

CH2MHILL • BWXT West Valley, LLC

West Valley Demonstration Project

Ms. Bridget M. Purdy, Contracting Officer
U. S. Department of Energy
West Valley Demonstration Project
10282 Rock Springs Road
West Valley, New York 14171-9799

AC-PRES
WD:2017:0835
August 22, 2017

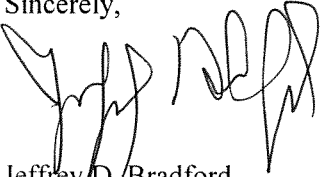
SUBJECT: Contract No. DE-EM0001529, Section J-3, Item 127, State Pollutant Discharge Elimination System (SPDES) Discharge Monitoring Report (DMR)

Dear Ms. Purdy:

This letter is submitted for Contracting Officer Representative's approval to inform you that the SPDES DMR for the reporting period July 1 through July 31, 2017 has been submitted electronically. A copy of this submittal is attached as well as a copy of the email confirmation from the New York State Department of Environmental Conservation (NYSDEC).

If you have any questions, please contact William Kean at extension 4865 or Janice Williams at extension 2913.

Sincerely,



Jeffrey D. Bradford
President & General Manager

JDB:WNK:bnj

Attachments: A) SPDES DMR for July 1 – July 31, 2017
B) Email Confirmation from NYSDEC

cc: B. C. Bower, DOE-WVDP
S. A. Anderson, CHBWV
J. J. Baker, CHBWV
J. L. Casper, CHBWV
C. Dayton, CHBWV (Public Reading Room)
N. Feher, CHBWV
L. K. Hollfelder, CHBWV
W. N. Kean, CHBWV
L. J. Ortega, CHBWV
D. H. Pritchard, CHBWV
J. E. Wangelin, CHBWV
J. D. Williams, CHBWV
Letter Log (B. Jeffery), CHBWV
CHBWV OITS #1630463

Attachment A
SPDES DMR

Permit

Facility:	WEST VALLEY DEMONSTRATION PROJ
Facility Location:	10282 ROCK SPRINGS ROAD WEST VALLEY, NY 14171-9799

Discharge: SUM-N
SUM OF OUTFALLS 1 & 7

Report Dates & Status

Status: NetDMR Validated

Considerations for Form Completion

Principal Executive Officer

Telephone: 716-942-4368

No Data Indicator (NODI)

Form NODI: _____

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

As required in Title 6 of the New York State Codes, Rules, and Regulations 6NYCRR, Part 750-2.5(e)(3), the New York Environmental Laboratory Accreditation Program (NYELAP) identification numbers for Laboratories performing analysis for this DMR is as follows: 1) TestAmerica: NY Lab No. 10026; and 2) General Engineering Laboratory: NY Lab No. 11501. Also, NYCRR Part 750-2.5(e)(3) requires reporting of Method Detection Limits (MDL's) where monitoring is not performed under ELAP. to that end, the MDL's for Total Residual Chlorine analysis, performed by the CHBWW wastewater treatment operators is 0.01 mg/L.

Attachments

Report Last Saved By

U.S. DEPT OF ENERGY

Date/Time: 2017-08-22 09:37 (Time Zone: -04:00)

DMR Copy of Record

Permit

Permit #:	NY0000973	Permittee:	U.S. DEPT OF ENERGY	Facility:	WEST VALLEY DEMONSTRATION PROJ
Major:	Yes	Permittee Address:	1000 INDEPENDENCE AVE SW WASHINGTON, DC 20585	Facility Location:	10282 ROCK SPRINGS ROAD WEST VALLEY, NY 14171-9799
Permitted Feature:	116 Internal Outfall	Discharge:	116-M PSEUDO MON. POINT @FRANKS CRK		

Report Dates & Status

Monitoring Period:	From 07/01/17 to 07/31/17	DMR Due Date:	08/28/17	Status:	NetDMR Validated
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Considerations for Form Completion

IF PSUEDO MONITORING POINT REPORT IS NOT REQUIRED DURING THE MONITORING PERIOD, EITHER CHECK THENO DISCHARGE BOX OR ENTER 'NODI A'IN PLACE OF A MEASUREMENT TO INDICATE A GENERAL PERMIT EXEMPTION.

Principal Executive Officer

First Name:	Bryan C.	Title:	Director, USDOE-WWDP	Telephone:	716-942-4368
Last Name:	Bower				

No Data Indicator (NODI)

Form NODI: --

Parameter	Monitoring Location	Season #	Param. NODI	Quantity or Loading				Quality or Concentration				# of Ex.	Frequency of Analysis	Sample Type
Code	Name			Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Units	
70295	Solids, total dissolved Z - Instream Monitoring 0													

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

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Attachments

Name	Type	Size
WWDP-JULY-2017-TDS-CALC.pdf	pdf	31608

Report Last Saved By

U.S. DEPT OF ENERGY

User:	william.kean@chbwv.com	Date/Time:	2017-08-22 09:37 (Time Zone: -04:00)
Name:	William Kean		
E-Mail:	william.kean@chbwv.com		

DMR Copy of Record

Permit

Permit #: NY0000973
Major: Yes

Permittee: U.S. DEPT OF ENERGY
Permittee Address: 1000 INDEPENDENCE AVE SW
WASHINGTON, DC 20585
Discharge: 001-M
OUTFALL 001 MONTHLY PROC WW, GW, STORM

Facility: WEST VALLEY DEMONSTRATION PROJ
Facility Location: 10282 ROCK SPRINGS ROAD
WEST VALLEY, NY 14171-9799

Permitted Feature: 001
External Outfall

Report Dates & Status

Monitoring Period: From 07/01/17 to 07/31/17

DMR Due Date: 08/28/17

Status: NetDMR Validated

Considerations for Form Completion

Principal Executive Officer

First Name: Bryan C.
Last Name: Bower

Title: Director, USDOE-WWDP

Telephone: 716-942-4368

No Data Indicator (NODI)

Form NODI: -

Code	Parameter Name	Monitoring Location	Season #	Param. NODI	Quantity or Loading					Quality or Concentration					# of Ex.	Frequency of Analysis	Sample Type
					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3			
00154 Sulfate [as S]		1 - Effluent Gross	0	--	Sample												
					Permit Req.												
					Value NODI												
00181 Oxygen demand, ultimate	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00300 Oxygen, dissolved [DO]	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00310 BOD, 5-day, 20 deg. C	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00400 pH	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00530 Solids, total suspended	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00545 Solids, settleable	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00556 Oil & Grease	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00615 Nitrogen, nitrite total [as N]	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00620 Nitrogen, nitrate total [as N]	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00625 Nitrogen, Kjeldahl, total [as N]	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00746 Sulfide, dissolved, [as S]	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00978 Arsenic, total recoverable	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00979 Cobalt, total recoverable	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
00981 Selenium, total recoverable	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													
01045 Iron, total [as Fe]	1 - Effluent Gross	0	--	Sample													
				Permit Req.													
				Value NODI													

01105 Aluminum, total [as Al]	1 - Effluent Gross	0	--	Sample	=	0.14	=	0.14	19 - mg/L	01/BA - Once Per Batch 24 - COMP24
				Permit Req.	<=	2 MO AVG	<=	4 DAILY MX	19 - mg/L 0	01/BA - Once Per Batch 24 - COMP24
				Value NODI						
01128 Vanadium, total recoverable	1 - Effluent Gross	0	--	Sample	<	0.0015	<	0.0015	19 - mg/L	01/BA - Once Per Batch GR - GRAB
				Permit Req.		Req Mon MO AVG	<=	.014 DAILY MX	19 - mg/L 0	01/BA - Once Per Batch GR - GRAB
				Value NODI						
34726 Nitrogen, ammonia, total [as NH3]	1 - Effluent Gross	0	--	Sample	=	0.014	=	0.019	19 - mg/L	02/BA - Twice Per Batch 24 - COMP24
				Permit Req.	<=	1.5 MO AVG	<=	2.1 DAILY MX	19 - mg/L 0	02/BA - Twice Per Batch 24 - COMP24
				Value NODI						
50050 Flow, in conduit or thru treatment plant	1 - Effluent Gross	0	--	Sample	=	0.204	=	0.318	03 - MGD	02/BA - Twice Per Batch CN - CONTIN
				Permit Req.		Req Mon MO AVG		Req Mon DAILY MX	03 - MGD	02/BA - Twice Per Batch CN - CONTIN
				Value NODI					0	
50060 Chlorine, total residual	1 - Effluent Gross	0	--	Sample	=	0.01	=	0.01	19 - mg/L	01/BA - Once Per Batch GR - GRAB
				Permit Req.		Req Mon MO AVG	<=	.1 DAILY MX	19 - mg/L 0	01/BA - Once Per Batch GR - GRAB
				Value NODI						
70295 Solids, total dissolved	1 - Effluent Gross	0	--	Sample	=	611	=	611	19 - mg/L	02/BA - Twice Per Batch GR - GRAB
				Permit Req.		Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L 0	02/BA - Twice Per Batch GR - GRAB
				Value NODI						
71900 Mercury, total [as Hg]	1 - Effluent Gross	0	--	Sample	=	1.8	=	1.8	3M - ng/L	01/BA - Once Per Batch GR - GRAB
				Permit Req.	<=	50 MO AVG		Req Mon DAILY MX	3M - ng/L 0	01/BA - Once Per Batch GR - GRAB
				Value NODI						
81646 Surfactants [linear alkylate sulfonate]	1 - Effluent Gross	0	--	Sample	=	0.01	=	0.01	19 - mg/L	01/BA - Once Per Batch GR - GRAB
				Permit Req.		Req Mon MO AVG	<=	.04 DAILY MX	19 - mg/L 0	01/BA - Once Per Batch GR - GRAB
				Value NODI						

Submission Note

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Edit Check Errors

No errors.

Comments

As required in Title 6 of the New York State Codes, Rules, and Regulations 6NYCRR, Part 750-2.5(e)(3), the New York Environmental Laboratory Accreditation Program (NYELAP) identification numbers for Laboratories performing analysis for this DMR is as follows: 1) TestAmerica: NY Lab No. 10026; and 2) General Engineering Laboratory: NY Lab No. 11501. Also, NYCRR Part 750-2.5(e)(3) requires reporting of Method Detection Limits (MDL's) where monitoring is not performed under ELAP. To that end, the MDL's for Total Residual Chlorine analysis, performed by the CHBWV wastewater treatment operators is 0.01 mg/L.

Attachments

No attachments.

Report Last Saved By

U.S. DEPT OF ENERGY

User: william.kean@chbwv.com

Name: William Kean

E-Mail: william.kean@chbwv.com

Date/Time:

2017-08-22 09:37 (Time Zone: -04:00)

DMR Copy of Record

Permit

Permit #:	NY0000973	Permittee:	U.S. DEPT OF ENERGY	Facility:	WEST VALLEY DEMONSTRATION PROJ
Major:	Yes	Permittee Address:	1000 INDEPENDENCE AVE SW WASHINGTON, DC 20585	Facility Location:	10282 ROCK SPRINGS ROAD WEST VALLEY, NY 14171-9799
Permitted Feature:	007 External Outfall	Discharge:	007-M SANITARY, NC COOLING WATER, UTILITY WASTEWATER, STORMWATER		

Report Dates & Status

Monitoring Period:	From 07/01/17 to 07/31/17	DMR Due Date:	08/28/17	Status:	NetDMR Validated
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Considerations for Form Completion

Principal Executive Officer

First Name:	Bryan C.	Title:	Director, USDOE-WWDP	Telephone:	716-942-4368
Last Name:	Bower				

No Data Indicator (NODI)

Form NODI: —

Code	Parameter Name	Monitoring Location Season # Param. NODI				Quantity or Loading					Quality or Concentration					# of Ex.	Frequency of Analysis	Sample Type
		Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units					
00181	Oxygen demand, ultimate	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI								Req Mon MO AVG <=	22 DAILY MX	19 - mg/L	01/30 - Monthly	CA - CALCTD	
					Sample								C - No Discharge	C - No Discharge				
00300	Oxygen, dissolved [DO]	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI					>=	3 MINIMUM			Req Mon MAXIMUM	19 - mg/L	02/30 - Twice Per Month	GR - GRAB	
					Sample						C - No Discharge			C - No Discharge				
00310	BOD, 5-day, 20 deg. C	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI								Req Mon MO AVG <=	10 DAILY MX	19 - mg/L	02/30 - Twice Per Month	24 - COMP24	
					Sample								C - No Discharge	C - No Discharge				
00400	pH	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI					>=	6.5 MINIMUM		<=	8.5 MAXIMUM	12 - SU	02/30 - Twice Per Month	GR - GRAB	
					Sample						C - No Discharge			C - No Discharge				
00530	Solids, total suspended	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI							<=	30 MO AVG	<=	45 DAILY MX	19 - mg/L	02/30 - Twice Per Month	24 - COMP24
					Sample								C - No Discharge	C - No Discharge				
00545	Solids, settleable	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI								Req Mon MO AVG <=	3 DAILY MX	25 - mL/L	02/30 - Twice Per Month	GR - GRAB	
					Sample								C - No Discharge	C - No Discharge				
00556	Oil & Grease	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI								Req Mon MO AVG <=	15 DAILY MX	19 - mg/L	02/30 - Twice Per Month	GR - GRAB	
					Sample								C - No Discharge	C - No Discharge				
00615	Nitrogen, nitrite total [as N]	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI								Req Mon MO AVG <=	.1 DAILY MX	19 - mg/L	01/30 - Monthly	24 - COMP24	
					Sample								C - No Discharge	C - No Discharge				
00625	Nitrogen, Kjeldahl, total [as N]	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI								Req Mon MO AVG	Req Mon DAILY MX	19 - mg/L	01/30 - Monthly	24 - COMP24	
					Sample								C - No Discharge	C - No Discharge				
01045	Iron, total [as Fe]	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI								Req Mon MO AVG	Req Mon DAILY MX	19 - mg/L	02/30 - Twice Per Month	24 - COMP24	
					Sample								C - No Discharge	C - No Discharge				
34726	Nitrogen, ammonia, total [as NH3]	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI							<=	1.49 MO AVG	<=	2.1 DAILY MX	19 - mg/L	02/30 - Twice Per Month	24 - COMP24
					Sample								C - No Discharge	C - No Discharge				
50050	Flow, in conduit or thru treatment plant	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI		Req Mon MO AVG		Req Mon DAILY MX 03 - MGD							01/30 - Monthly	CN - CONTIN	
					Sample		C - No Discharge		C - No Discharge									
50060	Chlorine, total residual	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI								Req Mon MO AVG <=	.1 DAILY MX	19 - mg/L	01/30 - Monthly	GR - GRAB	
					Sample								C - No Discharge	C - No Discharge				
70295	Solids, total dissolved	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI								Req Mon MO AVG	Req Mon DAILY MX	19 - mg/L	02/30 - Twice Per Month	GR - GRAB	
					Sample								C - No Discharge	C - No Discharge				
71900	Mercury, total [as Hg]	1 - Effluent Gross	0	—	Sample Permit Req. Value NODI								Req Mon MO AVG <=	50 DAILY MX	3M - ng/L	01/30 - Monthly	GR - GRAB	
					Sample								C - No Discharge	C - No Discharge				

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Attachments

No attachments.

Report Last Saved By

U.S. DEPT OF ENERGY

User: william.kean@chbwv.com

Name: William Kean

E-Mail: william.kean@chbwv.com

Date/Time:

2017-08-22 09:37 (Time Zone: -04:00)

Permit

Permittee:	U.S. DEPT OF ENERGY
Permittee Address:	1000 INDEPENDENCE AVE SW WASHINGTON, DC 20585

Facility:	WEST VALLEY DEMONSTRATION PROJ
Facility Location:	10282 ROCK SPRINGS ROAD WEST VALLEY, NY 14171-9799

Discharge: 01B-M
MERCURY PRETREATMENT

Monitoring Period: From 07/01/17 to 07/31/17

DMR Due Date: 08/28/17

Status: NetDMR Validated

Considerations for Form Completion

First Name: Bryan C.
Last Name: Bower

Title: Director, USDOE-WWDP

Telephone: 716-942-4368

Form NODI: _____

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Attachments

No attachments.

Report Last Saved By

U.S. DEPT OF ENERGY

User: william.kean@chbwv.com
Name: William Kean
E-Mail: william.kean@chbwv.com

Date/Time: 2017-08-22 09:37 (Time Zone: -04:00)

ATTACHMENT

SPDES DISCHARGE MONITORING REPORT - JULY 1 THROUGH JULY 31, 2017
NET IRON EFFLUENT CONCENTRATION CALCULATION
WEST VALLEY DEMONSTRATION PROJECT, SPDES PERMIT NO. NY-0000973

$$\begin{aligned}\text{OUTFALL 001} &= M1 = \frac{(X1 + X2) V1}{2} = 1903812.99 \text{ mg/month} \\ X1 &= 0.135 \text{ mg/L} \\ X2 &= 0.540 \text{ mg/L} \\ V1 &= 5640927.37 \text{ L/month}\end{aligned}$$

$$\begin{aligned}\text{OUTFALL 007} &= M7 = \frac{(X1 + X2) V7}{2} = 0.00 \text{ mg/month} \\ X1 &= 0.00 \text{ mg/L} \\ X2 &= 0.00 \text{ mg/L} \\ V7 &= 0.00 \text{ L/month}\end{aligned}$$

Note: There was no discharge from outfall 007 during this monitoring period.

$$\begin{aligned}\text{RAW WATER} &= MRW = \frac{(X1 + X2 + X3 + X4) VRW}{4} = 0.00 \text{ mg/month} \\ X1 &= 0.00 \text{ mg/L} \\ X2 &= 0.00 \text{ mg/L} \\ X3 &= 0.00 \text{ mg/L} \\ X4 &= 0.00 \text{ mg/L} \\ VRW &= 0.00 \text{ L/month}\end{aligned}$$

Note: Raw water from the reservoir system is no longer used for process water since the site installed two groundwater wells. This eliminated the need to collect raw water samples on a weekly basis and altered the iron discharge concentration equation as the mass of iron entering the system is no longer necessary.

$$\text{IRON DISCHARGE CONCENTRATION} = \frac{M1 + M7 - MRW}{V1 + V7} = 0.34 \text{ mg/L}$$

ATTACHMENT (Cont'd)

SPDES DISCHARGE MONITORING REPORT - JULY 1 THROUGH JULY 31, 2017
TOTAL DISSOLVED SOLIDS (TDS) CONCENTRATION CALCULATION - MONITORING POINT 116
WEST VALLEY DEMONSTRATION PROJECT, SPDES PERMIT No. NY-0000973

Date: July 12, 2017

$$\begin{aligned} C4 &= ((Q1)(C1) + (Q2)(C2) + (Q3)(C3)) / Q4 \\ &= ((0.204 \text{ MGD})(611 \text{ mg/L}) + (0.132 \text{ MGD})(321 \text{ mg/L}) + (0.324 \text{ MGD})(95 \text{ mg/L})) / (0.660 \text{ MGD}) \\ &= 300 \text{ mg/L} \end{aligned}$$

Date: July 18, 2017

$$\begin{aligned} C4 &= ((Q1)(C1) + (Q2)(C2) + (Q3)(C3)) / Q4 \\ &= ((0.204 \text{ MGD})(610 \text{ mg/L}) + (0.132 \text{ MGD})(346 \text{ mg/L}) + (0.324 \text{ MGD})(83 \text{ mg/L})) / (0.660 \text{ MGD}) \\ &= 299 \text{ mg/L} \end{aligned}$$

-
- Q1 = Flow at Outfall 001, million gallons per day (MGD).
- C1 = Total Dissolved Solids (TDS) concentration at Outfall 001, mg/L.
- Q2 = Flow in Franks Creek, MGD (without Outfall 001), measured at WNSP006 just prior to, and shortly after the discharge event.
- C2 = TDS concentration in Franks Creek measured at WNSP006 just prior to, and shortly after the discharge event.
- Q3 = Flow of augmentation water, MGD, if required.
- C3 = TDS concentration in augmentation water, MGD.
- Q4 = Q1 + Q2 + Q3, MGD (Flow in Franks Creek, including Outfall 001).
- C4 <= 500 mg/L (calculated TDS concentration at 116 in Franks Creek, which includes Outfall 001).