IM 7,238

Berven, Shawna D (DOH)

From: Beam, Thomas G [Thomas_G_Beam@rl.gov]
Sent: Wednesday, April 25, 2012 12:12 PM
To: McCormick, Ernest R (DOH); Schmidt, John W (DOH)
Cc: Martell, P John (DOH); Berven, Shawna D (DOH); Rasmussen, James; Beam, Thomas G; Penn, Lucinda L; Bates, John A; Barnett, Matthew
Subject: RE: Sampling Q's
Attachments: Stack analysis reductions to meet FF-01license requirements.docx; Major stacks-CAMs-PTEs.docx

Ernest/John,

Attached per your request is information in response to the questions below. Answers to each item are inserted in red directly below. In addition to the items you identified below, at the briefing last week you also asked whether any stack sampling technical support documents would need to be revised to reflect this change in the analytical strategy. We have confirmed with site contractors that no such revisions appear to be needed. Other supporting documentation, such as operational procedures or QA documents are in the process of being revised, if necessary, with completion expected in the next several weeks. If you have any additional questions, please feel free to let us know. Thanks.

Tom & Resp. to LB# 3413

From: Schmidt, John W (DOH) [mailto:John.Schmidt@doh.wa.gov]
Sent: Friday, April 20, 2012 7:02 AM
To: Beam, Thomas G; Rasmussen, James; Bates, John A; Penn, Lucinda L; Barnett, Matthew
Cc: McCormick, Ernest; Martell, John; Berven, Shawna
Subject: Sampling Q's

Tom,

We have a need for additional information concerning the presentation yesterday to conduct our review. Please get the following information to Ernest:

- We would like a copy of the matrix Mr. Rokkan discussed and used in his license research.

See attached Word file "Stack analysis reductions to meet FF-01 license requirements"

- Please provide a schedule of when this will be implemented or when it was implemented.

The reduction in stack sampling analyses was implemented with the December 2011 issuance of HNF-EP-0835, Rev. 18 (WSCF Statement of Work for CY2012 for Effluent Monitoring Program) for CY2012 stack samples. CY2011 major stack samples which were not analyzed until after January 1 were still analyzed in accordance with the previous frequency. On a case by case basis for some CY2011 minor stack samples which were not analyzed until after January 1, the reduced number was implemented if it could still be done in compliance with the license requirements.

- Provide a list of all major emission units with continuous monitoring systems and those without along with associated PTE.

See attached Word file "Major stacks-CAMS-PTEs". Additional information/explanation of "no" answers for those EUS without CAMs is available, if necessary, but is not provided as part of the table in this file.

We may need additional information and we will request it as needed.

Please let us know if you have any questions,

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http://www.doh.wa.gov/ehp/rp/air/airhm.htm
RAES TRACKING INFORMATION
(EU, NOC, AU, ALARACT, IM, LB)
All comments or statements are provided as Technical Assistance as allowed under the authority of Chapter 43.05 RCW Technical Assistance Programs 010(3).

FF-01 License Monitoring Requirements Cited with Stack Sample and Analysis Information for Calendar Year 2012.

Facility or Project	Stack or Emission Point ID[a]	FF-01 Monitoring Requirements	EDP Code (aka location code)	Time Period per Sample	Analysis and Number of Samples Planned for Analysis						
					Particulate Gross α, Gross β	Periodic Isotopic Particulate Composite					
						GEA	^{90}Sr	Isotopic Pu	^{241}Pu	^{241}Am	Ag-Zeolite
K Basin Closure Project	105-KW	CERCLA	Y234	BW	4	2	2	2	2	2	
			Y236	BW	4	2	2	2	2	2	
	105-KW Sparger Vent	CERCLA but an annual destructive analysis of a small HEPA is required	Y249	A	1	1	1	1	1	1	
	296-K-142	"Continuous" / "Each radionuclide that could contribute greater than 10% [or "percent"] of the potential TEDE"	Y201	M	12	4	4	4	4	4	
PUREX	**291-A-1**	"Continuous" / "Each radionuclide that could contribute greater than 10% [or "percent"] of the potential TEDE"	A006	M	12	2	2	2		2	
			A007	M							2
B Plant	**296-B-1**	"Continuous" / "137Cs, 90Sr"	B001	M	4	2	2				
WESF	**296-B-10**	"Continuous" / "Each radionuclide that could contribute greater than 10% [or "percent"] of the potential TEDE"	B748	BW	12	2	2				
East Tank Farms	296-A-18	"4 week sample/year" / "total alpha" and "total beta"	E060	BW	3						
	296-A-19	"4 week sample/year" / "total alpha" and "total beta"	E061	BW	3						
	296-A-20	"4 week sample/year" / "total alpha" and "total beta"	E197	BW	3						
	296-A-28	"4 week sample/year" / "total alpha" and "total beta"	E272	BW	3						
	296-A-30	"4 week sample/year" / "total alpha" and "total beta"	E903	BW	3						
	296-A-40	"2 week sample/quarter" / "total alpha and total beta"	E013	BW	3						
	296-A-41	"4 week sample/year" / "total alpha" and "total beta"	E015	BW	3						

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					Particulate Gross α, Gross β	Periodic Isotopic Particulate Composite					Ag-Zeolite
						GEA	^{90}Sr	Isotopic Pu	^{241}Pu	^{241}Am	
East Tank Farms	**296-A-42**	"Continuous" / "Each radionuclide that could contribute greater than 10% [or "percent"] of the potential TEDE"	E147	BW	12	2	2	2		2	
	296-A-43	"4 week sample/year" / "total alpha" and "total beta"	E148	Varies	3						
	296-A-44	"Continuous" / "Sr-90, Cs-137, Am-241, C-14, Y90 *[sic]*, Cs-134, Eu-154, Pa-231, Pu-238, Pu-240, Pu-241."	E920	BW	12	2	2	2	2	2	
	296-A-45	"Continuous" / "Sr-90, Cs-137, Am-241, C-14, Y90 *[sic]*, Cs-134, Eu-154, Pa-231, Pu-238, Pu-240, Pu-241."	E922	BW	12	4	4	4	4	4	
	296-A-46	"Continuous" / "Sr-90, Cs-137, Am-241, C-14, Y90 *[sic]*, Cs-134, Eu-154, Pa-231, Pu-238, Pu-240, Pu-241."	E924	BW	12	2	2	2	2	2	
	296-A-47	"Continuous" / "Sr-90, Cs-137, Am-241, C-14, Y90 *[sic]*, Cs-134, Eu-154, Pa-231, Pu-238, Pu-240, Pu-241."	E926	BW	12	2	2	2	2	2	
	296-P-45	"Continuous" / "Each radionuclide that could contribute greater than 10% [or "percent"] of the potential TEDE"	E047	Varies	2	1	1	1		1	
	296-P-47	"Continuous" / "Each radionuclide that could contribute greater than 10% [or "percent"] of the potential TEDE"	E096	BW	3	2	2	2		2	
	296-P-48	"Continuous" / "Each radionuclide that could contribute greater than 10% [or "percent"] of the potential TEDE"	E098	BW	3	2	2	2		2	

FF-01 License Monitoring Requirements Cited with Stack Sample and Analysis Information for Calendar Year 2012.

Facility or Project	Stack or Emission Point ID[a]	FF-01 Monitoring Requirements	EDP Code (aka location code)	Time Period per Sample	Analysis and Number of Samples Planned for Analysis						
					Particulate Gross α, Gross β	Periodic Isotopic Particulate Composite					Ag-Zeolite
						GEA	^{90}Sr	Isotopic Pu	^{241}Pu	^{241}Am	
East Tank Farms	**296-P-107**	"Continuous" / "Each radionuclide that could contribute greater than 10% [or "percent"] of the potential TEDE"	E104	BW	3	2	2	2		2	
242-A Evaporator	296-A-21A	"4 week sample/year" / "total alpha" and "total beta"	E651	BW	4						
	296-A-22	"One week sample per quarter, and continuous sampling during campaign" / "Campaign: TOTAL ALPHA, TOTAL BETA, 137Cs, 90Sr, 239Pu, 238Pu, 241Am, and each radionuclide that could contribute greater than 10% of the potential TEDE. Non-campaign: Total Alpha, Total Beta."	E643	BW	12	2	2	2		2	
ETF	296-E-1	"4 week sample/year" / "total alpha" and "total beta"	E036	Q	1						
CSB	**296-H-212**	"Continuous" / "Each radionuclide that could contribute greater than 10% [or "percent"] of the potential TEDE"	C601	M	12	2	2	2	2	2	
222-S Lab	296-S-16	"4 week sample/year" / "total alpha" and "total beta"	S264	BW	3						
	296-S-21	"Continuous" / "Each radionuclide that could contribute greater than 10% [or "percent"] of the potential TEDE"	S289	BW	4	2	2	2		2	
S Plant	291-S-1	"4 week sample/year" / "total alpha" and "total beta"	S006	M	1						

FF-01 License Monitoring Requirements Cited with Stack Sample and Analysis Information for Calendar Year 2012.

Facility or Project	Stack or Emission Point ID[a]	FF-01 Monitoring Requirements	EDP Code (aka location code)	Time Period per Sample	Analysis and Number of Samples Planned for Analysis						
					Particulate Gross α, Gross β	Periodic Isotopic Particulate Composite					Ag-Zeolite
						GEA	^{90}Sr	Isotopic Pu	^{241}Pu	^{241}Am	
T Plant	**291-T-1**	"Particulates shall be continuously sampled and analyzed every two weeks for gross alpha and gross beta/gamma, composited quarterly, and analyzed isotopically." / "All radionuclides that contribute greater than 10 percent of the potential-to-emit TEDE to the MEI, greater than 0.1 mrem/yr potential-to-emit TEDE to the MEI, and greater than 25 percent of the TEDE to the MEI after controls."	T785	M	26	4	4	4	4	4	
	296-T-7	"Total alpha total beta" and "Record sampling shall be continuous whenever the ventilation system is operating. Samples shall be collected monthly, for periods in which the ventilation system has operated. Samples shall be composited and analyzed quarterly [for "total alpha" and "total beta"], if a sample was collected during that quarter."	T154	M	4						
West Tank Farms	296-P-22	"2 week sample/quarter" / "total alpha and total beta"	W191	BW	3						
	296-P-23	"2 week sample/quarter" / "total alpha and total beta"	W190	Varies	3						
	296-P-44	"Continuous" / "Each radionuclide that could contribute greater than 10% [or "percent"] of the potential TEDE"	E046	Varies	3	1	1	1		1	
	296-S-18	"4 week sample/year" / "total alpha" and "total beta"	W096	Varies	2						

FF-01 License Monitoring Requirements Cited with Stack Sample and Analysis Information for Calendar Year 2012.

Facility or Project	Stack or Emission Point ID[a]	FF-01 Monitoring Requirements	EDP Code (aka location code)	Time Period per Sample	Analysis and Number of Samples Planned for Analysis						
					Particulate Gross α, Gross β	Periodic Isotopic Particulate Composite					Ag-Zeolite
						GEA	^{90}Sr	Isotopic Pu	^{241}Pu	^{241}Am	
	296-S-25	"2 week sample/quarter" / "total alpha and total beta"	W145	Varies	3						
WRAP	**296-W-4**	"Continuous, Collect samples biweekly at a minimum" / "Each radionuclide that could contribute greater than 10% of the potential TEDE"	W123	BW	4	2	2	2	2	2	
WSCF	696-W-1	"2 week sample/quarter" / "total alpha and total beta"	W010	M	4						
	696-W-2	"2 week sample/quarter" / "total alpha and total beta"	W011	M	4						
PFP	**291-Z-1**	Now CERCLA, but former FF-01 requirements: "Continuous" / "Each radionuclide that could contribute greater than 10% [or "percent"] of the potential TEDE"	Z810	BW	12			2	2	2	
	296-Z-15	CERCLA, but former FF-01 requirement was a single one-week sample a year analyzed for gross alpha and gross beta.	Z915	A	1						
324 Building	**EP-324-01-S**	CERCLA, but monitored as a typical major stack.	F025	M	12	2	2	2		2	
MASF	437-MN&ST	"4 week sample/year" / "total alpha" and "total beta"	F014	M	1						
	437-1-61	"4 week sample/year" / "total alpha" and "total beta"	F019	M	1						

[a] A stack or emission point ID in boldface indicates it is a major stack or emission point, meaning the dose potential of its annual emissions exceeds 0.1 mrem/yr effective dose equivalent (EDE); conversely, all stacks or emission points in regular face are minor, meaning the dose potential of each is equal to or less then 0.1 mrem/yr EDE.

List of Hanford Site Major Stacks Included in FF-01, with associated PTE and CAMs

- Information is not provided for stacks operated/sampled by PNNL.
- Information is not provided for CERCLA "major" emission points no longer in the FF-01 (EU 4, 105-KW Sparger Vent; EU 360, EP-324-01-S; and EU 393, 291-Z-1).
- Information is not provided for EU 201, 296-P-31 (209-E stack) since it has been demolished and is currently going through the closure process for removal from the FF-01.

EU ID	Stack Number	CAM??	Unabated PTE (mrem/year)
50	296-P-45 (portable exhauster)	Yes	1.61E+03
57	296-P-43 (portable exhauster)	Yes	1.61E+03
58	296-P-44 (portable exhauster)	Yes	1.61E+03
93	296-A-42 (241-AY/AZ exhauster)	Yes	5.75E+03
142	296-A-22 (242-A vessel vent)	Yes	1.00E-03[a]
193	296-W-4 (WRAP stack)	Yes	1.02E+02
254	296-S-21 (222-S stack)	No	3.00E+00
314	291-T-1 (T Plant stack)	Yes	1.20E+02
340	296-B-10 (WESF stack)	Yes	2.11E+01
369	291-A-1 (PUREX stack)	No	9.88E+05
402	296-B-1 (B Plant stack)	No	7.87E+01
435	296-H-212 (CSB stack)	Yes	3.64E+01
436	296-K-142 (CVDF stack)	Yes	1.27E+01
498	296-P-47 (portable exhauster)	Yes	1.61E+03
735	296-A-44 (241-AN exhauster)	Yes	1.33E+03[b]
736	296-A-45 (241-AN exhauster)	Yes	1.33E+03[b]
749	296-P-48 (portable exhauster)	Yes	1.61E+03
855	296-A-46 (241-AW exhauster)	Yes	1.33E+03[b]
856	296-A-47 (241-AW exhauster)	Yes	1.33E+03[b]
878	Bulk Vit Exhauster	Not operational	7.35E+01
885	296-P-49 (portable exhauster)	Not operational	1.61E+03
886	296-P-50 (portable exhauster)	Not operational	1.61E+03
1232	241-S-302 (241-S breather filter)	No	1.88E-01
1293	296-P-107 (portable exhauster)	Yes	1.61E+03
1322	Portable Enclosure System (PES)	No	3.92E+01
1327	Next Generation Retrieval (NGR)	No	3.92E+01
1328	296-A-48 (241-AP exhauster)	Not operational	5.09E+02
1329	296-A-49 (241-AP exhauster)	Not operational	5.09E+02
1330	296-A-50 (241-AY/AZ exhauster)	Not operational	3.33E+02
1331	296-A-51 (241-AY/AZ exhauster)	Not operational	3.33E+02
1335	296-S-26 (241-SY exhauster)	Not operational	8.57E+01
1342	296-S-27 (241-SY exhauster)	Not operational	8.57E+01

[a] Although EU 142 (296-A-22) is technically a minor emission unit based on its PTE, it is included in this list since it is treated as a major emission unit for sampling/monitoring purposes during evaporator campaigns.

[b] 1.33E+03 mrem/year is the correct PTE for EUs 735, 736, 855 and 856. The recently issued FF-01 incorrectly lists the PTE as 3.3E+02 mrem/year for each EU. These errors were not identified during the site's review process. WRPS will further discuss this with DOH to determine the best resolution.