



**U.S. Department of Energy
Hanford Site**

September 10, 2020

20-ECD-0044

Ms. Alexandra K. Smith, Program Manager
Nuclear Waste Program
Washington State
Department of Ecology
3100 Port of Benton Blvd.
Richland, Washington 99354

Dear Ms. Smith:

**ENTITY REVIEW OF DRAFT PERMIT AND FACT SHEET FOR STATE WASTE
DISCHARGE PERMIT ST0004502 FOR THE TREATED EFFLUENT DISPOSAL FACILITY**

This letter submits the U.S. Department of Energy, Office of River Protection's (ORP) response to your letter 20-NWP-134, dated August 18, 2020. As requested, comments are provided in the attached Review Comment Record for the draft permit and fact sheet for the State Waste Discharge Permit Number ST0004502 for the Treated Effluent Disposal Facility.

If you have any questions, please contact me, or your staff may contact Chris J. Kemp, Director, Environmental Compliance Division, ORP, on (509) 373-0649.

Sincerely,

Digitally signed by Brian T. Vance
DN: cn=Brian T. Vance, o=Office of River
Protection, ou=Department of Energy,
email=brian.t.vance@orp.doe.gov, c=US
Date: 2020.09.11 04:50:42 -07'00'

Brian T. Vance
Manager

ECD:RLE

Attachments: (4)

cc: see page 2

Ms. Alexandra K. Smith
20-ECD-0044

-2-

September 10, 2020

cc w/attachs:

C. P. Allen, WRPS
M. W. Bowman, WRPS
K. G. Hall, Ecology
B. G. Turner, WRPS
Administrative Record (T-2-8)
Environmental Portal
WRPS Correspondence

cc w/o attachs:

J. T. Hamilton, WRPS
D. W. Hendrickson, WRPS
J. Temple, Ecology
C. Wend, Ecology

Attachment 1
20-ECD-0044

Review Comment Record

(8 Pages Including Cover Sheet)

Document Title(s)/Number(s):
Entity Review of ST0004502 Draft Permit and Fact Sheet for Permit Renewal

Document Manager	Telephone Number	Project Manager	Telephone Number	Facility Site ID	Cleanup Site ID
Katie Hall	(509) 282-2677	John Temple	(509) 980-1038		

Item No.	Pg. # Sec. # Para./Sent.	Comment or Question	Modification Needed	Basis/Justification	Permittee Response	Ecology Response	Open/Close	Reviewer Initials
1.	ST4502 Permit, Page 2, Table	For 222-S Laboratory Complex, "distilled water, is missing from the "Uses Generating Effluent" column	Add "distilled water in the Uses Generating Effluent" column	Factual Accuracy	The distilled water tank overflow and drain lines are an intermittent flow at 222-S laboratory. It is the most significant discharge from the facility.			
2.	ST4502 Permit, Page 2, Table	Regarding: 241-AY/241-AZ Tank Farm Cooling Water listed as generating "Ventilation cooling water "	Change the narrative in the Uses Generating Effluent" column to "rainwater."	Factual Accuracy	The 702-AZ evaporative cooling towers have been taken out of service and no longer routinely discharge to TEDF. Each tower is equipped with a floor drain in the concrete where the excess cooling water was discharged to TEDF, this floor drain is still active and could receive water from excess snowmelt or rainwater.			
3.	ST4502 Permit, Page 2, Table	Regarding the lines for "283-W Water Treatment Facility (authorized through December 2021)" and "283-WR Water Treatment Facility"	Change the two facility references to a single line called the "283W Water Treatment Facility Complex". Please remove hyphens in facility names. Please remove "(authorized through December 2021)" Combine the lists in the Uses Generating Effluent" column: Potable (drinking) water, raw water, membrane and strainer backwash, membrane feed flush, cleaning solution and rinse waters (softened, chlorinated potable water)	Factual Accuracy	There is currently no coverage for the facilities that compose the 283W Water Treatment Facility Complex. The list of buildings and structures associated with the 283W/283WR Water Treatment Facility Complex include the following: 283W (current filtration plant), 283WR (new filtration plant), 282W (reservoirs), 282WC (pump house), 283WA (sanitary water tank), 283WE (sludge lagoons), 283WB (equalization basin), 283WC (solid contact clarifier tank), 283WD (recycle pump station), 283WF (sample building), and 282WA (water inlet house). All of the supporting facilities for 283W will still be in use when 283WR is completed.			

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4.	ST4502 Permit, Page 2, Table	The 283E Water Treatment Facility Complex needs to be added to the permit. The 283E Water Treatment Facility Complex consists of several facilities that discharge to TEDF.	Please add the "283E Water Treatment Facility Complex" The "Uses Generating Effluent" column should include: Potable (drinking) water, raw water, and filter backwash	Factual Accuracy	There is currently no coverage for the facilities that compose the 283E Water Treatment Facility Complex. The list of buildings and structures associated with the 283E Water Treatment Facility Complex include the following: 283E (water filtration plant), 282E (raw water reservoir, overflow could potentially go to TEDF), 282EA (north water reservoir inlet house), 282EB (south water reservoir inlet house), 282EC (pump house), 283EA (sanitary water tank), and 283EG (sanitary water tank replacement).			
5.	ST4502 Permit, Page 2, Table	241-A-285 Water Service Building, discharges raw water to TEDF via a manhole. Currently the discharge is managed as a ST0004511 discharge to TEDF but there is an actual tie in to a line connected to the TEDF manhole. A sampling port is not available between the 241-A-285 sump and the TEDF manhole. The wastewater flow is raw water in negligible amounts from the following sources: pressure relief valves, water tank overflows, backflow preventer drain, misc maintenance.	Add in 241-A-285 Water Service Building The "Uses Generating Effluent" column should list: Raw water	Factual Accuracy (new information)	This will relieve documentation as a ST4511 discharge. This discharge was not previously in the TEDF permit because it was covered as a ST4511 discharge. Note: This raw water discharge will not be sampled prior to discharge to TEDF.			
6.	ST4502 Permit, Page 10, Special Condition S2.B, Table	If Hexavalent Chromium monitoring is required, the proper method (i.e., SM3500) needs to be specified.	For Hexavalent Chromium, change method from "200.8" to "SM3500".	Factual Accuracy	The improper method was specified.			
7.	ST4502 Permit, Page 12, Special Condition S3A, Item #3.	The method specified for reporting less than the DL does not correspond with the electronic DMR format. Remove the LT ("<") symbol and replace with "a "B qualifier".	Please revised the first sentence of Item #3 to read: "Report single analytical values below detection as "less than the detection level (DL)" by entering a B qualifier followed by the numeric value of the detection level (e.g., B 2.0) on the DMR."	Factual Accuracy	The electronic DMRs do not use the "<" but instead the "B" qualifier. This is a legacy error in the original permit, but that permit gave the option of manually submitting DMRs.			
8.	ST4502 Permit, Pages 12-13, Special Condition S3.A.	The currently ST4502 permit requires results between the DL and the QL to have a "J" qualifier (See Current permit, page 9 Special Condition S2.A, Table, Notes). .	If the qualifier code of J reporting is required, within Special Condition S3.A, add the following " Report single analytical values between the detection and quantitation levels with qualifier code of J preceding the value. "	Factual Accuracy	Clarification if the current reporting on DMRs for results between the DL and the QL will continue.			

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Item No.	Pg. # Sec. # Para./Sent.	Comment or Question	Modification Needed	Basis/Justification	Permittee Response	Ecology Response	Open/Close	Reviewer Initials	
9.	ST4502 Fact Sheet, Page 1, Summary	According to the 200 Area Treated Effluent Disposal Facility Interface Control Document, RPP-RPT-59117, Rev 1 (still pending final publication), the pipeline is eleven miles long not twelve.	Change "twelve (12)-mile-long pipeline" to: eleven (11)-mile-long pipeline.	Factual Accuracy					
10.	ST4502 Fact Sheet, Page 8, History	According to the 200 Area Treated Effluent Disposal Facility Interface Control Document, RPP-RPT-59117, Rev 1 (still pending final publication), the pipeline is eleven miles long not twelve.	Change "twelve (12)-mile-long pipeline" to: ...eleven (11)-mile-long pipeline.	Factual Accuracy					
11.	ST4502 Fact Sheet, Page 10, 2 nd Paragraph	The information communicated in the second and third sentences are factually inaccurate. If WTP DFLAW commissioning is to start in 2022, the cooling towers and other operational discharges will be required in 2022 to support DFLAW commissioning.	Correct the third sentence to clarify discharges from the cooling towers and supporting operations will be occurring when WTP DFLAW commissioning starts.	Factual Accuracy	Current plans call for hot startup of WTP in September 2022. The date of 2030 is when full operation (Low Activity Waste and High Level Waste) begins.				
12.	ST4502 Fact Sheet, Page 12, Industrial Processes, 7 th bullet	There will be instances where the reverse osmosis permeate must accompany concentrate during routine operations.	Delete the clarifying sentence in the fact sheet that excludes permeate after full operation starts	Factual Accuracy	RO permeate is the deionized water which is demineralized water (DIW) while the concentrate contains the minerals that are removed via the reverse osmosis membranes. Note there is no time limit for this discharge in the draft permit.				
13.	ST4502 Fact Sheet, Page 12, Plutonium Finishing Plant Effluent	Demolition of PFP Main Processing Facility was achieved in Feb 2020.	Please revise introductory sentence to read: "As of February 2020, demolition of Plutonium Finishing Plant is in its final stages."	Factual Accuracy	The description of the Plutonium Finishing Plant at slab-on-grade is not factually accurate.				
14.	ST4502 Fact Sheet, Page 12, 241-A Tank Farm Cooling Water	The 702-AZ evaporative cooling towers have been taken out of service and no longer routinely discharge to TEDF. Each tower is equipped with a floor drain in the concrete where the excess cooling water was discharged to TEDF, this floor drain is still active and could receive water from excess snowmelt or rainwater.	Add in the current information provided under the comment column.	Factual Accuracy	Information from 200 Area Treated Effluent Disposal Facility Interface Control Document, RPP-RPT-59117, Rev 1 (still pending final publication)				
15.	ST4502 Fact Sheet, Page 13 283-W Bullet Item	The 283W water treatment facility has provided water to the Hanford Site since 1944, not 1996.	Please change 1996 to 1944 and identify the facility as the "283W Water Treatment Facility Complex."	Factual Accuracy	The water treatment facility has provided potable water to Hanford since operations started in 1944.				

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16.	ST4502 Fact Sheet, Page 13	The 283E Water Treatment Facility Complex needs to be added to the permit.	Please add the "283E Water Treatment Facility Complex. The 283E Water Treatment Facility has provided filtered raw water to the Hanford's Central Plateau up to the year 2000. The facility currently provides clearwell and pumping functions. Online instrumentation requires continuous discharges. Discharges to the 200 Area TEDF system include raw water and sanitary.	Factual Accuracy	The facility needs coverage and has provided raw water to Hanford since operations started in 1944.			
17.	ST4502 Fact Sheet, Page 14, Bullet Waste Treatment and Immobilization Plant (WTP).	The 6 th sentence of the subject bullet reads: "Discharge of the reverse osmosis permeate will cease to the 200 Area TEDF once the WTP is operational." However, there will be instances where reverse osmosis permeate must accompany concentrate during routine operations. The reverse osmosis permeate is the deionized water which is demineralized water while the concentrate contains the minerals that are removed via the reverse osmosis membranes.	Please delete the sentence: "Discharge of the reverse osmosis permeate will cease to the 200 Area TEDF once the WTP is operational."	Factual Accuracy				
18.	ST4502 Fact Sheet, Page 14, Bullet Waste Treatment and Immobilization Plant (WTP), Second to Last Sentence.	The air stripper to remove Trihalomethanes is installed.	Please revise the sentence: "USDOE plans to install an end-of-pipe treatment system consisting of air-stripping to remove Trihalomethanes, primarily chloroform" . to read: "The USDOE installed an air stripper to remove Trihalomethanes, such as Chloroform."	Factual Accuracy	Current status.			
19.	ST4502 Fact Sheet, Page 14, Collection System Status	According to the 200 Area Treated Effluent Disposal Facility Interface Control Document, RPP-RPT-59117, Rev 1 (still pending final publication), the pipeline is eleven miles long not twelve.	Change "twelve (12)-mile-long pipeline" to: ...eleven (11)-mile-long pipeline.	Factual Accuracy				

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20.	ST4502 Fact Sheet, Page 14, Collection System Status	Recommend removing the reference to "near the PFP" since the facility has been demolished. Instead the narrative could clarify which facilities send discharge via that pump station 1	"Delete "near the PFP". Recommend changing : Pump Station #1 is located in the 200 West Area near the PFP. To Pump Station 1 is located in the 200 West Area and collects effluent from T Plant, 283-W Water Treatment Plant, and 222-S Laboratory.	Factual Accuracy																																
21.	ST4502 Fact Sheet, Page 18, Table 2	For some of the organics the maximum values are lower than the average values. See Attachment 2	Change the max values for the following constituents: <table border="1"> <thead> <tr> <th></th> <th>Max Value</th> </tr> </thead> <tbody> <tr> <td>1,1-Dichloroethane</td> <td>OK</td> </tr> <tr> <td>1,2,4-Trichlorobenzene</td> <td>< 1.2</td> </tr> <tr> <td>1,4-Dichlorobenzene</td> <td>< 1.2</td> </tr> <tr> <td>2,4-Dinitrotoluene</td> <td>< 1.2</td> </tr> <tr> <td>2-Chlorophenol</td> <td>< 1.2</td> </tr> <tr> <td>4-Chloro-3-methylphenol</td> <td>< 1.2</td> </tr> <tr> <td>4-Nitrophenol</td> <td>OK</td> </tr> <tr> <td>Acenaphthene</td> <td>< 1.2</td> </tr> </tbody> </table>		Max Value	1,1-Dichloroethane	OK	1,2,4-Trichlorobenzene	< 1.2	1,4-Dichlorobenzene	< 1.2	2,4-Dinitrotoluene	< 1.2	2-Chlorophenol	< 1.2	4-Chloro-3-methylphenol	< 1.2	4-Nitrophenol	OK	Acenaphthene	< 1.2	Factual Accuracy	Review of TEDF data from 2011 to 2019.													
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22.	ST4502 Fact Sheet, Pages 18-20, Table 2	Some of the trace metal data have U qualifiers so they should be "less than" values. See Attachment 2	Change the qualifiers for the following constituents: <table border="1"> <thead> <tr> <th></th> <th>No.</th> <th>Avg</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>Beryllium</td> <td>2</td> <td>< 1</td> <td>< 1</td> </tr> <tr> <td>Cobalt</td> <td>2</td> <td>< 1</td> <td>< 1</td> </tr> <tr> <td>Nickel</td> <td>2</td> <td>< 1.5</td> <td>< 1.5</td> </tr> <tr> <td>Silver</td> <td>2</td> <td>< 1</td> <td>< 1</td> </tr> <tr> <td>Thallium</td> <td>2</td> <td>< 5</td> <td>< 5</td> </tr> <tr> <td>Vanadium</td> <td>2</td> <td>< 1</td> <td>< 1</td> </tr> </tbody> </table>		No.	Avg	Max	Beryllium	2	< 1	< 1	Cobalt	2	< 1	< 1	Nickel	2	< 1.5	< 1.5	Silver	2	< 1	< 1	Thallium	2	< 5	< 5	Vanadium	2	< 1	< 1	Factual Accuracy	Review of TEDF data from 2011 to 2019.			
	No.	Avg	Max																																	
Beryllium	2	< 1	< 1																																	
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23.	ST4502 Fact Sheet, Pages 18-20, Table 2	It appears some newer data was not included when WRPS calculated average and maximum values. See Attachment 2	<p>Change the values for the following constituents:</p> <table border="1"> <thead> <tr> <th></th> <th>No.</th> <th>Avg</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>Bis(2-ethylhexyl) phthalate</td> <td>46</td> <td>1.72</td> <td>7.35</td> </tr> <tr> <td>Bromide</td> <td>64</td> <td>89</td> <td>220</td> </tr> <tr> <td>Bromodichloro methane</td> <td>59</td> <td>0.85</td> <td>3.7</td> </tr> <tr> <td>Bromoform</td> <td>59</td> <td>0.63</td> <td>< 1</td> </tr> <tr> <td>Conductivity (monthly average)</td> <td>108</td> <td>186</td> <td>456</td> </tr> <tr> <td>Dibromochloro methane</td> <td>59</td> <td>0.66</td> <td>2.0</td> </tr> <tr> <td>Fluoride</td> <td>112</td> <td>63</td> <td>221</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th></th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>PH</td> <td>6.0</td> <td>10.1</td> </tr> </tbody> </table>		No.	Avg	Max	Bis(2-ethylhexyl) phthalate	46	1.72	7.35	Bromide	64	89	220	Bromodichloro methane	59	0.85	3.7	Bromoform	59	0.63	< 1	Conductivity (monthly average)	108	186	456	Dibromochloro methane	59	0.66	2.0	Fluoride	112	63	221		Min	Max	PH	6.0	10.1	Factual Accuracy	<p>Review of TEDF data from 2011 to 2019.</p> <p>Note that WRPS added the term “(monthly average)” under conductivity. The values in the fact sheet are from the monthly averages in the DMRs. There are individual days where the conductivity was higher than the maximum values reported herein.</p>			
	No.	Avg	Max																																											
Bis(2-ethylhexyl) phthalate	46	1.72	7.35																																											
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24.	ST4502 Fact Sheet, Page 21, Table 3	The “single sample” (daily max) limit for chloride is incorrect. See Attachment 3	For chloride, change the effluent limit that was exceeded from the monthly limit of 58 mg/L to the daily maximum limit 116 mg/L.	Factual Accuracy	That particular sample exceeded the daily max and the monthly average, but it makes sense to list the exceedance of the daily maximum limit.																																									

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Item No.	Pg. # Sec. # Para./Sent.	Comment or Question	Modification Needed	Basis/Justification	Permittee Response	Ecology Response	Open/Close	Reviewer Initials																				
25.	ST4502 Fact Sheet, Page 21, Table 3	Several other permit violations are missing. See Attachment 3	Add the following exceedances: <table border="1" data-bbox="709 375 1100 570"> <tr> <td>Nitrate (as N)</td> <td>Single sample</td> <td>20.4</td> <td>1.24 mg/L</td> <td>12/5/2012</td> </tr> <tr> <td>Chloroform</td> <td>Monthly avg</td> <td>9.40</td> <td>7 µg/L</td> <td>02/2019</td> </tr> <tr> <td>Iron</td> <td>Monthly avg</td> <td>301</td> <td>300 µg/L</td> <td>07/2019</td> </tr> <tr> <td>Total Dissolved Solids</td> <td>Monthly avg</td> <td>667</td> <td>500 mg/L</td> <td>11/2018</td> </tr> </table>	Nitrate (as N)	Single sample	20.4	1.24 mg/L	12/5/2012	Chloroform	Monthly avg	9.40	7 µg/L	02/2019	Iron	Monthly avg	301	300 µg/L	07/2019	Total Dissolved Solids	Monthly avg	667	500 mg/L	11/2018	Factual Accuracy	Review of TEDF data from 2011 to 2019.			
Nitrate (as N)	Single sample	20.4	1.24 mg/L	12/5/2012																								
Chloroform	Monthly avg	9.40	7 µg/L	02/2019																								
Iron	Monthly avg	301	300 µg/L	07/2019																								
Total Dissolved Solids	Monthly avg	667	500 mg/L	11/2018																								
26.	ST4502 Fact Sheet, Page 22, Table 4.	Discharge Monitoring Reports has the most recent submittal date as 0729/2020 (sic) and an approval date of 01/30/2020	The approval date should be after receipt of the report.	Factual Accuracy																								
27.	ST4502 Fact Sheet, Page 22, Table 4.	WRPS submitted the 200 Area Treated Effluent Disposal Facility Effluent Sampling and Analysis Plan for State Waste Discharge Permit ST0004502 to Ecology on October 28, 2019 via letter WRPS-1904241.	Add the permit submittal in Table 4.	Factual Accuracy	Eschenberg, J.R., 2019, "Washington River Protection Solutions LLS Submittal of the 200 Area Treated Effluent Disposal Facility Effluent Sampling and Analysis Plan for State Waste Discharge Permit ST0004502,"(external letter WRPS-1904241 to A.K. Smith, State of Washington Department of Ecology, October 28). Washington River Protection Solutions LLC, Richland, Washington.																							

Attachment 2
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Treated Effluent Disposal Facility Results 2011-2019

(3 Pages Including Cover Sheet)

Corrections to ST0004502 Fact Sheet, Pages 18-20, Table 2 Wastewater Characterization - Corrections in Yellow

Parameter	Units	# of Samples	Average Value	Maximum Value
1,1-Dichloroethene	ug/L	32	< 0.89	< 1
1,2,4-Trichlorobenzene	ug/L	17	< 1.03	< 1.2
1,4-Dichlorobenzene	ug/L	17	1.03	< 1.2
2,4-Dinitrotoluene	ug/L	17	1.03	< 1.2
2-Chlorophenol	ug/L	17	1.03	< 1.2
4-Chloro-3-methylphenol	ug/L	17	1.03	< 1.2
4-Nitrophenol	ug/L	17	< 1.3	< 2.3
Acenaphthene	ug/L	17	< 1	< 1.2
Aluminum	ug/L	2	804	1500
Arsenic	ug/L	120	1.39	2.93
Barium	ug/L	2	45.6	61.8
Benzene	ug/L	32	< 0.88	< 1
Beryllium	ug/L	2	< 1	< 1
Bis(2-ethylhexyl) phthalate	ug/L	46	1.72	7.35
Bromide	ug/L	64	89	220
Bromodichloromethane	ug/L	59	0.85	3.7
Bromoform	ug/L	59	0.63	< 1
Cadmium	ug/L	120	0.164	0.340
Calcium	ug/L	2	33,000	43,400
Carbon tetrachloride	ug/L	64	0.647	4.0
Chloride	mg/L	124	4.7	136
Chlorobenzene	ug/L	32	< 0.88	< 1
Chloroform	ug/L	64	4.79	13.6
Chromium	ug/L	120	0.939	7.12
Cobalt	ug/L	2	< 1	< 1
Conductivity (monthly avg)	umhos/cm	108	186	456
Dibromochloromethane	ug/L	59	0.66	2.0
Fluoride	ug/L	112	63	221
Gross alpha	pCi/L	123	6.09	24
Gross beta	pCi/L	123	8.28	35
Iron	ug/L	133	102	1,320
Lead	ug/L	120	0.461	2.73
Magnesium	ug/L	2	6,580	8,400
Manganese	ug/L	133	7.58	91.6
Mercury	ug/L	119	0.065	0.53
Methylene chloride	ug/L	64	1.49	4.81
Nickel	ug/L	2	< 1.5	< 1.5
Nitrate (as N)	ug/L	123	320	20,400
Nitrite (as N)	ug/L	111	25	220
n-Nitrosodi-n-dipropylamine	ug/L	17	< 1.7	< 1.7
Oil and grease	mg/L	46	2.29	5.70
Pentachlorophenol	ug/L	17	< 1.5	< 1.5
Phenol	ug/L	17	< 1.3	< 2.3
Phosphorus in phosphate	ug/L	101	303	15,100
Potassium	ug/L	2	1,710	2,080
Pyrene	ug/L	13	< 1	< 1

Parameter	Units	# of Samples	Average Value	Maximum Value
Pyridine	ug/L	4	< 2.2	< 2.3
Silicon	ug/L	2	2,010	2,020
Silver	ug/L	2	< 1	< 1
Sodium	ug/L	2	33,800	63,800
Sulfate	ug/L	124	21,500	80,100
Thallium	ug/L	2	< 5	< 5
Toluene	ug/L	32	< 1	< 1
Total dissolved solids	mg/L	124	116	667
Total Trihalomethanes	ug/L	64	5.10	16.3
Trichloroethene	ug/L	32	< 0.63	< 1
Trichloromonofluoromethane	ug/L	1	2.8	2.8
Tritium	pCi/L	46	< 575	< 1200
Vanadium	ug/L	2	< 1	< 1
Zinc	ug/L	2	80.9	138
Flow (monthly avg)	Mgal/day	108	0.3551	3.5260
			Min	Max
pH	Standard Units	N/A	6.0	10.1

Attachment 3
20-ECD-0044

Treated Effluent Disposal Facility Exceedances 2011-2019

(2 Pages Including Cover Sheet)

Corrections to ST0004502 Fact Sheet, Page 21, Table 3 Violations - Corrections in Yellow

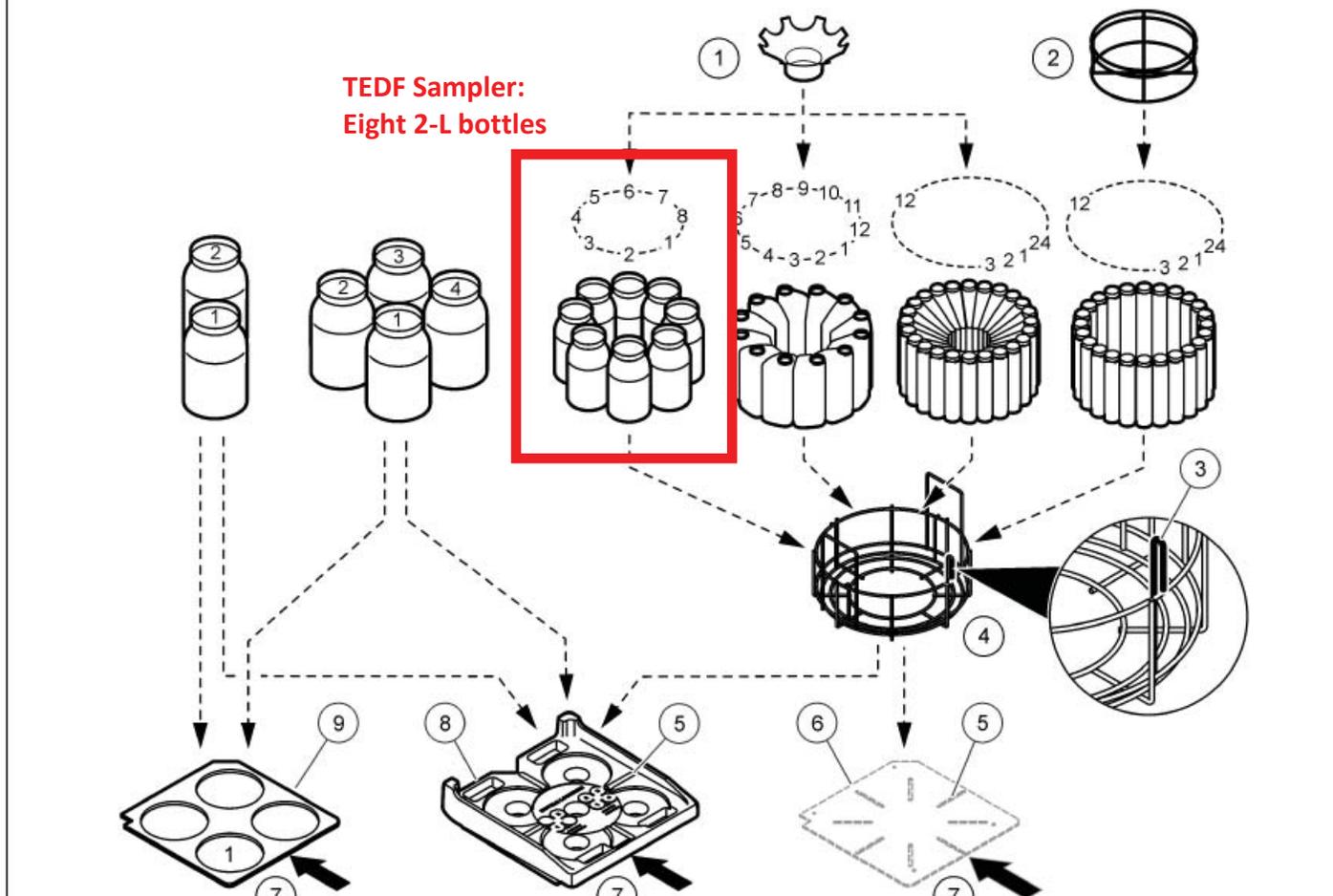
Parameter	Statistical Base	Units	Value	Limit	Date	Violation
Chloride	Daily maximum	mg/L	136	116 mg/L	03/11/2015	Numeric effluent violation
Nitrate (as N)	Daily maximum	mg/L	20.4	1.24 mg/L	12/5/2012	Numeric effluent violation
Chloroform	Monthly average	µg/L	8.55	7 µg/L	07/2015	Numeric effluent violation
Chloroform	Monthly average	µg/L	10.9	7 µg/L	02/2016	Numeric effluent violation
Chloroform	Monthly average	µg/L	8.46	7 µg/L	03/2016	Numeric effluent violation
Chloroform	Monthly average	µg/L	9.40	7 µg/L	02/2019	Numeric effluent violation
Iron	Monthly average	µg/L	301	300 µg/L	07/2019	Numeric effluent violation
Manganese	Monthly average	µg/L	72	50 µg/L	10/2019	Numeric Effluent Violation
Total Dissolved Solids	Monthly average	mg/L	667	500 mg/L	11/2019	Numeric effluent violation

Attachment 4
20-ECD-0044

Treated Effluent Disposal Facility Sampler

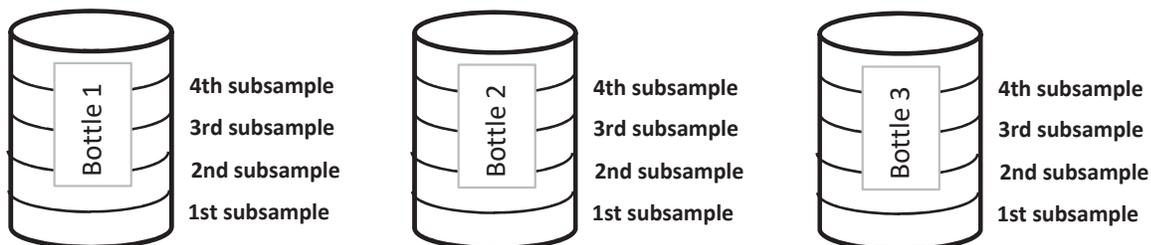
(2 Pages Including Cover Sheet)

Figure 6 Multiple bottle installation



For the composite, the rotating mechanical arm distributes a fixed volume (90 mL) into each sample bottle during each subsample event.

The sampler pulls 20 subsamples, for a total of 1800 mL in each 2-Liter bottle.



This operation ensures each of the eight sample bottles has the same makeup.