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Change Number	Federal Facility Agreement and Consent Order Change Control Form Do not use blue ink. Type or print using black ink.	Date
M-17-93-05		June 23, 1993

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Class of Change

[ ] I - Signatories [ ] II - Project Manager [X] III - Unit Manager

Change Title

Sampling and Analyses Plans, Revisions of Analytical Methods.

Description/Justification of Change

Description and Justifications are noted on the following pages.

Impact of Change

No adverse technical impacts. Enhanced ability to provide timely effluent characterization data.

Affected Documents

183-D Filter Backwash Wastewater Sampling and Analyses Plan, WHC-SD-WM-PLN-035, REV 2.
222-S Laboratory Wastewater Sampling and Analyses Plan, WHC-SD-WM-EV-075, REV 1.
284-E Power Plant Wastewater Sampling and Analyses Plan, WHC-SD-WM-PLN-034, REV 2.
284-W Power Plant Wastewater Sampling and Analyses Plan, WHC-SD-WM-PLN-033, REV 2.
400 Area Secondary Cooling Water Sampling and Analyses Plan, WHC-SD-FF-PLN-002, REV 2.
242-S Evaporator Steam Condensate Sampling and Analyses Plan, WHC-SD-WM-EV-071, REV 1.
242-A Evaporator Cooling Water Sampling and Analyses Plan, WHC-SD-WM-EV-078, REV 2.
242-A Evaporator Steam Condensate Sampling and Analyses Plan, WHC-SD-WM-EV-079, REV 2.
241-A Tank Farm Cooling Water Sampling and Analyses Plan, WHC-SD-WM-EV-077, REV 2.
244-AR Vault Cooling Water Sampling and Analyses Plan, WHC-SD-WM-EV-076, REV 2.
Purex Plant Chemical Sewer Sampling and Analyses Plan, WHC-SD-CP-PLN-013, REV 1.
T Plant Wastewater Sampling and Analyses Plan, WHC-SD-WM-PLN-030, REV 1.
T Plant Laboratory Wastewater Sampling and Analyses Plan, WHC-SD-WM-PLN-036, REV 2.
2101-M Laboratory Wastewater Sampling and Analyses Plan, WHC-SD-CP-PLN-014, REV 1.
2724-W Laundry Wastewater Sampling and Analyses Plan, WHC-SD-LL-PLN-001, REV 1.
PFP Wastewater Sampling and Analyses Plan, WHC-SD-CP-PLN-010, REV 1.
UO_3 Plant Wastewater Sampling and Analyses Plan, WHC-SD-CP-PLN-012, REV 1.
UO_3 Plant Process Condensate Sampling and Analyses Plan, WHC-SD-CP-PLN-011, REV 1.

Approvals x Approved ___ Disapproved

M. J. Furman — DOE — 6-23-93 Date

D. R. Sherwood — EPA — 7/12/93 Date

Melodia Sally — Ecology — 7/15/93 Date

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Description/Justification of Change

Sampling and Analyses Plans which were prepared for the characterization of the major liquid effluent streams at Hanford must be revised to reflect the capabilities of the analytical laboratories that are on contract with Westinghouse Hanford. Otherwise, significant delays will occur while additional capabilities are negotiated and contracted. Those changes are noted in the suggested revisions below.

Also, several additional analytical methods are suggested which will enhance the capability to perform sampling and analyses in a timely manner by allowing more than one laboratory to be chosen for the analyses of a sample. Those additions are also noted below.

In all cases, the analytical methods to be used will be selected to satisfy the specific requirements for stream characterization as much as practicable. Effluent streams which are being characterized to support permitting under the National Pollution Discharge Elimination System will utilize analytical methods specified for NPDES[2]. Samples being collected for the purpose of permitting the discharge under the Washington State Waste Discharge system will be analyzed using SW-846 methods[1] as far as practicable.

Specific changes are as follows:

1. 183-D Filter Backwash Wastewater, WHC-SD-WM-PLN-035, REV 2, Table E-1.

Add method 6010[1] to the analyses methods for lead and tin.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change method 420[2] to methods 9065 and 9067 for total phenols.
Justification: The currently called out method is not available on contract.

Add method 335.2 to the analyses methods for total and amendable cyanide.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change method 9200 and method 354 to method 300.0 for nitrate and nitrite. Add methods 353.1. 353.2, and 353.3 for nitrate-nitrite.
Justification: Method 9200 is not available on contract. Method 300.0 yields nitrate results individually but has a 48 hour holding time for those anions which cannot be met. Method 353 yields nitrate-nitrite results collectively and has a 28 day holding time.

Change method 325 to method 300.0 for chloride.
Justification: The currently called out method is not available on contract.

Change method 340 to method 300.0 for fluoride.
Justification: The currently called out method is not available on contract.

Add methods 300.0 and 9036 to the analyses method for sulfate.
Justification: The additional analytical methods will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

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[1] Analytical method numbers in the thousands range refer to methods found in *Test Methods for Evaluating Solid Waste - Physical/Chemical Methods* SW-846, Rev I, Update 1, Nov. 1990, U. S. Environmental Protection Agency/Office of Solid Waste and Emergency Response.

[2] Analytical methods in the hundreds range refer to methods listed in *Methods for Chemical Analysis of Water and Wastes,* EPA-600/4-79-020, U. S. Environmental Protection Agency/Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Change method 9045 to method 9040 for pH.

Justification: Method 9045 was listed incorrectly due to a typographical error. Method 9040 is the correct method as specified in the Hanford Site Liquid effluent Characterization Program Quality Assurance Program Plan, WHC-SD-WM-QAPP-011, REV 3.

Add method 120.1 to the method for conductivity.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Delete sulfite from the list of analytes.

Justification: Sulfite analyses must be performed within six hours of sample collection or the results will not be accurate. Since this is not possible with the contracting arrangement currently in place for analyses. Analyses for sulfites would be useless and a waste of resources. Sulfates are being analyzed and will serve as an accurate indicator of the necessary contaminants.

2. 2101-M laboratory Wastewater, WHC-SD-CP-PLN-014, REV 1, Table 1.

Add method 6010 to the methods for analyses of tin and lead.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add methods 9010 and 9012 to the method for cyanide analysis.

Justification: The additional analytical methods will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change method 150.1 to method 9040 for pH.

Justification: The currently called out method is not available on contract.

3. 222-S Laboratory Wastewater, WHC-SD-WM-EV-075, REV 1, Section G.1.

Add method 6010 for tin and lead analyses.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 410.4 for chemical oxygen demand.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add methods 9010 and 9012 to the method for cyanide analysis.

Justification: The additional analytical methods will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add methods 353.1, 353.2, and 353.3 for nitrogen, and nitrate-nitrite analyses.

Justification: Method 300.0 has a 48 hour holding time for nitrate and nitrite which cannot be met. Method 353 has a 28 day holding time for nitrate-nitrite and can be met.

Add methods 375.4, and 9036 to the method for the analyses of sulfate.

Justification: The additional analytical methods will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change method 150.1 to method 9040 for pH.

Justification: The currently called out method is not available on contract.

Add method 9050 to the method for conductivity analysis.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

4. 2724-W Laundry Waste Water, WHC-SD-LL-PLN-001, REV 2, Table 1.

Add methods 375.4 and 9036 to the method for sulfate.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add methods 353.1, 353.2, and 353.3 for nitrate-nitrite analyses.
Justification: Method 300.0 which is currently called out has a 48 hour holding time which cannot be met. Method 353 has a 28 day holding time and can routinely be met.

5. 284-E Power Plant Wastewater, WHC-SD-WM-PLN-034, REV 2, Table F-1.

Add method 6010 to the methods for tin and lead.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 410.4 to the method for chemical oxygen demand.
Justification: The additional analytical method will enable more laboratories to be chosen from. and thus enhance the ability to complete analyses.

Change the method for total phenols to methods 9065 and 9067.
Justification: The currently called out method is not available on contract.

Add the methods 9010 and 9012 to the methods for total and amendable cyanide.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change the method for nitrate from 9200 and the method for nitrite from 354.1 to 300.0. Add methods 353.1, 353.2, and 353.3 for nitrogen, nitrate-nitrite analyses.
Justification: Method 9200 is not available on contract. Method 300.0 has a 48 hour holding time for nitrate and nitrite and cannot be met. Method 353 has a 28 day holding time for nitrate-nitrite.

Add methods 350.1 and 350.3 to the method for ammonia.
Justification: The additional analytical methods will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change the method for chloride analysis from 325.3 to 300.0.
Justification: The currently called out method is not available on contract.

Change the method for fluoride from 340.2 to 300.0.
Justification: The currently called out method is not available on contract.

Change the method for sulfate from 375.1 to 300.0, 375.4, and 9036.
Justification: The currently called out method is not available on contract.

Add method 120.1 to the method for conductivity.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change the method for Total and Fecal Coliform analyses from SM908C and SM908A to 9132 and 9131.
Justification: The currently called out methods are not available on contract.

Delete sulfite from the list of analytes.
Justification: Sulfite analyses must be performed within six hours of sample collection or the results will not be accurate. Since this is not possible with the contracting

arrangement currently in place for analyses. Analyses for sulfites would be useless and a waste of resources. Sulfates are being analyzed and will serve as an accurate indicator of the necessary contaminants.

6. 284-W Power Plant Wastewater, WHC-SD-WM-PLN-033, REV 2, Table F-1.

Add method 6010 to the methods for lead and tin.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 410.4 to the method for chemical oxygen demand.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change the method for total phenols from 420.1 to 9065 and 9067.
Justification: The currently called out method is not available on contract.

Add method 335.2 to the methods for total and amendable cyanide.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change the method for nitrate from 9200 and the method for nitrite from 354.1 to 300.0. Add methods 353.1, 353.2, and 353.3 for nitrogen, nitrate-nitrite analyses.
Justification: Method 9200 is not available on contract. Method 300.0 has a 48 hour holding time for nitrate and nitrite and cannot be met. Method 353 has a 28 day holding time for nitrate-nitrite.

Change the method for chloride from 325.3 to 300.0.
Justification: The currently called out method is not available on contract.

Change the method for fluoride from 340.2 to 300.0.
Justification: The currently called out method is not available on contract.

Change the method for sulfate from 375.1 to 300.0, 375.4, and 9036.
Justification: The currently called out method is not available on contract.

Add method 120.1 to the method for conductivity.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Delete sulfite from the list of analytes.
Justification: Sulfite analyses must be performed within six hours of sample collection or the results will not be accurate. Since this is not possible with the contracting arrangement currently in place for analyses. Analyses for sulfites would be useless and a waste of resources. Sulfates are being analyzed and will serve as an accurate indicator of the necessary contaminants.

7. 400 Area Secondary Cooling Water, WHC-SD-FF-PLN-002, REV 2, Section G.2.

Add method 7870 to the method for tin analyses.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 7421 to the method for lead analyses.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add methods 375.4 and 9036 to the method for sulfate analyses.
Justification: The additional analytical methods will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add methods 9010 and 335.2 to the method for total cyanide.
Justification: The additional analytical methods will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 410.1 to the method for chemical oxygen demand.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change the method for total phenols from 9066 to 9065 and 9067.
Justification: The currently called out method is not available on contract.

Change the method for phosphorus from 365.1 to 365.2.
Justification: The currently called out method is not available on contract.

Add methods 353.1 and 353.2 to the method for nitrogen and nitrate-nitrite analysis.
Justification: The additional analytical methods will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add methods 350.2 and 350.3 to the method for ammonia analysis.
Justification: The additional analytical methods will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 310.1 to the method for alkalinity.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change the analytical method for total organic carbon from 415.2 to 9060.
Justification: The currently called out method is not available on contract.

Add method 9050 to the method for conductivity.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

7. 241-A Tank Farm Cooling Water, WHC-SD-WM-EV-077, REV 2, Section G.1.
242-S Evaporator Steam Condensate, WHC-SD-WM-EV-071, REV 1, Section G.1.
242-A Evaporator Steam Condensate, WHC-SD-WM-EV-079, REV 2, Section G.1.
242-A Evaporator Cooling Water, WHC-SD-WM-EV-078, REV 2, Section G.1.
244-AR Vault Cooling Water, WHC-SD-WM-EV-076, REV 2, Section G.1.

Add method 6010 to the methods for tin and lead.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 365.4 to the method for phosphorus.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 335.2 to the methods for total cyanide analyses.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 350.3 to the method for ammonia.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change the methods for bromide, chloride, and fluoride to 300.0.
Justification: The currently called out method is not available on contract.

Add method 120.1 to the method for conductivity.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

8. Plutonium Finishing Plant Wastewater, WHC-SD-CP-PLN-010, REV 1, Section G.2.

Add method 6010 to the method for tin.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change the method for total oil and grease from 413.2 to 9070.
Justification: The currently called out method is not available on contract.

Add method 410.1 to the method for chemical oxygen demand.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 300.0 to the method for nitrate analyses.
Justification: The specified analytical method for nitrate actually yields a combined analyses for nitrate-nitrite but it has a maximum holding time of 28 days. Method 300.0 will yield a specific nitrate analyses value but the holding time of 48 hours cannot be met.

Add methods 300.0 and 9036 to the method for sulfate.
Justification: The additional analytical methods will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change the analytical method for pH from 150.1 to 9040.
Justification: The currently called out method is not available on contract.

Add method 120.1 to the method for conductivity analysis.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

9. PUREX Plant Chemical Sewer, WHC-SD-CP-PLN-013, REV 1, Table G-1

Add method 6010 to the method for tin and lead analyses.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 410.4 to the method for chemical oxygen demand analysis.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add methods 9010 and 9012 to the method for cyanide analysis.
Justification: The additional analytical methods will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add methods 350.2 and 350.3 to the method for ammonia analysis.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 353.1 and 353.2 to the method for nitrogen and nitrate-nitrite analyses. Also add method 300.0 for nitrate and nitrite analyses.

Justification: The additional methods will enhance the ability to perform the analyses by allowing a greater selection of analytical labs. Also, method 300.0 has a 48 hour holding time for nitrate and nitrite analyses. Method 353 has a 28 day holding time for nitrate-nitrite analyses.

Add method 9050 for conductivity analyses.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

10. T Plant Wastewater, WHC-SD-WM-PLN-030, REV 1, Table 7-1
T Plant Laboratory Wastewater, WHC-SD-WM-PLN-030, REV 1, Table 7-1

Add methods 350.2 and 350.3 to the method for ammonia analyses.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add methods 375.4 and 9036 to the method for sulfate analysis.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change method 150.1 for pH to method 9040.

Justification: The currently called out method is not available on contract.

Change the analytical methods for radionuclides to laboratory specific methods which have been approved in advance by Westinghouse.

Justification: This flexibility will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

11. UO_3 Plant Process Condensate, WHC-SD-CP-PLN-011, REV 1, Section G.1
UO_3 Plant Wastewater, WHC-SD-CP-PLN-012,REV 1, Section G.1

Add method 6010 to the method for tin analysis.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Change the method 413.2 for oil and grease analyses to method 9070.

Justification: The currently called out method is not available on contract.

Add method 410.1 to the method for chemical oxygen demand.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add methods 300.0 and 9036 to the method for sulfate analysis.

Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.

Add method 300.0 to the method for nitrate analyses.

Justification: The specified analytical method for nitrate actually yields a combined analyses for nitrate-nitrite but it has a maximum holding time of 28 days. Method 300.0 will

yield a specific nitrate analyses value but the holding time of 48 hours cannot be met.

Change method 340.2 for fluoride to method 300.0.
Justification: The currently called out method is not available on contract.

Delete the analyses for acidity.
Justification: Acidity analysis is not available on contract and alkalinity, which is the inverse of acidity is analyzed for this waste stream.

Change method 150.1 for pH to method 9040.
Justification: The currently called out method is not available on contract.

Add method 9050 to the method for conductivity analysis.
Justification: The additional analytical method will enable more laboratories to be chosen from and thus enhance the ability to complete analyses.