 28

Ecology  
Concurrence

- | No. | Comment/Response   | Ecology<br>Concurrence |
|-----|--|------------------------|
| 5.  | <p>"The burn pans and equipment were cleaned periodically, using water as the cleaning solution. The rinsate from cleaning was collected in the sump, which was periodically emptied by pumping the contents into the seal pit via the ventilation tunnel. The pH of the rinsate was monitored and neutralized to a pH of less than 12.5 before it was discharged to the crib. The collected liquid was neutralized with acetic acid in the 1970's; in the 1980's the pH of the liquid rarely if ever exceeded 12 and therefore neutralization was usually not necessary."</p> <p><u>Page 2-2 - Comment</u> - Figures 2-1 through 2-4 are not sufficient maps or drawings of the facility and it's operations.</p> |                        |

Requirement - Refer to WAC 173-303-806(4)(a)(xviii), (xx)(B) and (C), for the mapping requirements of the Dangerous Waste Regulations. Also refer to the 305-B Storage Facility Permit Application. In addition, more detailed engineering plans of the exhaust tunnel, filter building, fan pit, and fire rooms and exhaust fan room must be provided.

DOE-RL/WHC Response: The cited references to WAC 173-303 apply to Part B permit applications, not to closure plans. Figures 2-1 through 2-4 are lacking in some specific details, such as scales, legends, and geographic coordinates, and these will be added. More detailed engineering plans will be available for Ecology review.

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| 6. | <p><u>Page 2-6, line 2 - Comment</u> - The description of the path taken when effluent was released to the 116-DR-8 Crib is not well defined.</p> |  |
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Requirement - Describe in this section what piping connections were used to route effluent to the 116-DR-8 Crib and if there are any junction boxes, catch boxes, etc. in line with this routing. Include engineering plans and design drawings for the crib routing. The piping and ancillary equipment, as well as any soil which may have been contaminated due to the pipe leakage, must be remediated under this closure plan.

DOE-RL/WHC Response: The text here is in error; there is no drain in the bottom of the sump. The last two sentences in this paragraph will be deleted, and replaced with the following:

"The liquid effluent from the cleaning operations was drained to the sump, which is a 22" deep catch basin with an 18" by 18" opening, fed by a trough 10' long, 7" deep, and 9" wide (see lower right portion of Figure E-2). During facility operations, a sump pump was placed in the sump and the wash water was pumped through a hose into the sloped tunnel area that drains directly to the seal pit.

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 4 of 28

No.	Comment/Response	Ecology Concurrence
	<p>Water was collected in the seal pit, monitored for pH, neutralized if necessary, and discharged to the 116-DR-8 Crib (Figure 2-3 and 2-4).</p>	
7.	<p><u>Page 2-6, line 2 - Comment</u> - A liquid drain in the bottom of the sump in the exhaust fan room is mentioned, but not where the drain goes, or how it was cleaned out.</p> <p><u>Requirement</u> - Describe in this section where the drain in the bottom of the sump leads. The closure plan should include engineering plans and design drawings for the sump and associated routing. It will also be necessary to sample underneath the sump to determine if any dangerous waste constituents have leaked into the soil.</p> <p>DOE-RL/WHC Response: Please see also response #6. Because the sump is solid concrete, there is no exposed soil under this area to sample. A few sentences will be added to Section 7.3 to specifically address cleaning of the sump:</p> <p>"The sump in the exhaust fan room will be thoroughly cleaned, and then inspected for penetrative cracks. If cracks are found on or near the floor of the sump, a characterization sampling program will be carried out which will involve drilling through the cracked area and sampling the soil underneath. At least one concrete core from the drilling effort will also be analyzed. After soil has been sampled, the hole in the sump will be filled with concrete to prevent any material from entering the exposed soil."</p>	
8.	<p><u>Page 2-6, line 9 - Comment</u> - What kinds of items were stored in the storage and office areas? The plan only states that "non-dangerous material" was stored here.</p> <p><u>Requirement</u> - State in this section what specifically was stored in the storage and office areas.</p> <p>DOE-RL/WHC Response: The text will be modified to include the following information:</p> <p>"Storage areas contained primarily new materials including stainless steel tubing, small diameter piping made of stainless and carbon steel, electrical supplies (wiring, extension cords, heaters, etc.), new process equipment, fans and blowers, metal sheeting, new light bulbs, lighting equipment, portable lights, new containers, various fire extinguishing materials, lubricating grease, and lubricating oil. The office area contained only papers, operating records, a few tools, and some small portable monitoring instruments."</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 5 of 28

No.	Comment/Response	Ecology Concurrence
9.	<p><u>Page 2-9, line 1 - Comment</u> - The sodium storage tank and sodium stored in the 1720-DR building are to be removed under a different process, but the uses for the sodium are not explained well enough to determine whether or not this sodium stored immediately adjacent to the Large Sodium Fire Facility was used at the facility in the past.</p> <p><u>Requirement</u> - State in this section, in greater detail, how this sodium and storage tank were used to allow Ecology to assess it's past uses and appropriate closure status.</p> <p>DOE-RL/WHC Response: The text states that "The sodium and sodium tank have never been used in the LSFF." The sodium in 1720-DR is pure, unused sodium brought in for the purpose of supplying new sodium to the Large Sodium Fire Facility (LSFF). However, the sodium was never used and remains isolated in the tank, untouched and unused.</p>	
10.	<p><u>Page 2-9, line 5 - Comment</u> - This paragraph discusses test spill tanks, but does not describe the materials of which the tank is made.</p> <p><u>Requirement</u> - Please state the material composition of the tanks (stainless steel or ?) and describe any chemical interactions between the tanks and their contents before, during or after the test spills and fires, so that possible constituents and products of reaction may be determined.</p> <p>DOE-RL/WHC Response: The text will be modified to include the following information:</p> <p>"The early test spill tanks were made from thick carbon steel piping, and the later tanks from stainless steel. These tanks were completely airtight, so there was no possibility for alkali metal to escape into the work rooms."</p> <p>Any reactions between alkali metal and the test spill tanks should be addressed in Chapter 3. The sodium had virtually no affect upon any of the steel containers. The tanks were partially filled with concrete, which was cured prior to spilling hot sodium into the tanks (simulating hot sodium leaks onto concrete floors in reactors). The sodium was kept hot for a specified time and the extent of the reaction with the concrete was studied. The hot sodium reacted primarily with the water contained in the exposed concrete surface, and there was an observable reaction level that was sampled for reaction species. Sodium hydroxide was produced from the sodium and concrete water reaction. Carbon dioxide gas and sodium carbonate was produced where limestone aggregate was used in the concrete. The carbon steel container was attacked by the hot sodium hydroxide and sodium carbonate reaction products. The stainless steel containers exhibited little or no reaction. There were some core debris associated with the concrete, particularly in carbon steel spill tests. This</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 6 of 28

No.	Comment/Response	Ecology Concurrence
	<p>was mostly due to the weakened concrete surfaces. Most tests showed very little penetration of the concrete samples. There was some concrete shrinkage due to loss of concrete water.</p>	
11.	<p><u>Page 2-10, line 23 - Comment</u> - This sentence says that "all other entries to the reactor from the LSFF have been barricaded."</p> <p><u>Requirement</u> - Describe the form of the barricade and how many "other" entries to the LSFF from the 105-DR reactor exist and are barricaded this way.</p> <p>DOE-RL/WHC Response: The referenced sentence will be replaced by the following:</p> <p>"Two other entries to the reactor portion of 105-DR have been sealed by concrete blocks. One entry area through steel panels was sealed by welding a steel plate over the opening."</p> <p>All original entry areas were essentially made part of the original wall (see Figure E-7 in the closure plan, center of photo).</p>	
12.	<p><u>Page 3-1, line 6 - Comment</u> - Line 6 states that various oxides, hydroxides, silicates, and carbonates, as well as residual alkali metal waste were produced during treatment and testing at the LSFF. However only sodium carbonate and lithium carbonate are generally referenced to throughout the permit as being dangerous wastes.</p> <p><u>Requirement</u> - Explain in greater detail the wastes created in the testing and treatment processes and list all the wastes created, as well as the volumes that were burned at the facility. Referencing to the RCRA Part B application from 1985 is not a sufficient categorization of the wastes associated with this facility.</p> <p>DOE-RL/WHC Response: Only alkali metal wastes were treated at this facility. The only significant product of these wastes today is the corresponding alkali metal carbonate. The facility was used to study and/or test hot alkali metal reactions with concrete, as mentioned in #10 above. There were aerosol tests, fire extinguishing tests, etc. However, the primary waste resulting from the facility operations is sodium carbonate and at least 95% of all waste to be removed consists of this material. Other alkali carbonate waste is expected to constitute about 4% of the remaining material including lithium. The other remaining one per cent then is expected to be various oxides, hydroxides, silicates, etc.</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 7 of 28

No.	Comment/Response	Ecology Concurrence
13.	<p><u>Page 3-1, line 36 - Comment</u> - Development tests using cesium and zinc are mentioned but there is no plan for sampling for these constituents to determine the residual amounts left in the LSFF. In accordance with the Tri-Party agreement (TPA), any radioactive components may be left behind for inclusion in the reactor decommissioning and decontamination activities for the 105-DR reactor. This possibility will be clarified by the issuance of the aforementioned clean-up policy.</p> <p><u>Requirement</u> - All possible constituents must be sampled for and remediated during closure activities. Also, the addition of zinc to the waste mixture formula may change the equivalent concentration for this waste stream thus possibly changing it's designation status.</p> <p>DOE-RL/WHC Response: There was some cesium/zinc testing, but very little zinc was involved and none of it was radioactive. These constituents, if any, will be determined in the sampling and analysis portion of the clean-up and will of course be considered in the designation process.</p>	
14.	<p><u>Page 3-2, line 28 - Comment</u> - The reference to "draining through the sump in the exhaust fan room to the 116-DR-8 Crib" is made once again without any description of how this was achieved.</p> <p><u>Requirement</u> - See comment number 6 above.</p> <p>DOE-RL/WHC Response: The text here is in error; it will be replaced by the following:</p> <p>"Wash water from the cleanup was monitored for corrosivity (kept below a pH level of 12.5) and collected in the sump. This was pumped via a sump pump and hose to the tunnel bed which drains directly to the seal pit. The water was collected in the seal pit, monitored for pH, neutralized if needed, and then pumped from the seal pit to the crib."</p>	
15.	<p><u>Page 3-2, line 32 - Comment</u> - Without appropriate detailed design drawings and engineering plans for the LSFF it is difficult to relate the schematics and drawings, which are minimal at best, to the actual layout of the LSFF.</p> <p><u>Requirement</u> - When the plans and design drawings for the facility are provided, the exact location of the sampling taken in 1987 should be correlated with these new plans and the schematic and drawing in Appendix B.</p> <p>DOE-RL/WHC Response: The diagrams in Appendix B, showing sampling locations in 1987, will be redrafted and clarified.</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 8 of 28

Ecology  
Concurrence

No. \_\_\_\_\_ Comment/Response \_\_\_\_\_

16. Page 3-2, line 49 - Comment - If it is not possible to discriminate between the lead that may have been deposited due to treatment of lithium-lead and the lead content of the paint, it will be necessary to remove all lead contamination from the walls.

Requirement - The sampling plan must include a Toxic Characteristic Leaching Procedure (TCLP) analysis for the ventilation tunnels as well as any other areas where lead contamination from the burning of lithium-lead may have occurred. The TCLP must analyze for metals, but not for organics or inorganics.

DOE-RL/WHC Response: This passage refers to samples obtained in the exhaust tunnel, which will not be considered in the revised closure plan. Please see the cover letter and response to Comment #17.

17. Page 3-3, line 30 - Comment - The radioactivity in the upper tunnel was not measured due to inaccessibility. Are there physical barriers that prevent sampling for dangerous waste constituents associated with the LSFF? If there are then how will the upper tunnel be either characterized or verified for clean closure of the LSFF.

Requirement - The upper exhaust tunnel must be sampled to determine whether clean closure has been achieved. The upper tunnel must also be analyzed using the TCLP outlined in comment number 16. The closure plan should address whether or not it is physically possible to sample the upper exhaust tunnel and whether or not it can be included in the clean closure of the LSFF, considering whatever barriers to performing decontamination activities are there.

DOE-RL/WHC Response: Please refer to the cover letter to this document, which outlines proposed changes to this closure plan. Specifically, it is proposed that cleaning the exhaust tunnels be left for reactor decommissioning activities. Part of the rationale for this change is owing to the difficulties and hazards associated with cleaning and sampling the tunnels, especially the upper exhaust tunnel area. Access to most of the tunnel area is restricted, and would be accomplished more expediently and safely during demolition of the 105-DR reactor building.

18. Page 4-1 - Comment - This entire section on waste characteristics is lacking in detail and content.

Requirement - Expand this section to include a more complete discussion of all the waste products produced and their chemical properties per WAC 173-303-610. Include all constituents present, their form and their concentrations.

DOE-RL/WHC Response: The following will be inserted into the text:

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 9 of 28

No.	Comment/Response	Ecology Concurrence
<p>"At least 95% of all the waste materials are residues of sodium, which is now sodium carbonate (see Appendix B for a partial analysis of wastes). Of the less than 5% of the wastes that are not sodium carbonate, approximately 4% are other alkali metal carbonates, which include lithium carbonate, residual lithium nitride, and cesium carbonate. Approximately 1% or less are sodium and lithium silicates, and miscellaneous materials described elsewhere in this chapter."</p>	<p>19. <u>Page 4-1, line 24 - Comment -</u> No mention of the chemical properties of zinc and it's compounds or of cesium and it's compounds is made.</p> <p><u>Requirement -</u> Include the appropriate chemical properties for these two constituents. Include whether they are expected to be present, what form and concentrations they may be in, and their decomposition products if any.</p> <p>DOE-RL/WHC Response: The following will be inserted into the text:</p> <p>"Two cesium and zinc aerosol tests were conducted at the LSFF, in the Small Fire Room steel vessel. During these tests a total of about 2 pounds of cesium metal and about 0.25 pounds of zinc metal were used; about half of this material was consumed during the tests. Most of the test residues were collected and disposed of at that time. There have been two small cesium burns in the Exhaust Fan Room, but no zinc was involved in those tests. Compared with the other materials burned, the quantity of cesium released is very small, much less than 1%. Cesium is readily oxidized and any unreacted cesium is now an oxide and/or complexed with other materials, such as hydroxides and silicates, which would be co-deposited with the sodium carbonate matrix. In the unlikely event that any zinc was released, it would also be co-deposited within the sodium carbonate matrix."</p>	
<p>20. <u>Page 4-1, line 41 - Comment -</u> Although the WAC 173-303 designations for lead are listed, there is no discussion of the types of products formed by the reaction of lithium-lead alloy.</p> <p><u>Requirement -</u> The products of reaction and decomposition products for the lithium-lead alloy tests should be included in this section, and each constituents chemical properties discussed.</p>	<p>DOE-RL/WHC Response: The following will be inserted into the Closure Plan:</p> <p>"The lithium-lead alloy test was conducted only once, in the Small Fire Room inside the steel burn vessel. Virtually all of the reaction products would have remained in the burn vessel; these have been cleaned up and removed."</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 10 of 28

No.	Comment/Response	Ecology Concurrence
	<p>Any lead present elsewhere in the facility is from some other source not related to alkali metal testing or burn activities.</p>	
21.	<p><u>Page 5-1 - Comment</u> - If Ecology determines that it is necessary for documentation to be presented showing that the LSFF has not adversely impacted the soils or groundwater in the area around it, then that information must be presented as outlined in WAC 173-303-645, in order for the facility to be clean closed. (Section 6.3.1, page 6-5, TPA, August, 1990)</p> <p><u>Requirement</u> - Please write a paragraph into the groundwater chapter that reflects the above.</p> <p>DOE-RL/WHC Response: In accordance with the Tri-Party Agreement (Ecology et al. 1990), groundwater in the 105-DR area will be included in the 100-HR-3 operable unit and investigated under the CERCLA RI/FS process.</p>	
22.	<p><u>Page 6-1, line 46 - Comment</u> - This section does not address the removal of possible lead contamination in either the soil or the concrete walls. This possibility must be addressed along with the removal action for sodium and lithium carbonates.</p> <p><u>Requirement</u> - If it is determined that there is lead contamination in the soil and/or concrete, it must be tested using the TCLP method for metals. Soil and concrete will be cleaned to natural background. Include in this section a description of the actions to be taken (including TCLP and background determinations) if lead contamination is found in soils or concrete.</p> <p>DOE-RL/WHC Response: Lead concentrations in soils will initially be compared to levels determined by the Site-wide background study, using the same analytical techniques as those used in that study. Background on concrete will be determined on a concrete core taken from outside the exhaust fan room, using the TCLP method.</p>	
23.	<p><u>Page 6-2, line 16 - Comment</u> - This section states that "baseline" samples and known contaminated samples will be compared to determine whether contamination is above general baseline levels. The use of the word "baseline" does not have any meaning.</p> <p><u>Requirement</u> - Any comparisons of facility samples must be compared to site-wide background levels as determined by the Site-wide Background Study currently taking place.</p> <p>DOE-RL/WHC Response: When referring to concrete, the term "baseline", as defined on page 6-1, line 50, will be changed to "local background". As discussed above, soil will be compared to Site-wide background values.</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 11 of 28

No.	Comment/Response	Ecology Concurrence
24.	<p><u>Page 6-2, line 24 - Comment</u> - This line states that dangerous waste left on the concrete (residuals) will not be a health hazard to humans or a threat to the environment and that it will be left for the reactor decommissioning. No dangerous waste can be left in place following a clean closure per WAC 173-303-610. If waste is left in place, then postclosure requirements must be met. The Nuclear and Mixed Waste Management (N&amp;MWM) program's clean-up policy may affect the type of closure pursued at this facility.</p> <p><u>Requirement</u> - Closure of the LSFF must meet the clean closure requirements of WAC 173-303-610, or postclosure requirements of WAC 173-303-610 will be imposed on the facility.</p> <p>DOE-RL/WHC Response: A partial clean closure of the LSFF will be performed, as discussed in the accompanying cover letter. The facility will be cleaned to levels protective of human health and the environment.</p>	
25.	<p><u>Page 6-2, line 30 - Comment</u> - This section states that soil will be cleaned to "action levels". The term "action level" has no meaning and should not be used in this closure plan. Soil must be cleaned either to background levels or there will be post-closure requirements imposed on the LSFF.</p> <p><u>Requirements</u> - The level of clean-up required will be influenced by the N&amp;MWM program's soil clean-up policy. This will be provided as soon as completed. Background will be determined by the Sitewide Background Study currently in progress.</p> <p>DOE-RL/WHC Response: The term action level is defined beginning on page 6-1, line 46. Site-wide background will be the first action level for soils; if levels are above this, soil composition will be compared to values derived from health-based standards.</p>	
26.	<p><u>Page 6-2, line 33 - Comment</u> - The reference here is to the TCLP of 1988. The latest edition of the TCLP was released in September of 1990.</p> <p><u>Requirement</u> - Change the reference to the latest edition of the TCLP.</p> <p>DOE-RL/WHC Response: The text will be changed to reference the latest edition of this document.</p>	
27.	<p><u>Page 6-2, line 43 - Comment</u> - Any further assessment of "action levels" will be done according the N&amp;MWM program's clean-up policy.</p> <p><u>Requirement</u> - This policy will be released as soon as completed.</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 12 of 28

Ecology  
Concurrence

- | No. | Comment/Response   | Ecology<br>Concurrence |
|-----|--|------------------------|
|     | DOE-RL/WHC Response: Please see responses #3 and #25.  |                        |
| 28. | <u>Page 6-3, line 11 - Comment</u> - The second bullet states "Confirm that the source of previously detected lead...". Using the word confirm presumes that the lead is from the paint and is not an unbiased scientific approach.<br><br><u>Requirement</u> - Change the wording to say "Determine if the source...".  |                        |
|     | DOE-RL/WHC Response: The text will be changed as requested.  |                        |
| 29. | <u>Page 6-3, line 39 - Comment</u> - As stated earlier there needs to be more information regarding this sodium in storage before Ecology can agree on whether it is appropriate to not address it in this closure plan. See comment number 9.<br><br><u>Requirement</u> - Describe the life cycle of the sodium stored in the tank including when it was purchased, what it's intended use was, if it was moved from or to another facility, whether sodium was drawn from this tank, etc.. Include as much detail as possible. |                        |
|     | DOE-RL/WHC Response: The sodium was purchased from Argonne National Laboratory between 1973 and 1975. See also the response to comment #9.   |                        |
| 30. | <u>Page 6-4 - Comment</u> - Sample areas should be referenced to maps showing locations. Also, this chart will be impacted by the N&MWMP clean-up policy.<br><br><u>Requirement</u> - Include a reference in Figure 1 to page B-3 and Appendix C so that sample areas can be easily matched.   |                        |
|     | DOE-RL/WHC Response: A description of the areas, contained in Section 7.3.1, will be referenced in the caption of Figure 6-1.  |                        |
| 31. | <u>Page 6-5, line 23 - Comment</u> - Once again deferral of contaminants to the reactor decommissioning is stated. Clean closure cannot be achieved without complying with WAC 173-303-610 closure performance standards. See comment number 24. Specifically, soil remediation will be performed under this closure plan either to local background or to postclosure standards.  |                        |

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

Ecology  
Concurrence

No. \_\_\_\_\_ Comment/Response \_\_\_\_\_

Requirement - The closure strategy for the LSFF will be determined with the issuance of the N&MWMP clean-up policy.

DOE-RL/WHC Response: Please see response to comment #24.

32. Page 7-1, line 12 - Comment - The second bullet states again that the purpose of sampling is "To confirm that the source of...". This wording is inappropriate. See comment number 28.

Requirement - Replace the word "confirm" with determine.

DOE-RL/WHC Response: The text will be changed as requested.

33. Page 7-1, line, 15 - Comment - Here also the word verify is not the appropriate verbage. See comment number 28.

Requirement - Replace "To verify that..." with "To determine if the...".

DOE-RL/WHC Response: The text will be changed as requested.

34. Page 7-1, line 38 - Comment - The N&MWMP clean-up policy will determine the levels of clean closure and/or postclosure requirements necessary to close the LSFF.

Requirement - This section will have to be modified to reflect the changes made when the clean-up policy is issued and following the decision on the closure strategy for the LSFF.

DOE-RL/WHC Response: Please see response #3.

35. Page 7-2, line (all) - Comment - The various test methods cited in this section are usually referencing EPA's SW-846 test methods. However, WAC 173-303-110 is the appropriate listing of test methods to be used under the State Dangerous Waste regulations. In some cases SW-846 is an appropriate method, but some of the tests must follow approved ASTM Standards.

Requirement - Following the requirements of WAC 173-303-110, correct the test methods for the various samples throughout this section. These are the approved test methods and must be used.

DOE-RL/WHC Response: The SW-846 test methods are the preferred and accepted analytical methods for clean-up activities. The WAC 173-303-110 regulations are specifically for waste designation.

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 14 of 28

No.	Comment/Response	Ecology Concurrence
-----	------------------	------------------------

36. Page 7-2, line 10 - Comment - this section on characterization sampling should include a reference to Appendix C.

Requirement - Include the reference to Appendix C in this section.

DOE-RL/WHC Response: The proposed amended strategy for partial clean closure, discussed in the cover letter, includes eliminating most of the characterization sampling. Appendix C provides locations for verification sampling, which will remain in the closure plan.

37. Page 7-2, line 30 - Comment - Is this the most recent edition of the E.I.I. 2.3 (WHC,1988)?

Requirement - Reference the latest edition of this E.I.I. This E.I.I. must be reviewed by Ecology prior to it's inclusion in the closure plan.

DOE-RL/WHC Response: The text will be changed to reference the latest edition of this document.

38. Page 7-2, line 34 - Comment - Area 1 must be sampled in many more locations than are outlined in this section and Appendix C including, but not limited to; office area, walls, floor and ceiling of the fire rooms and sodium handling room as well as any other area 1 location that may have received dangerous waste during operating years or since.

Requirement - Include in this section and in Appendix C a detailed description of the sampling plan for area 1 that will include the areas outlined above and any other areas that may have been impacted by past practices of the LSFF or where dangerous waste may have migrated since cessation of operations.

DOE-RL/WHC Response: The rooms in which alkali metals were reacted are separated from the office and storage area by walls and doors. Also, the ventilation system is constructed so that airflow is toward the wall opposite the doors, away from the storage and office area.

The exhaust fan room was the only room where wastes were reacted outside of a containment vessel. Any dangerous waste that could have been deposited on the floor, ceiling, or walls of the LSFF would be restricted to this room and the exhaust tunnels. The revised closure plan will call for decontamination of the exhaust fan room, so no characterization sampling of this area will be necessary. The sampling plan in Appendix C will be rewritten and redrafted for increased clarity, and the plan to sample the exhaust tunnels will be removed.

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 15 of 28

No.	Comment/Response	Ecology Concurrence
39.	<p><u>Page 7-2, line 49 - Comment -</u> This line calls for "baseline" sampling to be done on the exterior wall of the exhaust fan room. This term has no meaning. The appropriate term is background.</p> <p><u>Requirement -</u> More information on the activities around the external areas of the LSFF is needed to determine whether this is an appropriate place to do the background sampling. Sampling must be done on concrete that is unimpacted by past practices of dangerous waste activities.</p> <p><b>DOE-RL/WHC Response:</b> Please see response #23 for discussion of baseline. The concrete cores to be sampled for background will be taken outside the door of the exhaust fan room, not outside the LSFF building (see Section 7.3.5).</p>	
40.	<p><u>Page 7-2, line 79 - Comment -</u> Field screening using an X-ray fluorescence device is proposed, but the operating parameters for the device are not included in the closure plan.</p> <p><u>Requirement -</u> Include the operating parameters for the X-ray fluorescence device either in the QA/QC section of Chapter 7.0 or in the QA/QC appendix. Include the detection limits for the device.</p> <p><b>DOE-RL/WHC Response:</b> The revised closure plan will not contain any reference to field XRF screening; this procedure will not be used.</p>	
41.	<p><u>Page 7-3, line 13 - Comment -</u> Dual-level sampling will not succeed if; there is fugitive lead-contaminated dust on both the surface deposits and the painted walls, or if there is lead-contaminated dust on either the deposits or the wall. Assurances must be made that any possibility of contamination with lead dust is eliminated.</p> <p><u>Requirement -</u> State in this section how lead will be sampled for, taking into account the above stated problems.</p> <p><b>DOE-RL/WHC Response:</b> The revised closure plan will propose deferring tunnel clean-up to the reactor decommissioning process (see response #17). This section will be eliminated.</p>	
42.	<p><u>Page 7-3, line 20 - Comment -</u> As stated previously it is not appropriate to leave dangerous waste and/or constituents associated with the LSFF for later decontamination.</p> <p><u>Requirement -</u> See comment number 24.</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 16 of 28

No.	Comment/Response	Ecology Concurrence
	DOE-RL/WHC Response: This section will be rewritten to state that area 2 will be deferred to reactor decommissioning; area 1 will be cleaned under this closure plan.	
43.	<p><u>Page 7-3, line 29 - Comment - Surfaces must be cleaned to background levels, not "below dangerous waste levels".</u></p> <p><u>Requirement - Rewrite this section to comply with WAC 173-303-610(2)(b)(i).</u></p> <p>DOE-RL/WHC Response: The referenced WAC 173-303-610(2)(b)(i) deals only with wastes designated under WAC 173-303-81, -82, or -90. Most if not all of the dangerous wastes associated with the gravel scrubber are classified under WAC 173-303-84 and are subject to the requirements of WAC 173-303-610(2)(b)(ii).</p>	
44.	<p><u>Page 7-3, line 31 - Comment - What is considered appropriate disposal of the gravel from the gravel scrubber.</u></p> <p><u>Requirement - Considering the possible designation status of the gravel, list the disposal alternatives for the gravel scrubber.</u></p> <p>DOE-RL/WHC Response: If the gravel from the gravel scrubber is classified as dangerous waste, it will be disposed of in a permitted disposal facility or stored in a permitted storage facility if mixed waste.</p>	
45.	<p><u>Page 7-3, line 42 - Sampling of the filters is required whether or not there are visible deposits on them.</u></p> <p><u>Requirement - The filters must be sampled for designation status. Rewrite this section to state the same.</u></p> <p>DOE-RL/WHC Response: Because the HEPA filter building is an integral part of the exhaust tunnels, this building will be deferred to reactor decommissioning activities.</p>	
46.	<p><u>Page 7-3, line 44 - Comment - The 117-DR building must be cleaned to the closure performance standards of WAC 173-303-610 before it can be left for the decommissioning activities. Additionally, it may be that the concrete walls of the 117-DR building have been painted with lead based paints and the same sampling problems will arise as elsewhere concerning lead. See paragraph 2 of comment #1.</u></p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 17 of 28

No.	Comment/Response	Ecology Concurrence
	<u>Requirement</u> - Closure will follow WAC 173-303-610 and N&MWMP clean-up policy.	
	DOE-RL/WHC Response: See response #45.	
47.	<u>Page 7-3, line 47 - Comment</u> - The area at the base of the stack must be sampled for the presence of sodium, lithium and lead, at least, to determine if the dangerous waste constituents have been deposited in the stack.	
	<u>Requirement</u> - State how the stack will be sampled for dangerous wastes associated with the LSFF.	
	DOE-RL/WHC Response: Because the stack is an integral part of the exhaust tunnels, it will be deferred to reactor decommissioning activities.	
48.	<u>Page 7-4, line 7 - Comment</u> - Deferral of sampling and treatment of the 116-DR-8 crib area to the 100-HR-3 RFI/CMS is not appropriate for the soil, and may not be for the ground water. If there have been releases to the crib from this facility, then there may need to be groundwater monitoring activities in accordance with WAC 173-303-645 and the Tri-Party Agreement section 6.3.1 of the Action Plan.	
	<u>Requirement</u> - This section must include the description of the sampling to be done on the soil in the 116-DR-8 crib area, and a more detailed discussion of the types of releases to the crib in order to determine if dangerous wastes have been deposited into the soil and groundwater, and if groundwater monitoring requirements are applicable. Are there any RCRA groundwater monitoring wells around the LSFF and the 116-DR-8 crib that may be used to characterize the groundwater?	
	DOE-RL/WHC Response: Any contribution of dangerous wastes to the crib via the neutral solution discharged from the LSFF would be negligible. The crib is part of the 100-DR-2 operable unit and the 100-HR-3 groundwater operable unit. It will be remediated separately from the LSFF.	
49.	<u>Page 7-4, line 24 - Comment</u> - This section calls for four random soil samples to be taken at a depth of 6 to 12 inches.	
	<u>Requirement</u> - The samples must be taken to a depth of three feet and sampled at the surface, 1 foot, 2-feet, 3 feet. The sampling plan must also contain a contingency for further sampling if contamination is detected at these depths. This further sampling must be allowed for in the closure schedule.	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 18 of 28

No.	Comment/Response	Ecology Concurrence
	DOE-RL/WHC Response: The text will be revised to incorporate these changes.	
50.	<p><u>Page 7-4, line 44 - Comment -</u> This section says that the small pieces of equipment will not be sampled. However, clean closure cannot be approved without some form of verification.</p> <p><u>Requirement -</u> There must be some method for verifying decontamination of the various small parts associated with the LSFF apparatus. Clean closure cannot be approved without it. Include the plan for verification sampling in this section.</p> <p>DOE-RL/WHC Response: The small parts will be visually inspected for the presence of carbonate coatings, and cleaned with water or a weak acid wash if such a coating is found. Because the carbonates are dangerous only in large quantities, removal of surface deposits will ensure safe decontamination of the surfaces.</p>	
51.	<p><u>Page 7-5, line 18 - Comment -</u> The QA/QC used in this closure plan must adhere to and mesh with the QA/QC procedures being developed for the Sitewide Hanford Facility RCRA Permit.</p> <p><u>Requirement -</u> This section must state that all procedures are in accord with the Sitewide QA/QC requirements.</p> <p>DOE-RL/WHC Response: A reference to the Sitewide Hanford Facility RCRA Permit will be included, if available.</p>	
52.	<p><u>Page 7-6, line 14 - Comment -</u> The sentence here ends; "...by a Westinghouse Hanford."</p> <p><u>Requirement -</u> Complete the sentence.</p> <p>DOE-RL/WHC Response: The letter "a" will be stricken from this sentence.</p>	
53.	<p><u>Page 7-7, line 16 - Comment -</u> This sentence says that a method comparable to SW-846 standards for inorganics will be used for lithium analysis.</p> <p><u>Requirement -</u> Please state in this section the test methods proposed for Lithium. All test methods not listed in WAC 173-303-110 must be approved by Ecology before the closure plan can be approved. See WAC 173-303-110(5).</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 19 of 28

No.	Comment/Response	Ecology Concurrence
	DOE-RL/WHC Response: The text will be changed to state that the appropriate test method will be used according to WAC 173-303-110.	
54.	<p><u>Page 7-7, line 22 - Comment -</u> A Ph greater than or equal to 12.5 or less than or equal to 2 is considered corrosive. Although the solution is expected to be basic, the full scope of the regulation should be stated here.</p> <p><u>Requirement -</u> State the full wording of the WAC 173-303-090(6)(a)(i).</p> <p>DOE-RL/WHC Response: The sentence referred to will be revised as follows:</p> <p>"A pH of 12.5 or greater or 2 or less, according to WAC 173-303-090(6)(a)(i) and (iii), will classify the deposits..."</p>	
55.	<p><u>Page 7-7, line 24 - Comment -</u> The Health and Safety Plan is mentioned here. This plan must be included with this closure plan application.</p> <p><u>Requirement -</u> See the cover letter for remarks.</p> <p>DOE-RL/WHC Response: An additional chapter regarding safety, and an appendix containing training information will be included in the revised Closure Plan. Included in the training matrix will be the Hazardous Waste Workers Supervisors Training Course.</p>	
56.	<p><u>Page 7-7, line 28 - Comment -</u> This line states what the concrete cores will be analyzed for, but it is incomplete.</p> <p><u>Requirement -</u> Concrete cores must be analyzed for lead as well using the Toxicity Characteristic Leaching Procedure (TCLP), from 40 CFR 216.24. Also, there must be a plan for sampling below the concrete for any contaminants that have escaped the system.</p> <p>DOE-RL/WHC Response: The text will be modified to state that the cores will be analyzed for lead using TCLP. The concrete slab floor will be visually inspected for penetrative cracks; if any are found a map will be made of their locations, and the soil underneath the cracks will be sampled for target analyte list inorganics.</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 20 of 28

No.	Comment/Response	Ecology Concurrence
57.	<p><u>Page 7-9, line 18 - Comment -</u> This paragraph discusses the alternatives if there are problems with the sampling or if there is "significant differences in mean concentrations" between facility and baseline samples.</p> <p><u>Requirement -</u> If there are significant differences between facility and background samples then clean closure will have to be abandoned or further remediation must be done on the facility. Insufficient data should not be a problem if this sampling plan is done properly. Again, the N&amp;MWMP soil clean-up policy will determine what level the facility must be cleaned to in conjunction with WAC 173-303-610.</p> <p>DOE-RL/WHC Response: The portion of the cited sentence regarding insufficient data will be struck, as this is not anticipated to be a problem. Site-wide background will be the first action level for soils; if levels are above this, soil composition will be compared to values derived from health-based standards.</p>	
58.	<p><u>Page 7-10, line 30 - Comment -</u> Standard sampling techniques are mentioned and "(EPA, 1987)" is also referenced.</p> <p><u>Requirement -</u> Please state the specific sampling guidelines. Also refer to comment number 53.</p> <p>DOE-RL/WHC Response: Specifics of sampling and analysis will be addressed in the Sampling Plan, which will be submitted after the closure plan is approved.</p>	
59.	<p><u>Page 7-10, line 41 - Comment -</u> All samples will be field tested for lead, but only one will be sent to the lab for validation. It is more appropriate to send at least two and preferably three samples to the lab for redundancy's sake, thus precautioning against unforeseen loss of sample integrity, chain of custody, or laboratory failures.</p> <p><u>Requirement -</u> Change this section to include the laboratory sampling of three of the field screened samples.</p> <p>DOE-RL/WHC Response: Field XRF methods will not be used for verification samples. The text will be revised to state that all of the wipe samples will be analyzed by the laboratory.</p>	
60.	<p><u>Page 7-10, line 42 - Comment -</u> Once again the field screening with X-ray fluorescence is referred to, but none of the operating parameters of the device are included.</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 21 of 28

No.	Comment/Response	Ecology Concurrence
	<p><u>Requirement</u> - See comment number 40.</p> <p>DOE-RL/WHC Response: Please see reply #40.</p>	
61.	<p><u>Page 7-11, line 21 - Comment</u> - The bullet on this line proposes listing only the "constituents or parameters of concern", and assumingly eliminating those not of concern.</p> <p><u>Requirement</u> - The list of results should include all contaminants sampled, not just those "of concern". It is presumptuous to leave out painstakingly gathered data from the analysis or reporting. Report all data for which the analysis provides results including negative results.</p> <p>DOE-RL/WHC Response: The second bullet will be revised to read:</p> <p>"A list of all analytical data obtained, including detection limits for each element reported."</p>	
62.	<p><u>Page 7-11, line 40 - Comment</u> - The numbers of QA/QC samples are proposed to be left out of Table 7-2.</p> <p><u>Requirement</u> - These QA/QC samples should be included for reference sake in Table 7-2.</p> <p>DOE-RL/WHC Response: Table 7-2 will be extensively revised to eliminate all of the characterization and validation samples from areas 2 and 4. The note at the bottom of Table 7-2 should be a sufficient indication of QA sampling procedures.</p>	
63.	<p><u>Page 7-12, line 27 - Comment</u> - This line says that the sampling plan will be modified as needed and recorded in the logbook, along with the circumstances requiring the modification.</p> <p><u>Requirement</u> - Modifications to the sampling plan must be recorded in the logbook and made available for review by Ecology upon request. They should also be provided at the UMM for transmittal to Ecology.</p> <p>DOE-RL/WHC Response: The following sentence will be added to the text:</p> <p>"Copies of the field logbook will be made available to Ecology upon request."</p>	
64.	<p><u>Table 7.2 - Comment</u> - The stated purpose of several of the sample points is verification, anticipating the given area will not designate as dangerous waste. It is presumptuous to do verification sampling prior to doing characterization.</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 22 of 28

Ecology  
Concurrence

No. \_\_\_\_\_ Comment/Response \_\_\_\_\_

Requirement - Change the wording in this table so that the purpose of all sampling is characterization, not verification.

DOE-RL/WHC Response: Table 7-2 will be modified to reflect the proposed revised closure strategy. Area 1 will be cleaned before sampling, so these samples will truly be for verification of clean-up. Samples from areas 3 and 7 will be characterization samples, and the revised Table will reflect this.

65. Page 7-12, line 38 - Comment - The Health and Safety Plan (HASP) was not included with the LSFF Closure Plan.

Requirement - The HASP must be included with the Closure plan for review and approval by Ecology. See the cover letter for other items required under the final facility standards.

DOE-RL/WHC Response: Health and Safety Plans are not included with closure plans. Please see item number 5 under response #1.

66. Page 7-13, line 1 - Comment - All dangerous wastes generated by the clean-up of the LSFF are subject to WAC 173-303. Also, the description of the rinsate collection is insufficient. There needs to be more detail added describing how the rinsate will be contained, collected and placed into the drums, as well as how the drums will be accumulated before shipping.

Requirement - Include a line in the opening paragraph that states the above generator requirements. Also include in this section a detailed description of how the rinsate from the high pressure wash and/or acid wash will be contained, collected and placed into the drums, as well as how the drums will be stored.

DOE-RL/WHC Response: The following will be added to section 7.4:

"All dangerous wastes generated by the clean-up will be handled in accordance with WAC 173-303."

More details regarding washing, rinsate collection, and drum storage will also be included.

67. Page 7-13, line 29 - Comment - This line calls for disposal of cleaned metal scrubber materials at the Central Waste Complex. Since the Central Waste Complex (CWC) is only a storage facility, disposal of materials at CWC is not possible.

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 23 of 28

No.	Comment/Response	Ecology Concurrence
	<p><u>Requirement</u> - Reword this line to state what will be done with the cleaned metal scrubber materials.</p> <p>DOE-RL/WHC Response: The text will be changed to read that the materials will be disposed <u>through</u> the Central Waste Complex.</p>	
68.	<p><u>Page 7-13, line 39 - Comment</u> - Possible disposal options for the filters is deferred until characterization sampling has occurred. It is very likely that the filters will designate as dangerous waste since they were the primary means of removing the sodium, lithium and lead contaminants from the waste stream. The disposal options for the HEPA filters must be included in this closure plan.</p> <p><u>Requirement</u> - Include the possible disposal options for the HEPA filters in the LSFF closure plan.</p> <p>DOE-RL/WHC Response: It is proposed that the 117-DR building be remediated separately from this closure plan. Please see comment #45.</p>	
69.	<p><u>Page 7-13, line 48 - Comment</u> - If soil alkalinity is above background levels or there is above background levels of lead, then the soil must be remediated with the rest of the LSFF to accomplish clean closure.</p> <p><u>Requirement</u> - The N&amp;MWMP soil clean-up policy will affect the clean-up of soil associated with the rest of the LSFF and 116-DR-8 crib. See comment number 2.</p> <p>DOE-RL/WHC Response: Please see response #48.</p>	
70.	<p><u>Page 7-14 - Comment</u> - Figure 7-1 calls for mixed waste either to be stored at the CWC or to "leave and treat with the 100-DR-2 unit".</p> <p><u>Requirement</u> - The leave and treat with 100-DR-2 unit option is not allowable at TSD closures. All generated waste must be sent to a TSD facility within 90 days of generation.</p> <p>DOE-RL/WHC Response: The portions of Figure 7-1 affected by these comments will be modified.</p>	
71.	<p><u>Page 7-15, line 12 - Comment</u> - The details surrounding collection of rinsate are not included in this section.</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 24 of 28

No.	Comment/Response	Ecology Concurrence
	<p><u>Requirement</u> - More information, particularly how the rinsate will be prevented from escaping to the environment, must be included in this section.</p> <p>DOE-RL/WHC Response: More detail on cleaning procedures will be included in Section 7.4, and referenced here.</p>	
72.	<p><u>Page 7-15, line 29 - Comment</u> - Figure 2 will need to be modified.</p> <p><u>Requirement</u> - See comment number 73.</p> <p>DOE-RL/WHC Response: Please see response #73.</p>	
73.	<p><u>Page 7-16 - Comment</u> - The figure on this page does not allow time for Ecology to review and approve different aspects reflected in the schedule, or those times are figured in but not shown as separate incidents. For example, no time is allowed for approval by Ecology of the HASP.</p> <p><u>Requirement</u> - Modify this table to show the areas that will require Ecology approval and propose times for those actions to take place.</p> <p>DOE-RL/WHC Response: Ecology approval of the HASP is not necessary. Please see response #65.</p>	
74.	<p><u>Page 8-1, line 11 - Comment</u> - The notice on this page must also be sent to Ecology per WAC 173-303-610(10)(a).</p> <p><u>Requirement</u> - Include verbage in this section that states that a copy of this notice will be sent to Ecology concurrently with the notice to the county auditor.</p> <p>DOE-RL/WHC Response: A phrase to that effect will be included here.</p>	
75.	<p><u>Page 8-2, line 5 - Comment</u> - Deferral of closure of the LSFF will require some level of postclosure care per WAC 173-303-610(7) through (11). The upcoming N&amp;MWMP soil clean-up policy will also determine the level of post-closure care needed at the LSFF until final closure with other remediation programs.</p> <p><u>Requirement</u> - The N&amp;MWMP soil clean-up policy will be issued as soon as approved and this will determine possible postclosure activities at the LSFF.</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 25 of 28

No.	Comment/Response	Ecology Concurrence
	DOE-RL/WHC Response: The clean-up levels proposed by the Nuclear and Mixed Waste Management Program clean-up policy will be addressed when that policy is released. In the event that some level of deferment of clean closure to reactor decommissioning is necessary, any remaining contamination will be isolated and/or stabilized to prevent or minimize its movement.	
76.	<p><u>Page 9-1, line 21 - Comment - This reference is outdated.</u></p> <p><u>Requirement - Reference the August, 1990 version of the Hanford Federal Facility Agreement and Consent Order.</u></p> <p>DOE-RL/WHC Response: All outdated reference will be updated in the text and in Chapter 9.</p>	
77.	<p><u>Page 9-1, line 21 - Comment - Outdated reference to the Dangerous Waste Regulations.</u></p> <p><u>Requirement - Latest edition should be referenced which is dated April, 1991.</u></p> <p>DOE-RL/WHC Response: Please see response #76.</p>	
78.	<p><u>Page 9-1, line 37 - Comment - Outdated reference to Identification and Listing of Hazardous Waste.</u></p> <p><u>Requirement - Reference to the 1990 edition of 40 CFR.</u></p> <p>DOE-RL/WHC Response: Please see response #76.</p>	
79.	<p><u>Page 9-1, line - Comment - Outdated reference to Interim Status Standards for Owners and Operators of Hazardous Waste, Treatment, Storage, and Disposal Facilities.</u></p> <p><u>Requirement - Reference to the 1990 edition of 40 CFR.</u></p> <p>DOE-RL/WHC Response: Please see response #76.</p>	
80.	<p><u>F-1 - Comment - This QA/QC plan must comply and interface with the sitewide QA/QC plan for the Hanford Sitewide RCRA permit.</u></p> <p>DOE-RL/WHC Response: The text will be revised to incorporate these changes.</p>	
81.	<p><u>F-4, line, 19 - Comment - This line states that analytical procedures for alternate labs will be approved by Westinghouse Hanford. Ecology must also approve these procedures as part of the closure plan prior to their use.</u></p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 26 of 28

No.	Comment/Response	Ecology Concurrence
	<p><u>Requirement</u> - Include Ecology approval as part of the approval process for the alternate labs as well as the primary labs.</p> <p>DOE-RL/WHC Response: It is unclear why this approval is required. Please provide regulatory references regarding this point.</p>	
82.	<p><u>Page F-4, line 31 - Comment</u> - "Westinghouse Hanford approved QA plans and/or procedures" are mentioned.</p> <p><u>Requirement</u> - All plans and procedures associated with the LSFF closure plan must be approved by Ecology as well. Included Ecology approval as requirement for use of these plans and procedures.</p> <p>DOE-RL/WHC Response: Westinghouse Hanford has well-established procedures regarding these matters, which do not require the approval of Ecology. These procedures are listed in Appendix F, Section 4.1. These procedures are available for review by Ecology.</p>	
83.	<p><u>Page F-4, line 41 - Comment</u> - As stated previously it is not proper to state the objective concerning lead to be "confirm that...". Instead it should reflect proper scientific open-mindedness by stating "determine if...".</p> <p><u>Requirement</u> - See comment number 28.</p> <p>DOE-RL/WHC Response: The text will be changed as requested.</p>	
84.	<p><u>Page F-4, line 43 - Comment</u> - Verify is not the appropriate wording here either.</p> <p><u>Requirement</u> - See previous comment.</p> <p>DOE-RL/WHC Response: The text will be changed as requested.</p>	
85.	<p><u>Page F-5, line 7 - Comment</u> - The procedures used during the remediation are the practical details addressing closure of the LSFF. These must be reviewed and approved by Ecology prior to their use in this closure plan.</p> <p><u>Requirement</u> - Submit the procedures referenced in section 4.1 for review. Procedures previously submitted need not be resubmitted.</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLE

November 7, 1991  
Page 27 of 28

No.	Comment/Response	Ecology Concurrence
	DOE-RL/WHC Response: These procedures do not require Ecology approval, but are available for review and comment upon request.	
86.	<p><u>Page F-5, line 12 - Comment -</u> Zinc and cesium have been used at the LSFF, but they are not listed here as being "analytes of interest".</p> <p><u>Requirement -</u> Zinc and cesium must be included in the analytes sampled for (Table F-1), and they must be addressed as possible dangerous waste constituents in the LSFF.</p> <p>DOE-RL/WHC Response: Zinc and cesium will be included in Table F-1.</p>	
87.	<p><u>Page F-8, line 27 - Comment -</u> Changes to the procedures should be reviewed by Ecology prior to implementation. The scope of the change and it's anticipated effect will be considered. This will help to prevent undue duplication of actions as has been the case in other RCRA activities that were carried out without consulting with Ecology, many of which had to be repeated.</p> <p><u>Requirement -</u> Any changes to the procedures must be approved by Ecology prior to implementation.</p> <p>DOE-RL/WHC Response: Please see response #85.</p>	
88.	<p><u>Page F-9 - Comment -</u> This table shows the E.I.I.'s for the LSFF. These procedures must be reviewed and approved by Ecology prior to their use in the LSFF closure.</p> <p><u>Requirement -</u> Submit the E.I.I.'s listed in table F-2 for review by Ecology. Any procedures previously submitted need not be resubmitted.</p> <p>DOE-RL/WHC Response: Please see response #85.</p>	
89.	<p><u>Page F-10, line 32 - Comment -</u> This line states that calibration should follow the applicable standard analytical methods subject to WHC review and approval.</p> <p><u>Requirement -</u> If WHC intends or decides to use another calibration method it must be reviewed and approved by Ecology prior to enactment, in accordance with WAC 173-303-110.</p>	

THE 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN  
NOD RESPONSE TABLENovember 7, 1991  
Page 28 of 28

No.	Comment/Response	Ecology Concurrence
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DOE-RL/WHC Response: Analytical techniques used in support of the LSFF closure will conform to WAC 173-303-110.

90. Page F-16, line 12 - Comment - The latest edition of the Hanford Federal Facility Agreement and Consent Order is not referenced here.

Requirement - Reference the August, 1990 edition.

DOE-RL/WHC Response: Please see response #76.

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S. W. Petersen, 376-1273	R. F. Smith, EPA T. L. Nord, Ecology	Incoming: 9105678 Reference: 9128342D
Subject: 105-DR LARGE SODIUM FIRE FACILITY CLOSURE PLAN NOTICE OF DEFICIENCY RESPONSE TABLE		

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