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## Department of Energy

Richland Field Office

P.O. Box 550

Richland, Washington 99352

9207437

October 21, 1992

92-LWD-011



Mr. Paul T. Day  
Hanford Project Manager  
U. S. Environmental Protection Agency  
712 Swift Boulevard, Suite 5  
Richland, Washington 99352

Mr. David B. Jansen, P.E.  
Hanford Project Manager  
State of Washington  
Department of Ecology  
P.O. Box 47600  
Olympia, Washington 98504-7600

Dear Messrs. Day and Jansen:

### RESPONSE TABLE FOR COMMENTS RECEIVED ON SAMPLING AND ANALYSIS PLANS

Attached are the formal responses to the comments received from the U.S. Environmental Protection Agency (EPA) and State of Washington Department of Ecology (Ecology) on the Sampling and Analyses Plans (SAPs) for the following wastestreams:

- ✓ 242-S Evaporator Steam Condensate - 0025729
- ✓ 2101-M Wastewater - 0025080
- ✓ 284-W Powerplant Wastewater - 0025749
- ✓ T Plant Laboratory Wastewater - 0025740
- ✓ T Plant Wastewater - 0025741
- ✓ 222-S Laboratory Complex Wastewater - 0025748
- ✓ PUREX Chemical Sewer Line - 0025743
- ✓ B Plant Chemical Sewer - 0025744
- ✓ 242-A Evaporator Cooling Water - 0025737
- ✓ 242-A Evaporator Steam Condensate - 0025736
- ✓ 241-A Tank Farm Cooling Water - 0025742
- ✓ 244-AR Vault Cooling Water - 0025738
- ✓ 284-E Powerplant Wastewater - 0025747
- ✓ 183-D Area Filter Backwash - 0025750
- ✓ B Plant Cooling Water - 0025745
- ✓ 400 Area Secondary Cooling Water -
- ✓ N Reactor Effluent - 0025751
- ✓ 2724-W Laundry Wastewater - 0019742



RL received your approval on the comment responses during the meeting held on Wednesday, October 14, 1992, between EPA, Ecology, and the U.S. Department of Energy, Richland Field Office (RL) representatives.

93127581048

Messrs. Day and Jansen  
92-LWD-011

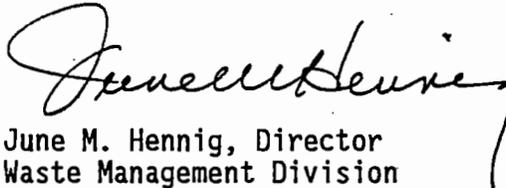
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OCT 21 1992

We recognize the need to promptly revise these documents and issue them as final, and have initiated our revision on the SAPs in order to maintain consistency with the approved Liquid Effluent Sampling Quality Assurance Program Plan, Uranium Trioxide, and Plutonium Finishing Plant SAPs. RL notes your insistence on revising the SAPs and subsequent implementation. In order to expedite this effort, we shall begin the issuance of the revised SAPs with the final submittal no later than November 30, 1992, as agreed upon during aforementioned meeting.

If you or your staff have any questions regarding these responses, please contact Lance S. Mamiya of my staff on (509) 376-1471.

Sincerely,



June M. Hennig, Director  
Waste Management Division

WMD:LSM

Attachment

cc w/att:

G. Anderson, Ecology  
D. Sherwood, EPA  
M. Selby, Ecology  
D. Nylander, Ecology  
D. E. Kelley, WHC  
D. R. Speer, WHC  
B. A. Austin, WHC  
R. W. Oldham, WHC



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SAMPLING AND ANALYSES PLANS  
 RESPONSES TO COMMENTS FROM ECOLOGY AND EPA  
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Sampling and Analysis Plan	Comment	Response
242-S Evaporator Steam Condensate (WHC-SD-WM- EV-071)		
EPA 1 (Footnote 1)  8 1 0 5 0	<p>The list of analytes appears to be incomplete. The sampling matrix should include PCB's and total dissolved solids as well as testing for herbicides. If these substances will not be analyzed then the document should discuss reasons for not including these substances in at least the first sampling regime.</p> <p>In addition, the holding times for each sample should be specified.</p>	<p>Comment accepted. The list of analytes will be revised to reflect requirements found in the Quality Assurance Program Plan (QAPP) approved by Ecology and EPA. This includes analyses for total dissolved solids and herbicides.</p> <p>Comment not accepted. Holding times are identified in Table 8-1 of the QAPP which will be referenced. Holding times will not be included in the SAP.</p>
Ecology 1 (Footnote 2)  1 2 7	<p>Due to serious deficiencies in the "Liquid Effluent Sampling Quality Assurance Plan", WHC-SD-WM-QAPP-001, no review has been made of Sections 3 through 6 of this document. Please refer to our review of the Liquid Effluent Sampling Quality Assurance Project Plan.</p>	<p>The QAPP has been revised and approved by Ecology and EPA.</p>
Ecology 2  9	<p>Section 3.0, second paragraph, add "and the requirements of SW-846 (EPA) 1990.</p> <p>Third paragraph, add "or may be performed by Ecology or EPA.</p>	<p>Comment accepted. Revision to include reference to the latest edition of SW-846.</p> <p>Comment not accepted. Data validation will be performed as described in QAPP. Ecology or EPA may perform independent data validation at their discretion but the SAP will not specifically identify that.</p>
Ecology 3	<p>Section 5, second paragraph, add the sentence: "Also log on the sample collection (traffic report) sheet."</p>	<p>Comment not accepted. Conductivity and pH is logged in the field logbook, field logbook number is identified on the Chain-of-Custody (COC) form.</p>

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Sampling and Analysis Plan	Comment	Response
Ecology 4	<p>Section 5, sixth paragraph, first bullet, add that a glass container is acceptable.</p> <p>Second bullet, state that ICP metals require one liter Polyethylene sample bottles for low level wastes and 16 ounce wide mouth glass jars for mid level wastes.</p> <p>Fourth bullet, state that Volatile Organics require 1 gallon amber glass jars. Reference: 40 CFR 136.3.</p>	Comments not accepted. The SAP will be revised to show the analytes and methods and will reference the QAPP for bottle types, volumes, preservatives, and holding times.
Ecology 5	Section 5, eighth paragraph, insert a third bullet: Matrix and analyses to be performed.	Comments accepted. Bullets to be added for matrix and analysis descriptions.
Ecology 6	Section 5, ninth paragraph, third sentence, add the phrase "and cooled to 4°C.	The QAPP has been revised to include this information. The SAP will only reference the QAPP.
Ecology 7	Section 5, tenth paragraph, add that the usual forms filled out by all other facilities be filled out by this facility.	Comment not accepted. The proper forms for chain-of-custody, shipment, and sample traceability are completed as required and defined in the QAPP and the SAP.
Ecology 8	<p>Section 6, first paragraph, add "Packaging and shipping must follow federal regulations if the samples are to be shipped offsite.</p> <p>Section 6, third paragraph, third sentence, delete the word "group" and insert the word "person" in its place.</p>	<p>Comment accepted. This wording will be added.</p> <p>Comment accepted. This revision will be made.</p>
Ecology 1 (Footnote 3)	Due to serious deficiencies in the "Liquid Effluent Sampling Quality Assurance Plan", WHC-SD-WM-QAPP-001, no review has been made of Sections C, D, E, F, and G of this document. Please refer to our review of the Liquid Effluent Sampling Quality Assurance Project Plan.	The QAPP has been revised and approved by Ecology and EPA.
Ecology 2	All else in this plan is approved	None
2101-M Laboratory Waste Water (WHC-SD-CP- PLN-014, Rev 0)		

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Sampling and Analysis Plan	Comment	Response
Ecology 1. (Footnote 4)	Section I., second paragraph. State the edition date of SW-846. The current edition is 1991.	Comment accepted. Revision to include reference to the latest edition of SW-846.
Ecology 2	Section V.3., first paragraph, second sentence. Add the phrase, "and to give a measure of the precision associated with sample collection, preservation and storage."	Comment not accepted. A measure of precision cannot be assigned to sample preservation, collection, and storage. Sampling duplicates and blanks will be utilized to provide data quality indicators as outlined in the QAPP. This information will not be duplicated in the SAP.
Ecology 3	Section VIII.A.1. Table of Analyses. Conform the bottle type and size to 40 CFR 136.3.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.
Ecology 4	Section VIII.B., fourth paragraph, third sentence. Eliminate the parenthetical expression (+/-2°C).  Sixth paragraph, add the sample matrix to the logbook entry.	Comment accepted. The expression will be eliminated.  Comment accepted. Sample matrix is recorded in the logbook and this will be noted in the SAP.
Ecology 1 (Footnote 25)	We have not accepted the stream specific report referenced in Section III B. The sampling objectives listed in Section II will, however, make this reference acceptable.	Comment accepted. No further text revision is necessary.
Ecology 2	Due to serious deficiencies in the "Liquid Effluent Sampling Quality Assurance Plan", WHC-SD-WM-QAPP-011, no review has been made of Sections IV, VI, VII, VIII, IX, X, XI, and XII of this document. Please refer to our review of the Liquid Effluent Sampling Quality Assurance Project Plan.	The QAPP has been revised and approved by Ecology and EPA.

SAMPLING AND ANALYSES PLANS  
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Sampling and Analysis Plan	Comment	Response
Ecology 3	Section V.A.3 should be made more specific. In addition to the consideration of fluctuation in constituent concentration mentioned, all test runs should note which intermittent waste streams are discharging at the time the samples are taken.	Comment accepted. The text will be revised to be more specific as requested.
284-W Powerplant Waste Water (WHC-SD-WM-PLN-033, Rev 1)		
Ecology 1 (Footnote 5)	Section 1.1, SAMPLING OBJECTIVES, next to last sentence. Add "legally defensible" to the provisions of this program.	Sampling and analyses will be carried out consistent with the provisions of the Hanford Federal Facility Agreement and Consent Order (TPA) and Federal and State regulatory requirements and guidance.
Ecology 2	All sections should refer to SW-846 as "latest edition" or "as amended". SW-846 has been amended since 1986.	Comment accepted. Revision to include reference to the latest edition of SW-846.
Ecology 3	Page 1.7 - Include the composition of all proprietary additives used in steam generation.	Comment accepted. The text will identify the proper chemical product name, i.e., Super Filmeen 14 (non-haz. amine derived from animal protein) immediately following the product name.
Ecology 4	Page 2.1 - We will have to insist that a sample tap be installed at sample location 6.	Comment accepted. The text will identify as such in Table 3.1 and where appropriate.
Ecology 5	Page 2.11 - Be certain that Table 2.2 conforms to 40 CFR 136.3.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.

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Sampling and Analysis Plan	Comment	Response
T Plant Laboratory Waste Water (WHC-SD-WM-PLN-036, Rev 1)		
EPA 1 (Footnote 6)	Page 9, Section 3.1.3, last paragraph: The text states that "the procedure allowed for the solution to be transferred to the 221-T Building Head End." The text should also state what happens to the waste stream from there (ie: is the waste treated, rerouted to a double shell tank...etc?).	Comment accepted. Information regarding the waste stream disposition will be added to the SAP.
EPA 2	The text states that the ditch is 30 ft. wide at the top, 6 ft. wide at the bottom, average depth 4 ft., and a side slope of 1:1.5. The text needs to be corrected to reflect a more correct set of dimensions.	Comment accepted. A correct set of dimensions will be used in the ditch description.
Ecology 1 (Footnote 7)	References to the Environmental Protection Agency's SW-846 should refer to the "latest edition" or "as amended". The 1986 edition quoted herein is obsolete.	Comment accepted. Revision to include reference to the latest edition of SW-846.
Ecology 2	In Section 7, reference should be made to 40 CFR 136.3 as the authority for sample containers, container preparation and retention times.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.
Ecology 3	Please add conductivity and total organic carbon to the list of routine effluent analyses in table 5-1. This, along with pH, will allow for routine detection of sudden variation in heavy metals and organics.	Comment accepted. Conductivity and TOC will be added to the list of routine analytes.
T Plant Waste Water		

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Sampling and Analysis Plan	Comment	Response
EPA 1 (Footnote 6)	<p>Page 5, Section 3.1.1, third paragraph: The 214 Chemical Storage Building is not shown on any figure.</p> <p>A description of the 2715-TA building is needed in this section.</p>	<p>Comment accepted. Building will be added to figure.</p> <p>Comment accepted. A description of 2715-TA will be added where appropriate.</p>
EPA 2	<p>Page 9, Section 3.2.1.1, second paragraph, second sentence: "Shippingport" should be inserted before "reactor" in this sentence for clarification.</p>	<p>Comment accepted. "Shippingport" will be added.</p>
EPA 3	<p>Page 13, Section 3.2.1.1, last paragraph, last sentence: The date when the stream is scheduled to be eliminated needs to be stated here. This information can be used to update future sampling and analysis schedules.</p>	<p>Comment accepted. The date will be added.</p>
EPA 4	<p>Page 13, Section 3.2.1.2, first sentence: The dimensions are inconsistent with those contained in the T-Plant Aggregate Area Management Study.</p>	<p>Comment accepted. This inconsistency will be cleared up.</p>
EPA 5	<p>Page 13, Section 3.2.1.2, second paragraph: According to the T Plant Wastewater Stream Specific Report, 221-T has a daily flow of 0-100 gallons, 221-TA has a daily flow of 0-20 gallons. This discrepancy needs to be rectified.</p>	<p>Comment accepted. This inconsistency will be cleared up.</p>
EPA 6	<p>Page 15, Section 3.2.1.4: The date when the stream is scheduled to be eliminated needs to be stated here. This information can be used to update future sampling and analysis schedules.</p>	<p>Comment accepted. The date will be added.</p>
EPA 7	<p>Page 17, Section 3.2.2.3: According to the SAP, if radioactive contamination is found in the sump, the liquid is not sent to the 216-T-4 Wastewater stream. There is no mention of where it is sent or how it is disposed of. This information needs to be included.</p>	<p>Comment accepted. This information will be included.</p>
EPA 8	<p>Page 17, Section 3.2.2.4: How is the flow rate estimated? Is it estimated over the entire year or only over the summer months when the swamp cooler is in operation? The flow rate should be an average over the summer months only, along with a maximum daily flow.</p>	<p>Comment accepted. This information will be provided and clarified. The flow over the summer months will be noted.</p>

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Sampling and Analysis Plan	Comment	Response
EPA 9	Page 19, Section 3.2.3, first paragraph, second to last sentence: It is stated that no effluent has been sent to the ditch for several years. Several years is not an adequate account of time. The Plan should be more specific about time frames.	Comment accepted. This will be clarified and a date added.
EPA 10	Page 22, Section 4.0, first sentence: Who does The Environmental Protection Programs group belong to? (ie; WHC or DOE?) This should be stated here.	Comment accepted. The proper organization title is the Effluent Treatment Programs. This is a Westinghouse Hanford Company organization and will be noted in the SAP.
EPA 11	Page 26, Section 5.2, second paragraph: EPA recommends that samples should not be taken within one month of each other in order to help insure more representative sampling of the waste stream.	Comment accepted. Full characterization samples will be taken at least one month apart.
Ecology 1 (Footnote 6)	Section 2.3 - The need for RCRA sampling will be determined by continued sampling under this sampling and analysis plan.	Comment accepted. This will be noted in the SAP.
Ecology 2	Section 4 - The edition of SW-846 quoted here has been superseded.  Chain of custody forms are physically transferred with the shipment.	Comment accepted. Revision to include reference to the latest edition of SW-846.  Comment accepted. The SAP will reflect that chain of custody forms are physically transferred with the shipment.
Ecology 3	Section 5 - The sample label should also show the matrix of the sample and the analyses to be performed.	Comment accepted. This information in on the label and will be noted in the SAP.

**SAMPLING AND ANALYSES PLANS  
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Sampling and Analysis Plan	Comment	Response
Ecology 4	Section 7.1.A.a - Please use the bottle types specified in 40 CFR-136.3	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.
Ecology 1 (Footnote 8)	Section 2.3 - The need for RCRA sampling will be determined by continued sampling under this sampling and analysis plan.	Comment accepted. This will be noted in the SAP.
Ecology 2	Section 4 - The edition of SW-846 quoted here has been superseded.  Chain of custody forms are physically transferred with the shipment.	Comment accepted. Revision to include reference to the latest edition of SW-846.  Comment accepted. The text will be revised to note that chain of custody forms are physically transferred with the shipment.
Ecology 3	Section 6 - The sample label should also show the matrix of the sample and the analyses to be performed.	Comment accepted. This information is on the label and will be noted in the SAP.
Ecology 4	Section 7.1.A.a - Please use the bottle types specified in 40 CFR 136.3.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.

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Sampling and Analysis Plan	Comment	Response
222-S Laboratory Waste Water (WHC-SD-WM- EV-075)		
Ecology 1 (Footnote 9)	Section 3.2, second paragraph: State the edition of SW-846 used. The 1991 edition is current.	Comment accepted. Revision to include reference to the latest edition of SW-846.
Ecology 2	Section 3.3, fourth paragraph: How will this data be reported to the regulatory authorities?	All data generated from the sampling and analysis of liquid effluents will be entered into the 'Liquid Effluent Information Management System (LEIMS)' which is part of the "Hanford Environmental Information System (HEIS)." Regulatory agencies including Ecology and EPA will have access to this data through LEIMS and HEIS. The SAP will be revised appropriately to include this information.
Ecology 3	Section 5.1, first paragraph: The label should list the time on a 24 hour clock, sample matrix, and bottle type.  Bottles should have custody seal.	Comment accepted. This information is on the label and will be noted in the SAP.  Comment accepted except where sampling from a potentially contaminated stream. Bottles that are filled in a potentially contaminated area are bagged before removal from the area. In this case the bags are given the custody seal.
Ecology 4	Section 6.1, second paragraph: Sample volumes are determined by the EPA.	The sample volumes are listed in Table 8-1 of the QAPP. This document will be referenced in the SAP and utilized during sampling.

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Sampling and Analysis Plan	Comment	Response
Ecology 5	Table 6.1: Conform table to 40 CFR 136.3.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.
Ecology 1 (Footnote 10)	Due to serious deficiencies in the "Liquid Effluent Sampling Quality Assurance Plan", WHC-SD-WM-QAPP-011, no review has been made of Sections 3, 5, 6 and 7 of this document. Please refer to our review of the Liquid Effluent Sampling Quality Assurance Project Plan.	The QAPP has been revised and approved by Ecology and EPA.
Ecology 2	All else in this plan approved.	None
PUREX Plant Chemical Sewer (WHC-SD-CP- PLN-013)		
EPA 1	Section A, Objectives: Objective one should be rewritten to state that the objective of the sampling is to determine the variability (if any), of the waste stream over time.	Comment accepted. This will be listed as an objective.
EPA 2	Section B.5.1, Standby Reductions: This section should also list the reduction of effluents in gallons per minute to give the reader a better understanding of the amount of flow reduction.	Comment accepted. This information will be added.
EPA 3	Section B.5.4, Corrosivity Control: More information is needed in regards to the retention basin. Is there leak detection equipment and what is the approximate hold up time for liquids diverted to this basin?	Comment accepted. The SAP will be revised to adequately describe the retention basin. Hold-up times vary with the current plant configuration and operation and are not considered appropriate for inclusion in the SAP.

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Sampling and Analysis Plan	Comment	Response
EPA 4	<p>Section B.5.7, Vacuum Fractionator: The text states that slightly radioactive and slightly acidic effluents are contributors. The word slightly is uninformative. It would be beneficial if actual numerical values were used in this section to describe the stream.</p> <p>Also does this stream have the potential to be diluted so that the initial pH may be higher than noted?</p>	<p>Comment accepted. Numeric values for pH will be noted.</p> <p>Comment accepted. This information will be provided.</p>
EPA 5	<p>Section F.2, Protocol Samples: This section is incomplete. Samples will need to be taken for PCB/Pesticides, herbicides, total dissolved solids, and conductivity. If these analytes are not going to be measured then the document must contain a justification for the deletion of these substances.</p> <p>In addition, EPA requires that the holding times for each analysis be included.</p> <p>In addition this section should address chain of custody for the samples taken.</p>	<p>Comment accepted. These analytes will be included.</p> <p>Comment not accepted. The QAPP will be referenced as the authority for holding times.</p> <p>Comment accepted. Chain of custody will be addressed.</p>
Ecology 1 (Footnote 11)	<p>Paragraph F.2: Please be certain that the bottle list shown is in accordance with 40 CFR 136.3.</p> <p>Please state the year in which the latest edition of SW-846 was published.</p> <p>The sample label shall also show the matrix from which the sample was taken and the analyses to be performed.</p>	<p>Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.</p> <p>Comment accepted. Revision to include reference to the latest edition of SW-846.</p> <p>Comment accepted. The label includes this information and the SAP will note it also.</p>

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Sampling and Analysis Plan	Comment	Response
Ecology 1 (Footnote 26)	The site map should, if possible, show the CSL sewer. It should definitely show the sampling points proposed.	Comment accepted. The site map will show this information.
Ecology 2	Section B.3 - In sampling and analysis plans intended for application to permits under WAC-173-216, the list of constituents in WAC 173-200 should also serve as a comparative list to the discharge.	Comment accepted. The list of methods selected from the QAPP will be consistent to WAC 173-200.
Ecology 3	The TK 2901A Tank, the 203A Area, and the Car Unloading Spot No. 1 Sump, all have the potential for diluting the waste stream with rainwater or sanitary water. This is an illegal procedure. These streams should be compared with total stream to demonstrate either that they are insignificant in volume, or that they are as hazardous as the remainder of the stream.	Comment accepted. This justification for not sampling seperately will be provided.
Ecology 4	Due to serious deficiencies in the "Liquid Effluent Sampling Quality Assurance Plan", WHC-SD-WM-QAPP-011, no review has been made of Sections C, D.1, D.2, E, F, and G. of this document. Please refer to our review of the Liquid Effluent Sampling Quality Assurance Project Plan.	The QAPP has been revised and approved by Ecology and EPA.
B Plant Chemical Sewer (WHC-SD-WM- PLN-029 REV 0)		
Ecology 1 (Footnote 12)	The choice of sampling points is both very good and exceptional, since it recognizes this office's concerns about sampling after dilution.	None
Ecology 2	Section C-2, second paragraph, refers to the stream specific report previously rejected by this office. Inclusion of this paragraph is inappropriate in this document.	Comment not accepted. The Stream Specific Report will not be utilized as an authority for stream characterization but will be used as available data for selection of analyses to be performed.
Ecology 3	A site map should be provided showing the sampling points.	Comment accepted. A site map will be provided showing sampling points.

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Sampling and Analysis Plan	Comment	Response
Ecology 4	Due to serious deficiencies in the "Liquid Effluent Sampling Quality Assurance Plan", WHC-SD-WM-QAPP-011, no review has been made of Sections D, F, G, and H of this document. Please refer to our review of the Liquid Effluent Sampling Quality Assurance Project Plan.	The QAPP has been revised and approved by Ecology and EPA.
Ecology 1	Paragraph F. - Sample labels should, in addition, to the items listed, should also show the matrix from which the sample was obtained and the analysis to be performed.	Comment accepted. This information is on labels and will be included in the SAP.
Ecology 2	Paragraph F.1, a through h. - The list of sample bottles and their characteristics from 40 CFR 136.3 should be used instead of this list if there is a conflict.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.
Ecology 3	Please quote the latest edition of SW-846 somewhere in this document.	Comment accepted. Revision to include reference to the latest edition of SW-846.
242-A Evaporator Cooling Water (WHC-SD-WM-EV-078, Rev 1)		

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Sampling and Analysis Plan	Comment	Response
Ecology 1 (Footnote 13)	Sampling Locations. The hazardous waste regulations define the amount of waste of concern to be a pint or a pound. As a result, the proposal to not sample some intermittent and relatively small streams is not acceptable to this office. Since this facility has been renovated since the Tri-Party Agreement was signed, it is astonishing that no sampling provisions for these sources were designed into the structure. We do not regard cutting into the pipes as an unacceptable condition. The only two reasons that would relieve you of the necessity of sampling the proposed waste streams would be ALARA or unacceptable cost (AKART).	Comment not accepted. The 242-A facility has several intermittent and small contributors to the liquid effluent discharge. These contributors have a low potential for being contaminated and have flow rates significantly less than one gallon per minute. The SAP will be revised to clarify this and provide justification for not sampling these contributors individually.
Ecology 2	Given the evidence presented, it has not been demonstrated to this office that steam condensate is universally innocuous. This question has been asked as a general question concerning the overall waste stream problem, and as such is not a particular problem as this site.	Comment accepted. Steam condensate will be sampled where it constitutes a significant contributor to the facility effluent stream.
Ecology 3	Please check the container list on pages 16 and 17, to insure that it conforms to 40 CFR 136.3.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.
242-A Evaporator Steam Condensate (WHC-SD-WM- EV-079, Rev 1)		

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Sampling and Analysis Plan	Comment	Response
Ecology 1	Please explain why Tank TK-E-104 does not discharge to Tank TK-E-103.	TK-E-104 and TK-C-103 are in a non-radiation zone and radiologically controlled zone, respectively. If TK-E-104 was to discharge to TK-C-103, DOE ALARA and segregation practices would be jeopardized.
Ecology 2	Confirm that the bottle list on Pages 15 and 16 conforms to 40 CFR 136.3.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.
Ecology 3	References to the EPA document SW-846 should note that the latest edition is meant.	Comment accepted. Revision to include reference to the latest edition of SW-846.
Ecology 4	The sample label described on page 15 should also list the sample matrix.	Comment accepted. The sample matrix is on the label and this will be noted in the SAP.
241-A Tank Farm Cooling Water (WHC-SD-WM-EV-077, Rev 1)		
Ecology 1 (Footnote 14)	Does the proportional sampler in the Condenser Building measure flow? If so, why not move this sample downstream of the warm water sump so that flow and chemical constituents can be measured at the same time? If this is impossible, then some other method should be employed to measure discharge volume leaving the warm water sump.	Comment not accepted. Flows from these locations will be included in the SAP. These flows will be either values determined from flow measuring devices or calculations from process knowledge. Presently, the flowrate is determined by a condenser cooling water monitor and estimated water usage by other equipment. Complete flow monitoring will be implemented as part of BAT/AKART for this facility.

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Sampling and Analysis Plan	Comment	Response
Ecology 2  5	Confirm that the sample bottle list on page 14 conforms to the list in 40 CFR 136.3.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.
244-AR Vault Cooling Water (WHC-SD-WM-EV-076, Rev 1)		
Ecology 1 (Footnote 15)  6	When referring to SW-846 please state "as amended".	Comment not accepted. All references to SW-846 will include "latest edition".
Ecology 2  9 3 1 2 7	Be certain that the container list on pages 13 and 14 conform to 40 CFR 136.3.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.
Ecology 3	Provide some mechanism for measuring discharge from this facility.	Comment accepted. Presently, flowrate can be determined by measuring flow through an opening in manhole weir. Complete flowrate monitoring will be implemented as part of BAT/AKART for this facility.

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Sampling and Analysis Plan	Comment	Response
284-E Powerplant Waste Water (WHC-SD-WM-PLN-034, Rev 1)		
Ecology 1 (Footnote 16)	Section 1.1, SAMPLING OBJECTIVES, next to last sentence - Add "legally defensible" to the provisions of this program.	Sampling and analyses will be carried out consistent with the provisions of the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) and Federal and State regulatory requirements and guidance.
Ecology 2	All sections should refer to SW-846 as "latest edition" or "as amended". SW-846 has been amended since 1986.	Comment accepted. All references to SW-846 will include "latest edition".
Ecology 3	Page 1.7 - Include the composition of all proprietary additives used in steam generation.	Comment accepted. The SAP will identify the proper chemical product name, i.e., Super Filmeen 14 (non-haz. amine derived from animal protein) immediately following the product name.
Ecology 4	Page 2.1 - We will have to insist that a sample tap be installed at sample location 6.	Comment accepted. The SAP will identify as such in Table 3.1 and where appropriate.
Ecology 5	Page 2.11 - Be certain that Table 2.2 conforms to 40 CFR 136.3.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.
183-D Filter Backwash Waste Water (WHC-SD-WM-PLN-035)		

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Sampling and Analysis Plan	Comment	Response
Ecology 1 (Footnote 17)	Section 1.2 - Please refer to SW-846 as "as amended" to insure that the latest edition is used. The 1986 version is the latest.	Comment not accepted. All references to SW-846 will include "latest edition"
Ecology 2	Section 2.3 - Protocol Sample Analysis. Sample labels, in addition to the items listed, should also show the matrix from which the sample was obtained and the analyses to be performed.	Comment accepted. This information is on the labels and will be included in the SAP.
Ecology 3	Table 2.1 - The list of sample bottles and their characteristics from 40 CFR 136.3, should be used instead of this list if there is a conflict.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.
B Plant Cooling Water (WHC-SD-WM-PLN-037, Rev. 1)		
Ecology 1 (Footnote 18)	Section 6 - Protocol Sample Analysis - Sample labels should, in addition to the items listed, should also show the matrix from which the sample was obtained and the analyses to be performed.	Comment accepted. This information is included on labels and will be noted in the SAP.
Ecology 2	Section 8 - The list of sample bottles and their characteristics from 40 CFR 136.3 should be used instead of this list if there is a conflict.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.

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Sampling and Analysis Plan	Comment	Response
Ecology 1 (Footnote 19)	Paragraph F. - Sample labels should, in addition to the items listed, should also show the matrix from which the sample was obtained and the analyses to be performed.	Comment accepted. This information is on the labels and will be noted in the SAP.
Ecology 2	Paragraph F.1, a through h. - The list of sample bottles and their characteristics from 40 CFR 136.3 should be used instead of this list if there is a conflict.	Comment not accepted. The procedures described in 40 CFR 136 are used to perform measurements of constituents when required to support an application for an NPDES permit. This waste stream is not included in that applicability. However, the requirements found in the approved QAPP were developed with these and other requirements in mind. The QAPP will be used as the authority for selection of bottle types and preservatives.
400 Area Secondary Cooling Water (WHC-SD-FF- PLN-002)		
Ecology 1 (Footnote 20)	When SWP-846 is referred to it should refer to the latest edition.	Comment accepted. All references to SW-846 will include "latest edition".
Ecology 2	Section F, last paragraph states that the Sampling and Mobile Laboratories are developing procedures for sample designation, with the implication that for this reason these procedures are not included in this report. All other SAPs submitted to us have included this information in the plan. Please be consistent by including the sample designation procedures in this document.	Comment not accepted. Specific sample collection and handling procedures will be referenced but not included in the SAP.
Ecology 3 (verbal)	400 Area Process Sewer map should include a symbol to designate sample point locations.	Comment accepted. Map will be revised as suggested.
Ecology 4 (verbal)	The Material Safety Data Sheets for Dearborn products described in the document need to be included as an appendix.	Comment accepted. Material Safety Data Sheets will be included.
N Reactor Effluent (WHC-SD-NR- PLN-008, Rev.0)		

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Sampling and Analysis Plan	Comment	Response
Ecology (Footnote 21)	No review, defer to EPA's review.	none
EPA 1 (Footnote 22)	Section D, Sampling Location, Type, and Frequency: This section is incomplete. No mention of the sampling frequency or the types of samples to be taken is made. EPA recommends revising this section to include this information.	Comment accepted. This detail will be added.
EPA 2	<p>This section implies that the contract lab will supply the information that will be recorded on the sample bottles. This seems somewhat inappropriate. At a minimum at least the HEIS number or some other Hanford ID number should be included.</p> <p>In addition, a statement is made up-front that the stream is designated as non hazardous. If this is the case, then the section on sample hazard labeling is not needed and therefore should be deleted.</p>	<p>Comment accepted. The supplier labels the bottles with lot number and bottle. The Sampler places an additional label on the bottle containing Hanford specific information.</p> <p>Comment accepted. Designating the stream as non hazardous will be removed from the SAP.</p>
EPA 3	<p>Section F, Sampling Equipment and Procedures: This section is incomplete. Samples will need to be taken for mercury, PCB/Pesticides, herbicides, total dissolved solids, and conductivity. If these analytes are not going to be measured then the document must contain a justification for deletion of these substances.</p> <p>In addition, EPA requires that the holding times for each analysis be included.</p>	<p>Comment accepted. The list of analytes will be adjusted to include these analytes.</p> <p>Comment not accepted. Holding times are given in Table 8-1 of the QAPP. The QAPP will be referenced in the SAP.</p>
EPA 4	This section needs to be strengthened. There is not enough information provided to even vaguely familiarize the reader with the sampling strategy. Information that is missing includes sample location, volumes, types of analysis, chain of custody, etc.	Comment accepted. This information will be added.
EPA 1 (1/29/92)	It is not clear from the SAP which specific chemical and radionuclide parameters will be analyzed. All of the parameters, individual analytical methods, and respective detection limits should be specified.	Comment accepted. This information will be provided except where it duplicates information found in the QAPP.

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Sampling and Analysis Plan	Comment	Response
EPA 2	<p>A requirement of NPDES permit application forms is that all waste flows be analyzed using test methods promulgated in 40 CFR Part 136. <u>If no applicable 40 CFR Part 136 test method has been promulgated for a particular pollutant in the discharges, other suitable methods may be used provided that a description of the method or a reference to a published method is submitted.</u></p> <p>Any method description should include the sample holding time, preservation techniques, and the quality control measures which were used.</p> <p>The SAP should be modified to reflect use of the 40 CFR Part 136 methods.</p>	<p>Comment accepted. The QAPP will be revised to reflect these requirements.</p> <p>Comment accepted. The QAPP includes this information and will be referenced in the SAP.</p> <p>The SAP will be revised to select those analytes and methods found in the QAPP which support application for an NPDES permit.</p>
EPA 3	<p>The term "protocol sampling" should be defined. As used in the SAP, it is not clear what this means.</p>	<p>Comment accepted. Protocol sampling will be defined.</p>

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Sampling and Analysis Plan	Comment	Response
EPA 4	<p>Waste stream flow rates should be measured, recorded, and included in the sampling results for flows at the following locations during the sampling.</p> <p>105-N Reactor Facility</p> <p>(1) Fuel Basin            (2) Lift Station            (3) Decontamination Stations            (4) Open Floor Drains</p> <p>109-N Steam Generator Facility</p> <p>(1) Cell Sumps (Holding Area for N Service Sump)            (2) Nuclear Service Sump            (3) Open Floor Drains            (4) Roof Leaks</p> <p>1301-N Emergency Dump Basin (Lift Station Connected)</p> <p>1301-N Weir Box discharge to 1325-N LWDF</p> <p>And these flow measurements should be added to the SAP.</p>	<p>Comment accepted. Flows from these locations will be included in the SAP. These flows will be either values determined from flow measuring devices or calculations from process knowledge. Recording flows from these locations will be included in the SAP.</p>
EPA 5	<p>The SAP should be expanded to include radiological and chemical sampling for the combined discharge out of 1301-N Weir Box to 1325-N LWDF.</p>	<p>Comment accepted. This revision will be made.</p>
EPA 6	<p>A discharge from 105-N Reactor Facility Fuel Basin to the 105-N Lift Station is indicated for monitoring in Figure 1. Please provide an explanation of the source of this discharge.</p>	<p>Comment accepted. This information will be provided.</p>

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Sampling and Analysis Plan	Comment	Response
EPA 7	<p>The sampling frequencies identified in Figure 1 need to be clarified.</p> <p>For example, what does B3 mean? Does it mean monthly sampling in December, January, February, and quarterly thereafter? If so, I'm not sure that sufficient monitoring for waste characterization purposes will be accomplished at the Fuel Basin and Lift Station monitoring stations in 105-N Reactor Facility.</p> <p>What does B5 mean? Does this mean that both radiological and chemical parameters will be monitored on a weekly basis?</p> <p>What is the length of the period of sampling? This should be indicated in the SAP.</p>	<p>Comment accepted. This information will be clarified and expanded in the SAP.</p>
EPA 8	<p>The name and location of the laboratory or laboratories that will be analyzing the samples should be identified in the SAP.</p> <p>Does that laboratory(s) operate a formal quality control program?</p> <p>A copy of the laboratory(s) Quality Assurance Plan should be added to the SAP.</p>	<p>Comment not accepted. Westinghouse Hanford must maintain the flexibility to utilize any laboratory that meets the criteria established.</p> <p>Yes, all contracted laboratories are required to have a formal quality control program.</p> <p>Comment not accepted. The QA Plan will not be included with the SAP but can be made available upon request.</p>
EPA 9	<p>It is indicated on Page 4 of the proposed SAP that after the protocol and effluent sampling data have been verified and validated, a copy will be sent by EPWS to the Environmental Data Management Center (EMC), and a note will be sent to the regulators when transmitted to EDMC. Will a copy of the data also be sent to the regulators along with the note? This should be explained in the SAP.</p>	<p>At this time there is no intent to routinely send all validated data packages to the regulators. This data will be available upon request.</p>
EPA 10	<p>All of the waste streams contributing to the flows at the sampling stations shown in Table 1 at the time of sample collection, should be identified.</p>	<p>Comment accepted. These streams will be identified.</p>

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Sampling and Analysis Plan	Comment	Response
EPA 11	<p>It is recommended that metal sampling in the discharges from 105-N Reactor Facility (Lift Station), 109-N Steam Generator Facility (Combined Cell and Nuclear Service Sumps), 1301-N Emergency Dump Basin, and the 1301-N Weir Box discharge to 1325-N LWDF include both "total" and "total recoverable" individual metal analyses in at least two of the samplings on different days. The rest of the metal sampling could be based on individual "total" metal analyses.</p> <p>The samples should be preserved at the time of collection and analyzed according to the procedures outlined in Subsections 4.1.3 and 4.1.4 of the Metals Section in Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79 020, March 1979 (copies attached).</p>	<p>Comment accepted. The QAPP will be revised to include "total" and "total recoverable" metal analyses. The SAP will implement these for this waste stream.</p> <p>Comment accepted. Samples will be preserved and analyzed in accordance with the latest edition of "Methods for Chemical Analysis of Water and Wastes".</p>
EPA 12	<p>On Pages 8 and 9 of the SAP, it is indicated that either plastic or glass sample containers will be used. This should be modified to conform with Table II, Required Containers, Preservation Techniques, and Holding Times on Page 28 of 40 CFR Part 136 (copy attached). The required sample containers identified in Table II call for use of polyethylene or glass containers.</p> <p>In addition, the SAP should outline the sample holding times, and preservation techniques to be used, and these should conform to those identified in Table II. (As indicated above, there is a difference between nitric acid preservation procedures for "total" and "total recoverable" metals.)</p>	<p>Comment accepted. The sample collection and analyses methods will conform to 40 CFR 136.</p> <p>Comment accepted. Holding times and preservation techniques will conform to 40 CFR 136.</p>
EPA 13	<p>In Section F.2 on Page 10 of the SAP, it is indicated that plastic bottles will be used for the effluent samples. As mentioned above, polyethylene or glass containers depending on the parameter to be analyzed, are specified in 40 CFR Part 136. The SAP should be modified to reflect this.</p>	<p>Comment accepted. Sample bottles will conform to 40 CFR 136.</p>

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Sampling and Analysis Plan	Comment	Response
2724-W Laundry Waste Water (WHC-SD-LL-PLN-001, Rev. 0)		
Ecology (Footnote 23)	All references to the EPA document SW-846 cite an outdated edition.	Comment accepted. All references to SW-846 will include "latest edition".
Ecology 1 (Footnote 24)	Due to serious deficiencies in the "Liquid Effluent Sampling Quality Assurance Plan", WHC-SD-WM-QAPP-011, no review has been made of Sections IV, VI, VII, IX, X, XI, and XII. of this document. Please refer to our review of the Liquid Effluent Sampling Quality Assurance Project Plan.	The QAPP has been revised and approved by Ecology and EPA.
Ecology 2	All else in this plan is approved.	none

- 1 Letter, D. A. Faulk, EPA, to S. H. Wisness, RL, "Review of the 242-S Evaporator Steam Condensate Sampling and Analysis Plan," #9203513, dated May 20, 1992.
- 2 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "242S Evaporator Steam Condensate Sampling and Analysis Plan," #9202344, dated April 6, 1992.
- 3 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "242S Evaporator Steam Condensate Sampling and Analysis Plan," #9201446, dated February 28, 1992.
- 4 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "2101-M Wastestream Sampling and Analysis Plan, Project W-049H," #9203000, dated April 8, 1992.
- 5 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "284-W Powerplant Sampling and Analysis Plan, Project W-049H," #9203013, dated May 6, 1992.
- 6 Letter, P. R. Beaver, EPA, to P. M. Pak, RL, "216-T-4 Wastewater Sampling and Analysis Plan and 216-T-1 Laboratory Wastewater Stream Sampling and Analysis Plan, #9204810, dated June 30, 1992.
- 7 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "Sampling and Analysis Plan, T-Plant Facility, 216-T-1 Laboratory, Project W-049H, #9203016, dated May 6, 1992.
- 8 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "Sampling and Analysis Plan, T-Plant, Project W-049H," #9202348, dated April 6, 1992.
- 9 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "Sampling and Analysis Plan, 222-S Laboratory Complex," #9202347, dated April 8, 1992.
- 10 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "Sampling and Analysis Plan, 222-S Laboratory Complex," #9201447, dated February 28, 1992.
- 11 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "PUREX Sampling and Analysis Plan, Project W-049H, #9202345, dated April 6, 1992.
- 12 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "Sampling and Analysis Plan, B Plant Chemical Sewer," #9201450, dated February 28, 1992.
- 13 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "242-A Evaporator Cooling Water Sampling and Analysis Plan," #9203010, dated May 11, 1992.

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- 14 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "241-A Tank Farm Cooling Water Sampling and Analysis Plan," #9203012, dated May 11, 1992.
- 15 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "244-AR Vault Cooling Water Sampling and Analysis Plan," #9203011, dated May 11, 1992.
- 16 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "284-E Powerplant Sampling and Analysis Plan," #9203063, dated May 11, 1992.
- 17 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "Sampling and Analysis Plan for the 183D Area Filter Backwash Facility Process Wastewater," #9203066, dated May 11, 1992.
- 18 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "B Plant, Sampling and Analysis Plan, Cooling Water," #9203064, dated May 11, 1992.
- 19 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "B Plant, Sampling and Analysis Plan, Project W-049H," #9203003, dated April 6, 1992.
- 20 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "400 Area Secondary Cooling Water Sampling and Analysis Plan," #9203015, dated May 6, 1992.
- 21 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "N Reactor Sampling an Analysis Plan, Project W-049H," #9202342, dated April 8, 1992.
- 22 Letter, D. A. Faulk, EPA, to S. H. Wisness, RL, "Review of the N-Reactor Sampling and Analysis Plan," #9203502, dated May 21, 1992.
- 23 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "2724-W Laundry Wastewater Sampling Analysis Plan, Project W-049H," #9203001, dated April 8, 1992.
- 24 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "Sampling and Analysis Plan, 2724-W Laundry," #9201449, dated February 28, 1992.
- 25 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "2101 Wastestream Sampling and Analysis Plan," dated February 28, 1992.
- 26 Letter, G. Anderson, Ecology, to R. D. Izatt, RL, "PUERX/CSL Sampling and Analysis Plan, WHC-SD-CP-PLN-103," dated February 28, 1992.

