



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

SEP 09 2016

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (7015 1520 0003 4072 5066)

REPLY TO: 6WQ-NP

Mr. Tom C. Claret, Superintendent
Phillips 66 Gulf Coast Fractionators
9500 FM 1942
P.O. Box 845
Mont Belvieu, TX 77580

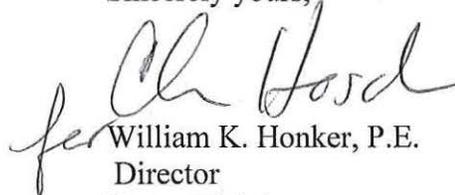
Re: NPDES Application No. TX0085928 – Phillips 66 Gulf Coast Fractionators

Dear Mr. Claret:

This package constitutes EPA's final permit decision for the above referenced facility. Enclosed are the responses to comments received during the public comment period and the final permit. According to EPA regulations at 40 CFR 124.19, within 30 days after a final permit decision has been issued, any person who filed comments on the draft permit or participated in the public hearing may petition the Environmental Appeals Board to review any condition of the permit decision.

Should you have any questions regarding the final permit, please feel free to contact Maria Okpala of the NPDES Permits Branch at the above address or by telephone: (214) 665-3152, by fax: (214) 665-2191, or by E-mail: okpala.maria@epa.gov. Should you have any questions regarding compliance with the conditions of this permit, please contact the Water Enforcement Branch at the above address or by telephone: (214) 665-6468.

Sincerely yours,


for William K. Honker, P.E.
Director
Water Division

Enclosures

cc w/enclosures:
Texas Railroad Commission

NPDES PERMIT NO. TX0085928
RESPONSE TO COMMENTS

RECEIVED ON THE SUBJECT DRAFT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PERMIT IN ACCORDANCE WITH REGULATIONS LISTED AT 40CFR124.17

APPLICANT:

Phillips 66 Gulf Coast Fractionators
9500 FM 1942
P.O. Box 845
Mont Belvieu, TX 77580

ISSUING OFFICE:

U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

PREPARED BY:

Maria Okpala
Environmental Engineer
Permits Section (6WQ-PP)
NPDES Permits Branch
Water Quality Protection Division
Telephone: 214-665-3152
FAX: 214-665-2191
EMAIL: okpala.maria@epa.gov

PERMIT ACTION: Final permit decision and response to comments received on the proposed NPDES permit publicly noticed on June 25, 2016.

DATE PREPARED: August 9, 2016

Introduction. For brevity, Region 6 used acronyms and abbreviated terminology in this response to comments document whenever possible. The following acronyms were used frequently in this document: Act (Clean Water Act), BOD(Biochemical Oxygen Demand), DMR (Discharge Monitoring Report), CFS (cubic feet per second), EPA (Environmental Protection Agency), IP (Procedures to Implement the Texas Surface Water Quality Standards), MQL (Minimum Quantification Level), NPDES (National Pollutant Discharge Elimination System), POTW (Publicly Owned Treatment Works), RRC (Railroad Commission of Texas), SOB(Statement of Basis), TRC(Total Residual Chlorine), WET(Whole Effluent Toxicity) and WQS (Water Quality Standards).

Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations, revised as of July 22, 2016.

CHANGES FROM DRAFT PERMIT

EPA made the following change to the draft NPDES permit publicly noticed on January 31, 2015:

1. TRC reporting requirement has been removed from the draft permit under the 24-hour oral reporting of daily maximum limitation violations

STATE CERTIFICATION

In a letter from Leslie Savage, Water Quality Certification Agent (RRC) to William Honker, Director, Water Division (EPA) dated August 5, 2016; the RRC certified that the permitted activities will be conducted in a manner which will not violate any applicable water quality requirements. The Commission hereby granted certification of the referenced permit for compliance with applicable state water quality laws.

COMMENTS FROM PHILLIPS 66 GULF COAST FRACTIONATORS

Comment No. 1: The permittee requested clarification on the total residual chlorine (TRC) requirements in the draft permit. The permittee noted that GCF's current NPDES Permit does not contain a daily average or daily maximum limit for TRC, however page 10 of 21 of the SOB states that "The current chlorine is continued in the modified permit because of potential for TRC in the effluent." In addition, this section of the SOB also states "The draft permit shall establish the 19 ug/L limit. However, TRC is toxic in measurable amounts, so in addition to the 19 ug/L chemical specific limitation, the narrative limit for TRC shall be "No Measurable." Contrary to the SOB, Part I, Section A.2 of the draft permit does not contain a daily maximum limit for chlorine, it only includes a reporting requirement, which is consistent with the current permit. The permittee also referenced the final permit comments issued by EPA on June 26, 2015, which states that TRC monitoring and limitation requirements have been corrected to TRC monitoring only requirements by grab sample in the final permit.

The permittee requested clarification on the daily maximum limit for TRC noting that if no daily

maximum limit is imposed, that the SOB be updated to reflect this condition. Also, if there is no daily max limit, the permittee requested that TRC be removed from the requirement for 24-hour oral reporting of daily maximum limitation violations in Section II.B of the draft permit.

Response No. 1: A review of the modified permit application revealed that TRC is non-detect in all the eleven analysis performed by the permittee. However, the TRC monitoring only requirement already stated in the draft permit is correct and remains unchanged in the final permit. However, the incorrect limitation and monitoring requirement is noted in the SOB. Also TRC reporting requirement has been removed under the 24-hour oral reporting of daily maximum limitation violations in Section II.B of the draft permit.

Comment No. 2: The permittee requested that the reasonable potential calculation for Outfall 001 should use the effluent flow for aquatic life of 0.247 MGD (which is the maximum monthly average flow of Outfall 001) and the effluent flow for Human Health should be 0.172 MGD (which is the average of monthly average flow values over the preceding two-year period)

Response No. 2: EPA notes the effluent flow values used in the draft permit was in error and concurs that the values noted above should be used for reasonable potential calculations (See attached spreadsheets). The requested effluent flows used in performing the reasonable potential calculation for Outfall 001 did not result in any change to the final permit. Total Copper has monitoring requirements while total Aluminum has limitations and monitoring requirements.

Comment No. 3: The permittee noted that the flow data submitted to EPA in April 2016, identified erroneous data for Outfall 101 for October 24 & October 25, 2015. The permittee stated that these data do not appear to be representative of normal flow, causing the highest monthly average flow for Outfall 101 to be higher than what the facility normally experiences. The facility noted that removing these data would be more representative of typical conditions and the highest monthly average flow would change from 0.254 MGD to 0.186 MGD, which would change the BOD daily maximum limitation to 31.02 lb/day and the daily average to 46.53 lb/day

The permittee noted that reasonable potential analysis for internal Outfall 101 be removed since it did not discharge to the water of the state.

Response No.3: EPA reviewed two years of flow data (June, 2014 through June, 2016) and concurs with the permittee that the flows for October 24 & October 25, 2015, were not representative of the normal flows from the facility. The flows recorded for both days are each 1.251 MGD, which are over five times higher than the average recorded flow. As a result, the highest monthly average flow of 0.254 MGD is changed to 0.186 MGD. EPA used the highest monthly average flow of 0.186 MGD to recalculate the loading limits for BOD as shown below:

$$\text{Loading, lbs/day} = \text{Flow (MGD)} * 8.34 \text{ lb/gal} * 20 \text{ mg/l}$$

$$\text{Daily average (lbs /day) BOD} = 0.186 \text{ MGD} * 8.34 \text{ lb/day} * 20 \text{ mg/L} = 31.02 \text{ lbs/day}$$

EPA calculates the daily maximum value by multiplying the daily average by 1.5, which in this case is 46.54 lbs/day.

Internal Outfall 101 was established to monitor wastewater stream from the boilers, sand filter backwash, clarifier blowdown, and backwash from the neutralization tank flow to settling pond Pit #1. Stormwater flows through Pit #2 where inverted siphons skim and catch any oil before discharging to the unnamed ditch via Outfall 001. Diluting one wastewater stream with another wastewater in order to meet discharge limitations is not considered an acceptable treatment technology. As a result, reasonable potential analysis for internal Outfall 101 is not removed from the final permit.

EPA also performed the reasonable potential calculation with the highest monthly average flow for aquatic life (0.186 MGD) and the average monthly flow value of 0.113 MGD for harmonic mean for internal Outfall 101, none of the pollutants shows reasonable potential to violate the Texas WQS. (See attached spreadsheets). As a result, no changes are made to the final permit for internal Outfall 101.

TEXTOX MENU #2 - INTERMITTENT STREAM WITHIN 3 MILES OF A FRESHWATER PERENNIAL STREAM/RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life

Table 2, 2014 Texas Surface Water Quality Standards for Human Health

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Phillips 66 Gulf Coast Fractionators
TPDES Permit No.:	TX0085928
Outfall No.:	001
Prepared by:	Maria Okpala
Date:	5/25/16

DISCHARGE INFORMATION

Intermittent Receiving Waterbody:	Unnamed Ditch
Perennial Stream/River within 3 Miles:	Cedar Bayou
Segment No.:	0902
TSS (mg/L):	3
pH (Standard Units):	7.1
Hardness (mg/L as CaCO ₃):	40
Chloride (mg/L):	83
Effluent Flow for Aquatic Life (MGD):	0.247
Critical Low Flow [7Q2] (cfs) for intermittent:	0
Critical Low Flow [7Q2] (cfs) for perennial:	2.23
% Effluent for Chronic Aquatic Life (Mixing Zone):	14.63
% Effluent for Acute Aquatic Life (ZID):	100
Effluent Flow for Human Health (MGD):	0.172
Harmonic Mean Flow (cfs) for perennial:	3.83
% Effluent for Human Health:	6.497
Public Water Supply Use?	yes

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

<i>Stream/River Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>	<i>Water Effect Ratio (WER)</i>
Aluminum	N/A	N/A	N/A	1.00	Assumed 1 Assumed
Arsenic	5.68	-0.73	214635.47	0.61	1 Assumed
Cadmium	6.60	-1.13	1150410.88	0.22	1 Assumed
Chromium (Total)	6.52	-0.93	1192002.68	0.22	1 Assumed
Chromium (+3)	6.52	-0.93	1192002.68	0.22	1 Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed 1 Assumed
Copper	6.02	-0.74	464440.70	0.42	1 Assumed
Lead	6.45	-0.80	1170315.61	0.22	1 Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed 1 Assumed

Nickel	5.69	-0.57	261842.95	0.56		1 Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1 Assumed
Silver	6.38	-1.03	773686.66	0.30		1 Assumed
Zinc	6.10	-0.70	583465.42	0.36		1 Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	FW Acute	FW Chronic	WLAa	WLAc	LTAa	LTAc	Daily Avg. (ug/L)	Daily Max. (ug/L)
	Criterion (ug/L)	Criterion (ug/L)						
Aldrin	3.0	N/A	3.00	N/A	1.72	N/A	2.53	5.35
Aluminum	991	N/A	991	N/A	568	N/A	835	1766
Arsenic	340	150	558.928	1685.464	320.266	1297.807	470.791	996.027
Cadmium	3.518	0.130	15.661	3.956	8.974	3.046	4.478	9.474
Carbaryl	2.0	N/A	2.00	N/A	1.15	N/A	1.68	3.56
Chlordane	2.4	0.004	2.40	0.027	1.38	0.021	0.031	0.065
Chlorpyrifos	0.083	0.041	0.083	0.280	0.048	0.216	0.070	0.148
Chromium (+3)	269.018	34.994	1231.030	1094.531	705.380	842.789	1036.909	2193.732
Chromium (+6)	15.7	10.6	15.7	72.453	9.00	55.789	13.224	27.978
Copper	5.990	4.328	14.335	70.795	8.214	54.512	12.075	25.546
Cyanide (free)	45.8	10.7	45.8	73.137	26.2	56.315	38.578	81.617
4,4'-DDT	1.1	0.001	1.10	0.007	0.630	0.005	0.008	0.016
Demeton	N/A	0.1	N/A	0.684	N/A	0.526	0.774	1.637
Diazinon	0.17	0.17	0.170	1.162	0.097	0.895	0.143	0.303
Dicofol	59.3	19.8	59.3	135.337	34.0	104.209	49.949	105.674
Dieldrin	0.24	0.002	0.240	0.014	0.138	0.011	0.015	0.033
Diuron	210	70	210	478.464	120	368.417	176.885	374.226
Endosulfan I (alpha)	0.22	0.056	0.220	0.383	0.126	0.295	0.185	0.392
Endosulfan II (beta)	0.22	0.056	0.220	0.383	0.126	0.295	0.185	0.392
Endosulfan sulfate	0.22	0.056	0.220	0.383	0.126	0.295	0.185	0.392
Endrin	0.086	0.002	0.086	0.014	0.049	0.011	0.015	0.033
Guthion	N/A	0.01	N/A	0.068	N/A	0.053	0.077	0.164
Heptachlor	0.52	0.004	0.520	0.027	0.298	0.021	0.031	0.065
Hexachlorocyclohexane (Lindane)	1.126	0.08	1.13	0.547	0.645	0.421	0.619	1.309
Lead	23.511	0.916	106.056	28.249	60.770	21.752	31.975	67.647
Malathion	N/A	0.01	N/A	0.068	N/A	0.053	0.077	0.164
Mercury	2.4	1.3	2.40	8.886	1.38	6.842	2.022	4.277
Methoxychlor	N/A	0.03	N/A	0.205	N/A	0.158	0.232	0.491
Mirex	N/A	0.001	N/A	0.007	N/A	0.005	0.008	0.016
Nickel	215.679	23.955	385.101	292.360	220.663	225.118	324.374	686.261
Nonylphenol	28	6.6	28.0	45.112	16.0	34.736	23.585	49.897
Parathion (ethyl)	0.065	0.013	0.065	0.089	0.037	0.068	0.055	0.116
Pentachlorophenol	9.646	7.400	9.646	50.581	5.527	38.948	8.125	17.189
Phenanthrene	30	30	30.0	205.056	17.2	157.893	25.269	53.461
Polychlorinated Biphenyls (PCBs)	2.0	0.014	2.00	0.096	1.15	0.074	0.108	0.229

Selenium	20	5	20.0	34.176	11.5	26.316	16.846	35.641
Silver	0.8	N/A	18.5342983	N/A	10.620	N/A	15.612	33.029
Toxaphene	0.78	0.0002	0.780	0.001	0.447	0.001	0.002	0.003
Tributyltin (TBT)	0.13	0.024	0.130	0.164	0.074	0.126	0.110	0.232
2,4,5 Trichlorophenol	136	64	136	437.453	77.9	336.838	114.554	242.356
Zinc	53.911	54.352	148.278	1021.798	84.963	786.784	124.896	264.235

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	Water and Fish Only		WLAh	LTAh	Daily Avg. (ug/L)	Daily Max. (ug/L)
	Fish Criterion (ug/L)	Fish Only Criterion (ug/L)				
Acrylonitrile	0.80	3.8	58.489	54.395	79.961	169.168
Aldrin	0.00094	0.0010	0.015	0.014	0.021	0.045
Anthracene	5,569	N/A	N/A	N/A	N/A	N/A
Antimony	6	1,071	16484.717	15330.787	22536.257	47678.748
Arsenic	10	N/A	N/A	N/A	N/A	N/A
Barium	2,000	N/A	N/A	N/A	N/A	N/A
Benzene	5	513	7896.041	7343.318	10794.678	22837.720
Benzidine	0.00086	0.0020	0.031	0.029	0.042	0.089
Benzo(a)anthracene	0.68	3.28	50.485	46.951	69.019	146.019
Benzo(a)pyrene	0.068	0.33	5.079	4.724	6.944	14.691
Bis(chloromethyl)ether	0.0024	0.44	6.772	6.298	9.259	19.588
Bis(2-chloroethyl)ether	0.57	10.06	154.842	144.003	211.685	447.851
Bis(2-ethylhexyl)phthalate	6	41	631.068	586.893	862.733	1825.237
Bromodichloromethane (Dichlorobromomethane)	10.2	322	4956.190	4609.256	6775.607	14334.787
Bromoform	69.1	2,175	33477.367	31133.952	45766.909	96826.590
Cadmium	5	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	4.3	30.5	469.453	436.591	641.789	1357.798
Chlordane	0.0080	0.0081	0.125	0.116	0.170	0.361
Chlorobenzene	100	5,201	80053.236	74449.509	109440.778	231537.973
Chlorodibromomethane (Dibromochloromethane)	7.6	239	3678.662	3421.156	5029.099	10639.795
Chloroform	70	7,143	109944.292	102248.191	150304.841	317991.875
Chromium (+6)	62	502	7726.730	7185.859	10563.213	22348.022
Chrysene	68.13	327	5033.149	4680.829	6880.818	14557.377
Cresols (Methylphenols)	1,041	9,301	143159.997	133138.797	195714.032	414061.659
Cyanide (free)	200	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.0059	0.0059	0.091	0.084	0.124	0.263
4,4'-DDE	0.0040	0.0040	0.062	0.057	0.084	0.178
4,4'-DDT	0.0040	0.0040	0.062	0.057	0.084	0.178
2,4'-D	70	N/A	N/A	N/A	N/A	N/A
Danitrol	262	473	7280.365	6770.740	9952.988	21057.001
1,2-Dibromoethane	0.17	4.24	65.262	60.693	89.219	188.756
m-Dichlorobenzene (1,3-Dichlorobenzene)	473	1,445	22241.285	20684.395	30406.061	64328.470
o-Dichlorobenzene (1,2-Dichlorobenzene)	600	4,336	66739.248	62067.501	91239.226	193029.927

p-Dichlorobenzene (1,4-Dichlorobenzene)	75	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	0.32	0.44	6.772	6.298	9.259	19.588
1,2-Dichloroethane	5	553	8511.717	7915.897	11636.368	24618.439
1,1-Dichloroethylene	7	23,916	368112.514	342344.638	503246.617	1064691.823
Dichloromethane (Methylene Chloride)	5	22,222	342038.647	318095.941	467601.034	989278.378
1,2-Dichloropropane	5	226	3478.568	3235.068	4755.550	10061.062
1,3-Dichloropropene (1,3- Dichloropropylene)	3.4	211	3247.689	3020.351	4439.916	9393.292
Dicofol	0.30	0.30	4.618	4.294	6.313	13.355
Dieldrin	0.001	0.001	0.015	0.014	0.021	0.045
2,4-Dimethylphenol	257	571	8788.771	8173.557	12015.129	25419.762
Di-n-Butyl Phthalate	1,318	3,010	46329.598	43086.526	63337.193	133999.096
Dioxins/Furans (TCDD Equivalents)	7.80E-08	7.97E-08	0.000	1.14E-06	1.68E-06	3.55E-06
Endrin	0.20	0.20	3.078	2.863	4.208	8.904
Ethylbenzene	700	7,143	109944.292	102248.191	150304.841	317991.875
Fluoride	4,000	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0015	0.0015	0.023	0.021	0.032	0.067
Heptachlor Epoxide	0.00074	0.00075	0.012	0.011	0.016	0.033
Hexachlorobenzene	0.0044	0.0045	0.069	0.064	0.095	0.200
Hexachlorobutadiene	6.5	274	4217.379	3922.162	5765.578	12197.924
Hexachlorocyclohexane (alpha)	0.050	0.093	1.431	1.331	1.957	4.140
Hexachlorocyclohexane (beta)	0.17	0.33	5.079	4.724	6.944	14.691
Hexachlorocyclohexane (gamma) (Lindane)	0.2	6.2	95.430	88.750	130.462	276.011
Hexachlorocyclopentadiene	50	N/A	N/A	N/A	N/A	N/A
Hexachloroethane	4.97	11.51	177.161	164.759	242.196	512.402
Hexachlorophene	2.05	2.90	44.636	41.512	61.023	129.102
Lead	1.15	3.83	265.925	247.310	363.546	769.134
Mercury	0.0122	0.0122	0.188	0.175	0.257	0.543
Methoxychlor	1.59	1.61	24.781	23.046	33.878	71.674
Methyl Ethyl Ketone	13,865	992,000	15268758	14199945	20873919	44161828
Nickel	332	1,140	31330.243	29137.126	42831.575	90616.461
Nitrate-Nitrogen (as Total Nitrogen)	10,000	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	45	1,853	28521.178	26524.695	38991.302	82491.802
N-Nitrosodiethylamine	0.0037	2.1	32.323	30.060	44.189	93.488
N-Nitroso-di-n-Butylamine	0.119	4.2	64.646	60.121	88.377	186.975
Pentachlorobenzene	1.0	1.0	15.392	14.314	21.042	44.518
Pentachlorophenol	0.80	9.1	140.066	130.262	191.485	405.114
Polychlorinated Biphenyls (PCBs)	6.4E-04	6.4E-04	9.85E-03	9.16E-03	1.35E-02	2.85E-02
Pyridine	23	947	14576.123	13555.794	19927.017	42158.520
Selenium	50	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.65	0.71	10.928	10.163	14.940	31.608
1,1,2,2-Tetrachloroethane	1.7	40	615.676	572.578	841.690	1780.719
Tetrachloroethylene	5	525	8080.744	7515.092	11047.185	23371.935
Thallium	0.12	0.23	3.540	3.292	4.840	10.239
Toluene	1,000	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.0053	0.0053	0.082	0.076	0.112	0.236

2,4,5-TP (Silvex)	19	21	323.230	300.604	441.887	934.877
1,1,1-Trichloroethane	200	956,663	14724855	13694115	20130349	42588697
1,1,2-Trichloroethane	5	295	4540.608	4222.766	6207.466	13132.802
Trichloroethylene	5	82	1262.135	1173.786	1725.465	3650.474
2,4,5-Trichlorophenol	1,194	2,435	37479.260	34855.711	51237.896	108401.262
TTHM (Sum of Total Trihalomethanes)	80	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	0.25	24	369.405	343.547	505.014	1068.431

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life

<i>Parameter</i>	<i>70%</i>	<i>85%</i>	
Aldrin	1.77	2.15	
Aluminum	584	710	1238.144
Arsenic	329.554	400.172	6.63
Cadmium	3.135	3.806	
Carbaryl	1.18	1.43	
Chlordane	0.022	0.026	
Chlorpyrifos	0.049	0.059	
Chromium (+3)	725.836	881.372	
Chromium (+6)	9.257	11.241	
Copper	8.452	10.264	9.14
Cyanide (free)	27.004	32.791	
4,4'-DDT	0.005	0.007	
Demeton	0.542	0.658	
Diazinon	0.100	0.122	
Dicofol	34.964	42.457	
Dieldrin	0.011	0.013	
Diuron	123.820	150.352	
Endosulfan (alpha)	0.130	0.158	
Endosulfan (beta)	0.130	0.158	
Endosulfan sulfate	0.130	0.158	
Endrin	0.011	0.013	
Guthion	0.054	0.066	
Heptachlor	0.022	0.026	
Hexachlorocyclohexane (Lindane)	0.433	0.526	
Lead	22.382	27.179	1
Malathion	0.054	0.066	
Mercury	1.415	1.718	0.01
Methoxychlor	0.162	0.197	
Mirex	0.005	0.007	
Nickel	227.062	275.718	7.29
Nonylphenol	16.509	20.047	
Parathion (ethyl)	0.038	0.047	
Pentachlorophenol	5.687	6.906	

Phenanthrene	17.689	21.479
Polychlorinated Biphenyls (PCBs)	0.076	0.092
Selenium	11.792	14.319
Silver	10.928	13.270
Toxaphene	0.001	0.001
Tributyltin (TBT)	0.077	0.093
2,4,5 Trichlorophenol	80.188	97.371
Zinc	87.427	106.161

56.38

Human Health

Parameter	70%	85%
Acrylonitrile	55.972	67.966
Aldrin	0.015	0.018
Anthracene	N/A	N/A
Antimony	15775.380	19155.819
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	7556.274	9175.476
Benzidine	0.029	0.036
Benzo(a)anthracene	48.313	58.666
Benzo(a)pyrene	4.861	5.902
Bis(chloromethyl)ether	6.481	7.870
Bis(2-chloroethyl)ether	148.180	179.932
Bis(2-ethylhexyl)phthalate	603.913	733.323
Bromodichloromethane (Dichlorobromomethane)	4742.925	5759.266
Bromoform	32036.836	38901.873
Cadmium	N/A	N/A
Carbon Tetrachloride	449.252	545.521
Chlordane	0.119	0.145
Chlorobenzene	76608.545	93024.662
Chlorodibromomethane (Dibromochloromethane)	3520.370	4274.734
Chloroform	105213.389	127759.115
Chromium (+6)	7394.249	8978.731
Chrysene	4816.573	5848.695
Cresols (Methylphenols)	136999.822	166356.927
Cyanide (free)	N/A	N/A
4,4'-DDD	0.087	0.106
4,4'-DDE	0.059	0.072
4,4'-DDT	0.059	0.072
2,4'-D	N/A	N/A
Danitol	6967.091	8460.039
1,2-Dibromoethane	62.453	75.836
m-Dichlorobenzene (1,3-Dichlorobenzene)	21284.243	25845.152
o-Dichlorobenzene (1,2-Dichlorobenzene)	63867.458	77553.342
p-Dichlorobenzene (1,4-Dichlorobenzene)	N/A	N/A

3,3'-Dichlorobenzidine	6.481	7.870
1,2-Dichloroethane	8145.458	9890.913
1,1-Dichloroethylene	352272.632	427759.625
Dichloromethane (Methylene Chloride)	327320.724	397460.879
1,2-Dichloropropane	3328.885	4042.218
1,3-Dichloropropene (1,3-Dichloropropylene)	3107.941	3773.929
Dicofol	4.419	5.366
Dieldrin	0.015	0.018
2,4-Dimethylphenol	8410.590	10212.859
Di-n-Butyl Phthalate	44336.035	53836.614
Dioxins/Furans (TCDD Equivalents)	1.17E-06	1.43E-06
Endrin	2.946	3.577
Ethylbenzene	105213.389	127759.115
Fluoride	N/A	N/A
Heptachlor	0.022	0.027
Heptachlor Epoxide	0.011	0.013
Hexachlorobenzene	0.066	0.080
Hexachlorobutadiene	4035.905	4900.742
Hexachlorocyclohexane (alpha)	1.370	1.663
Hexachlorocyclohexane (beta)	4.861	5.902
Hexachlorocyclohexane (gamma) (Lindane)	91.323	110.893
Hexachlorocyclopentadiene	N/A	N/A
Hexachloroethane	169.537	205.867
Hexachlorophene	42.716	51.869
Lead	254.482	309.014
Mercury	0.180	0.218
Methoxychlor	23.715	28.796
Methyl Ethyl Ketone	14611743	17742831
Nickel	29982.102	36406.839
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	27293.911	33142.607
N-Nitrosodiethylamine	30.932	37.560
N-Nitroso-di-n-Butylamine	61.864	75.121
Pentachlorobenzene	14.730	17.886
Pentachlorophenol	134.039	162.762
Polychlorinated Biphenyls (PCBs)	9.43E-03	1.14E-02
Pyridine	13948.912	16937.965
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	10.458	12.699
1,1,2,2-Tetrachloroethane	589.183	715.437
Tetrachloroethylene	7733.029	9390.107
Thallium	3.388	4.114
Toluene	N/A	N/A
Toxaphene	0.078	0.095
2,4,5-TP (Silvex)	309.321	375.604

1,1,1-Trichloroethane	14091244	17110796
1,1,2-Trichloroethane	4345.226	5276.346
Trichloroethylene	1207.826	1466.645
2,4,5-Trichlorophenol	35866.527	43552.211
TTHM (Sum of Total Trihalomethanes)	N/A	N/A
Vinyl Chloride	353.510	429.262

TEXTOX MENU #2 - INTERMITTENT STREAM WITHIN 3 MILES OF A FRESHWATER PERENNIAL STREAM/RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life

Table 2, 2014 Texas Surface Water Quality Standards for Human Health

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Phillips 66 Gulf Coast Fractionators
TPDES Permit No.:	TX0085928
Outfall No.:	101
Prepared by:	Maria Okpala
Date:	5/25/2016

DISCHARGE INFORMATION

Intermittent Receiving Waterbody:	Unnamed Ditch
Perennial Stream/River within 3 Miles:	Cedar Bayou
Segment No.:	0902
TSS (mg/L):	3
pH (Standard Units):	7.1
Hardness (mg/L as CaCO ₃):	40
Chloride (mg/L):	83
Effluent Flow for Aquatic Life (MGD):	0.186
Critical Low Flow [7Q2] (cfs) for intermittent:	0
Critical Low Flow [7Q2] (cfs) for perennial:	2.23
% Effluent for Chronic Aquatic Life (Mixing Zone):	14.90
% Effluent for Acute Aquatic Life (ZID):	41.2
Effluent Flow for Human Health (MGD):	0.113
Harmonic Mean Flow (cfs) for perennial:	3.83
% Effluent for Human Health:	4.366
Public Water Supply Use?	yes

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

<i>Stream/River Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>	<i>Water Effect Ratio (WER)</i>
Aluminum	N/A	N/A	N/A	1.00	Assumed 1 Assumed
Arsenic	5.68	-0.73	214635.47	0.61	1 Assumed
Cadmium	6.60	-1.13	1150410.88	0.22	1 Assumed
Chromium (Total)	6.52	-0.93	1192002.68	0.22	1 Assumed
Chromium (+3)	6.52	-0.93	1192002.68	0.22	1 Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed 1 Assumed
Copper	6.02	-0.74	464440.70	0.42	1 Assumed
Lead	6.45	-0.80	1170315.61	0.22	1 Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed 1 Assumed

Nickel	5.69	-0.57	261842.95	0.56		1 Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1 Assumed
Silver	6.38	-1.03	773686.65	0.30		1 Assumed
Zinc	6.10	-0.70	583465.42	0.36		1 Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	FW Acute	FW Chronic	WLAa	WLAc	LTAa	LTAc	Daily Avg. (ug/L)	Daily Max. (ug/L)
	Criterion (ug/L)	Criterion (ug/L)						
Aldrin	3.0	N/A	7.28	N/A	4.17	N/A	6.13	12.98
Aluminum	991	N/A	2405	N/A	1378	N/A	2026	4286
Arsenic	340	150	1356.622	1654.939	777.344	1274.303	1142.696	2417.541
Cadmium	3.518	0.130	38.012	3.884	21.781	2.991	4.397	9.302
Carbaryl	2.0	N/A	4.85	N/A	2.78	N/A	4.09	8.65
Chlordane	2.4	0.004	5.83	0.027	3.34	0.021	0.030	0.064
Chlorpyrifos	0.083	0.041	0.201	0.275	0.115	0.212	0.170	0.359
Chromium (+3)	269.018	34.994	2987.936	1074.709	1712.087	827.526	1216.463	2573.606
Chromium (+6)	15.7	10.6	38.1	71.141	21.84	54.779	32.098	67.907
Copper	5.990	4.328	34.794	69.513	19.937	53.525	29.308	62.005
Cyanide (free)	45.8	10.7	111.2	71.812	63.7	55.295	81.284	171.968
4,4'-DDT	1.1	0.001	2.67	0.007	1.530	0.005	0.008	0.016
Demeton	N/A	0.1	N/A	0.671	N/A	0.517	0.760	1.607
Diazinon	0.17	0.17	0.413	1.141	0.236	0.879	0.348	0.735
Dicofol	59.3	19.8	143.9	132.886	82.5	102.322	121.235	256.491
Dieldrin	0.24	0.002	0.583	0.013	0.334	0.010	0.015	0.032
Diuron	210	70	510	469.799	292	361.745	429.333	908.316
Endosulfan I (alpha)	0.22	0.056	0.534	0.376	0.306	0.289	0.425	0.900
Endosulfan II (beta)	0.22	0.056	0.534	0.376	0.306	0.289	0.425	0.900
Endosulfan sulfate	0.22	0.056	0.534	0.376	0.306	0.289	0.425	0.900
Endrin	0.086	0.002	0.209	0.013	0.120	0.010	0.015	0.032
Guthion	N/A	0.01	N/A	0.067	N/A	0.052	0.076	0.161
Heptachlor	0.52	0.004	1.262	0.027	0.723	0.021	0.030	0.064
Hexachlorocyclohexane (Lindane)	1.126	0.08	2.73	0.537	1.566	0.413	0.608	1.286
Lead	23.511	0.916	257.417	27.737	147.500	21.358	31.396	66.422
Malathion	N/A	0.01	N/A	0.067	N/A	0.052	0.076	0.161
Mercury	2.4	1.3	5.83	8.725	3.34	6.718	4.907	10.381
Methoxychlor	N/A	0.03	N/A	0.201	N/A	0.155	0.228	0.482
Mirex	N/A	0.001	N/A	0.007	N/A	0.005	0.008	0.016
Nickel	215.679	23.955	934.710	287.066	535.589	221.041	324.930	687.436
Nonylphenol	28	6.6	68.0	44.295	38.9	34.107	50.138	106.074
Parathion (ethyl)	0.065	0.013	0.158	0.087	0.090	0.067	0.099	0.209
Pentachlorophenol	9.646	7.400	23.412	49.665	13.415	38.242	19.720	41.720
Phenanthrene	30	30	72.8	201.342	41.7	155.034	61.333	129.759
Polychlorinated Biphenyls (PCBs)	2.0	0.014	4.85	0.094	2.78	0.072	0.106	0.225

Selenium	20	5	48.5	33.557	27.8	25.839	37.983	80.359
Silver	0.8	N/A	44.986161	N/A	25.777	N/A	37.892	80.167
Toxaphene	0.78	0.0002	1.893	0.001	1.085	0.001	0.002	0.003
Tributyltin (TBT)	0.13	0.024	0.316	0.161	0.181	0.124	0.182	0.386
2,4,5 Trichlorophenol	136	64	330	429.530	189.1	330.738	278.044	588.243
Zinc	53.911	54.352	359.897	1003.293	206.221	772.535	303.145	641.348

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	Water and Fish Only		WLAh	LTAh	Daily Avg. (ug/L)	Daily Max. (ug/L)
	Fish Criterion (ug/L)	Criterion (ug/L)				
Acrylonitrile	0.80	3.8	87.044	80.951	118.997	251.757
Aldrin	0.00094	0.0010	0.023	0.021	0.031	0.066
Anthracene	5,569	N/A	N/A	N/A	N/A	N/A
Antimony	6	1,071	24532.588	22815.306	33538.500	70955.603
Arsenic	10	N/A	N/A	N/A	N/A	N/A
Barium	2,000	N/A	N/A	N/A	N/A	N/A
Benzene	5	513	11750.903	10928.340	16064.660	33987.138
Benzidine	0.00086	0.0020	0.046	0.043	0.063	0.133
Benzo(a)anthracene	0.68	3.28	75.132	69.873	102.714	217.306
Benzo(a)pyrene	0.068	0.33	7.559	7.030	10.334	21.863
Bis(chloromethyl)ether	0.0024	0.44	10.079	9.373	13.779	29.151
Bis(2-chloroethyl)ether	0.57	10.06	230.437	214.306	315.030	666.492
Bis(2-ethylhexyl)phthalate	6	41	939.156	873.415	1283.920	2716.321
Bromodichloromethane (Dichlorobromomethane)	10.2	322	7375.811	6859.504	10083.471	21333.057
Bromoform	69.1	2,175	49821.081	46333.606	68110.400	144097.513
Cadmium	5	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	4.3	30.5	698.640	649.736	955.111	2020.678
Chlordane	0.0080	0.0081	0.186	0.173	0.254	0.537
Chlorobenzene	100	5,201	119135.376	110795.900	162869.973	344575.249
Chlorodibromomethane (Dibromochloromethane)	7.6	239	5474.592	5091.371	7484.315	15834.164
Chloroform	70	7,143	163619.303	152165.951	223683.949	473236.109
Chromium (+6)	62	502	11498.935	10694.009	15720.194	33258.369
Chrysene	68.13	327	7490.342	6966.018	10240.046	21664.316
Cresols (Methylphenols)	1,041	9,301	213050.978	198137.409	291261.992	616207.343
Cyanide (free)	200	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.0059	0.0059	0.135	0.126	0.185	0.391
4,4'-DDE	0.0040	0.0040	0.092	0.085	0.125	0.265
4,4'-DDT	0.0040	0.0040	0.092	0.085	0.125	0.265
2,4'-D	70	N/A	N/A	N/A	N/A	N/A
Danitol	262	473	10834.654	10076.228	14812.055	31337.068
1,2-Dibromoethane	0.17	4.24	97.122	90.324	132.776	280.907
m-Dichlorobenzene (1,3-Dichlorobenzene)	473	1,445	33099.523	30782.556	45250.358	95733.750
o-Dichlorobenzene (1,2-Dichlorobenzene)	600	4,336	99321.475	92368.972	135782.389	287267.502

p-Dichlorobenzene (1,4-Dichlorobenzene)	75	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	0.32	0.44	10.079	9.373	13.779	29.151
1,2-Dichloroethane	5	553	12667.153	11780.452	17317.265	36637.207
1,1-Dichloroethylene	7	23,916	547825.737	509477.936	748932.566	1584476.380
Dichloromethane (Methylene Chloride)	5	22,222	509022.560	473390.980	695884.741	1472245.949
1,2-Dichloropropane	5	226	5176.811	4814.434	7077.219	14972.891
1,3-Dichloropropene (1,3- Dichloropropylene)	3.4	211	4833.218	4494.892	6607.492	13979.115
Dicofol	0.30	0.30	6.872	6.391	9.395	19.876
Dieldrin	0.001	0.001	0.023	0.021	0.031	0.066
2,4-Dimethylphenol	257	571	13079.465	12163.903	17880.937	37829.738
Di-n-Butyl Phthalate	1,318	3,010	68947.795	64121.450	94258.531	199417.708
Dioxins/Furans (TCDD Equivalents)	7.80E-08	7.97E-08	0.000	1.70E-06	2.50E-06	5.28E-06
Endrin	0.20	0.20	4.581	4.261	6.263	13.250
Ethylbenzene	700	7,143	163619.303	152165.951	223683.949	473236.109
Fluoride	4,000	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0015	0.0015	0.034	0.032	0.047	0.099
Heptachlor Epoxide	0.00074	0.00075	0.017	0.016	0.023	0.050
Hexachlorobenzene	0.0044	0.0045	0.103	0.096	0.141	0.298
Hexachlorobutadiene	6.5	274	6276.311	5836.969	8580.345	18152.974
Hexachlorocyclohexane (alpha)	0.050	0.093	2.130	1.981	2.912	6.161
Hexachlorocyclohexane (beta)	0.17	0.33	7.559	7.030	10.334	21.863
Hexachlorocyclohexane (gamma) (Lindane)	0.2	6.2	142.019	132.077	194.154	410.761
Hexachlorocyclopentadiene	50	N/A	N/A	N/A	N/A	N/A
Hexachloroethane	4.97	11.51	263.651	245.195	360.437	762.557
Hexachlorophene	2.05	2.90	66.428	61.778	90.814	192.130
Lead	1.15	3.83	395.749	368.047	541.029	1144.626
Mercury	0.0122	0.0122	0.279	0.260	0.382	0.808
Methoxychlor	1.59	1.61	36.879	34.298	50.417	106.665
Methyl Ethyl Ketone	13,865	992,000	22722994	21132385	31064605	65721716
Nickel	332	1,140	46625.726	43361.925	63742.030	134855.588
Nitrate-Nitrogen (as Total Nitrogen)	10,000	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	45	1,853	42445.271	39474.102	58026.929	122764.456
N-Nitrosodiethylamine	0.0037	2.1	48.103	44.736	65.762	139.129
N-Nitroso-di-n-Butylamine	0.119	4.2	96.206	89.472	131.524	278.257
Pentachlorobenzene	1.0	1.0	22.906	21.303	31.315	66.252
Pentachlorophenol	0.80	9.1	208.447	193.856	284.968	602.891
Polychlorinated Biphenyls (PCBs)	6.4E-04	6.4E-04	1.47E-02	1.36E-02	2.00E-02	4.24E-02
Pyridine	23	947	21692.213	20173.758	29655.425	62740.389
Selenium	50	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.65	0.71	16.263	15.125	22.234	47.039
1,1,2,2-Tetrachloroethane	1.7	40	916.250	852.112	1252.605	2650.069
Tetrachloroethylene	5	525	12025.778	11183.974	16440.441	34782.158
Thallium	0.12	0.23	5.268	4.900	7.202	15.238
Toluene	1,000	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.0053	0.0053	0.121	0.113	0.166	0.351

2,4,5-TP (Silvex)	19	21	481.031	447.359	657.618	1391.286
1,1,1-Trichloroethane	200	956,663	21913556	20379607	29958023	63380579
1,1,2-Trichloroethane	5	295	6757.342	6284.328	9237.962	19544.260
Trichloroethylene	5	82	1878.312	1746.830	2567.840	5432.642
2,4,5-Trichlorophenol	1,194	2,435	55776.705	51872.335	76252.333	161322.963
TTHM (Sum of Total Trihalomethanes)	80	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	0.25	24	549.750	511.267	751.563	1590.042

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Aldrin	4.29	5.21
Aluminum	1418	1722
Arsenic	799.887	971.292
Cadmium	3.078	3.737
Carbaryl	2.86	3.48
Chlordane	0.021	0.026
Chlorpyrifos	0.119	0.144
Chromium (+3)	851.524	1033.994
Chromium (+6)	22.468	27.283
Copper	20.515	24.911
Cyanide (free)	56.899	69.091
4,4'-DDT	0.005	0.006
Demeton	0.532	0.646
Diazinon	0.243	0.295
Dicofol	84.865	103.050
Dieldrin	0.011	0.013
Diuron	300.533	364.933
Endosulfan (alpha)	0.298	0.362
Endosulfan (beta)	0.298	0.362
Endosulfan sulfate	0.298	0.362
Endrin	0.011	0.013
Guthion	0.053	0.065
Heptachlor	0.021	0.026
Hexachlorocyclohexane (Lindane)	0.425	0.517
Lead	21.977	26.686
Malathion	0.053	0.065
Mercury	3.435	4.171
Methoxychlor	0.160	0.194
Mirex	0.005	0.006
Nickel	227.451	276.190
Nonylphenol	35.096	42.617
Parathion (ethyl)	0.069	0.084
Pentachlorophenol	13.804	16.762

570

6

Phenanthrene	42.933	52.133
Polychlorinated Biphenyls (PCBs)	0.074	0.090
Selenium	26.588	32.286
Silver	26.525	32.208
Toxaphene	0.001	0.001
Tributyltin (TBT)	0.128	0.155
2,4,5 Trichlorophenol	194.631	236.337
Zinc	212.202	257.673

Human Health

Parameter	70%	85%
Acrylonitrile	83.298	101.148
Aldrin	0.022	0.027
Anthracene	N/A	N/A
Antimony	23476.950	28507.725
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	11245.262	13654.961
Benzidine	0.044	0.053
Benzo(a)anthracene	71.900	87.307
Benzo(a)pyrene	7.234	8.784
Bis(chloromethyl)ether	9.645	11.712
Bis(2-chloroethyl)ether	220.521	267.776
Bis(2-ethylhexyl)phthalate	898.744	1091.332
Bromodichloromethane (Dichlorobromomethane)	7058.430	8570.950
Bromoform	47677.280	57893.840
Cadmium	N/A	N/A
Carbon Tetrachloride	668.578	811.845
Chlordane	0.178	0.216
Chlorobenzene	114008.981	138439.477
Chlorodibromomethane (Dibromochloromethane)	5239.021	6361.668
Chloroform	156578.764	190131.356
Chromium (+6)	11004.135	13362.164
Chrysene	7168.032	8704.039
Cresols (Methylphenols)	203883.394	247572.693
Cyanide (free)	N/A	N/A
4,4'-DDD	0.129	0.157
4,4'-DDE	0.088	0.106
4,4'-DDT	0.088	0.106
2,4'-D	N/A	N/A
Danitol	10368.438	12590.247
1,2-Dibromoethane	92.943	112.860
m-Dichlorobenzene (1,3-Dichlorobenzene)	31675.250	38462.804
o-Dichlorobenzene (1,2-Dichlorobenzene)	95047.672	115415.030
p-Dichlorobenzene (1,4-Dichlorobenzene)	N/A	N/A

3,3'-Dichlorobenzidine	9.645	11.712
1,2-Dichloroethane	12122.085	14719.675
1,1-Dichloroethylene	524252.796	636592.681
Dichloromethane (Methylene Chloride)	487119.319	591502.030
1,2-Dichloropropane	4954.053	6015.636
1,3-Dichloropropene (1,3- Dichloropropylene)	4625.244	5616.368
Dicofol	6.576	7.985
Dieldrin	0.022	0.027
2,4-Dimethylphenol	12516.656	15198.797
Di-n-Butyl Phthalate	65980.972	80119.751
Dioxins/Furans (TCDD Equivalents)	1.75E-06	2.12E-06
Endrin	4.384	5.324
Ethylbenzene	156578.764	190131.356
Fluoride	N/A	N/A
Heptachlor	0.033	0.040
Heptachlor Epoxide	0.016	0.020
Hexachlorobenzene	0.099	0.120
Hexachlorobutadiene	6006.241	7293.293
Hexachlorocyclohexane (alpha)	2.039	2.475
Hexachlorocyclohexane (beta)	7.234	8.784
Hexachlorocyclohexane (gamma) (Lindane)	135.908	165.031
Hexachlorocyclopentadiene	N/A	N/A
Hexachloroethane	252.306	306.372
Hexachlorophene	63.570	77.192
Lead	378.720	459.875
Mercury	0.267	0.325
Methoxychlor	35.292	42.855
Methyl Ethyl Ketone	21745224	26404915
Nickel	44619.421	54180.726
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	40618.851	49322.890
N-Nitrosodiethylamine	46.033	55.898
N-Nitroso-di-n-Butylamine	92.066	111.795
Pentachlorobenzene	21.921	26.618
Pentachlorophenol	199.477	242.223
Polychlorinated Biphenyls (PCBs)	1.40E-02	1.70E-02
Pyridine	20758.797	25207.111
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	15.564	18.899
1,1,2,2-Tetrachloroethane	876.824	1064.714
Tetrachloroethylene	11508.309	13974.375
Thallium	5.042	6.122
Toluene	N/A	N/A
Toxaphene	0.116	0.141
2,4,5-TP (Silvex)	460.332	558.975

1,1,1-Trichloroethane	20970616	25464319
1,1,2-Trichloroethane	6466.574	7852.268
Trichloroethylene	1797.488	2182.664
2,4,5-Trichlorophenol	53376.633	64814.483
TTHM (Sum of Total Trihalomethanes)	N/A	N/A
Vinyl Chloride	526.094	638.829



REGION 6
1445 ROSS AVENUE
DALLAS, TEXAS 75202-2733

NPDES Permit No TX0085928

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"),

Phillips 66 Gulf Coast Fractionators
9500 FM 1942
P.O. Box 845
Mont Belvieu, TX 77580

is authorized to discharge from a facility located at 9500 FM 1942, Mont Belvieu, Chambers County, Texas,

to an unnamed ditch, thence to Cedar Bayou above tidal, Segment No. 0902 of the Trinity-San Jacinto Coastal River Basin, from

Outfall 101: Latitude 29° 51' 4.95"; Longitude 94° 55' 6.26"

Outfall 001: Latitude 29° 51' 3.53"; Longitude 94° 55' 9.31"

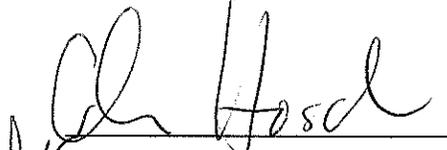
in accordance with this cover page and the effluent limitations, monitoring requirements, and other conditions set forth in Part I, Part II and Part III hereof.

This is a modification of an existing permit which became effective on *November 1, 2016*

This permit and the authorization to discharge shall expire at midnight, July 31, 2020

Issued on *SEPTEMBER 9, 2016*

Prepared by



William K. Honker, P.E.
Director
Water Division (6WQ)



Maria E. Okpala
Environmental Engineer
Permitting Section (6WQ-PP)

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PART I – REQUIREMENTS FOR NPDES PERMITS

SECTION A. LIMITATIONS AND MONITORING REQUIREMENTS

1. Internal Outfall 101 - 0.186 MGD

During the period beginning on the effective date of the permit and lasting until the expiration date, the permittee is authorized to discharge water blowdowns from clarifier, cooling towers, boilers, regenerated water from boilers, sand filter back-flush water via settling pond from internal Outfall 101. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		Standard Units			
POLLUTANT	STORET CODE	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	00400	6.0	9.0	Twice/Month *1	Grab

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		lbs/day, unless noted		mg/l, unless noted			
POLLUTANT	STORET CODE	DAILY AVG	DAILY MAX	DAILY AVG	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	50050	Report, MGD	Report, MGD	N/A	N/A	Daily	Measure
BOD ₅	00310	31.02	46.54	20	30	Twice/Month *1	6-hour composite*2

2. Outfall 001 - 0.247 MGD

During the period beginning on the effective date of the permit and lasting until the expiration date, the permittee is authorized to discharge storm water from collection system, water from sample coolers, fire water flush, water blowdowns from clarifier, cooling towers, boilers, regenerated water from boilers, sand filter back-flush water via settling pond, washdown and process water from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		Standard Units			
POLLUTANT	STORET CODE	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	00400	6.5	9.0	Twice/Month *1	Grab

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		lbs/day, unless noted		mg/l, unless noted			
POLLUTANT	STORET CODE	DAILY AVG	DAILY MAX	DAILY AVG	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	50050	Report, MGD	Report, MGD	N/A	N/A	Daily	Estimate *2
Total Residual Chlorine	50060	N/A	N/A	N/A	Report	Twice/Month *1	Instantaneous grab
Total Aluminum	0.1105	1.720	3.638	0.835	1.766	Twice/Month *1	Grab
Total Copper	01042	Report	Report	Report	Report	Twice/Month *1	Grab

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING		MONITORING REQUIREMENTS	
	30-DAY AVG MINIMUM	7-DAY MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Whole Effluent Toxicity Testing (7 Day Static Renewal) *4				
Ceriodaphnia dubia	Report	Report	Once/6 months*6	24-Hr Composite*5
Pimephales promelas	Report	Report	Once/ 6 months *6	24-Hr Composite *5

Footnotes:

- *1 For parameters with a 2/Month measurement frequency, two samples shall be 10 days apart.
- *2 "Estimate" flow measurements shall not be to the accuracy provisions established at Part III.C.6. Flow may be estimated using best engineering measurement.
- *3 The maximum TRC shall be monitored by instantaneous grab sample, twice per month. Regulations at 40 CFR Part 136 define "instantaneous grab" as analyzed within 15 minutes of collection. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- *4 Monitoring and reporting requirements begin on the effective date of this permit. See PART II Whole Effluent Toxicity Testing requirements for additional WET monitoring and reporting conditions.
- *5 24-HOUR COMPOSITE SAMPLE consists of a minimum of 12 effluent portions collected at equal time intervals over the 24-hour period and combined proportional to flow or a sample collected at frequent intervals proportional to flow over the 24-hour period.
- *6 There shall be no further frequency reduction during the permit term.

SAMPLING LOCATION(S) AND OTHER REQUIREMENTS

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the process only sampling point at the following approximate location:

Internal Outfall 101: Outfall 001: Latitude 29° 51' 3"; Longitude 94° 55' 10"

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit at the following approximate location:

Outfall 001: Outfall 001: Latitude 29° 51' 3"; Longitude 94° 55' 10"

FLOATING SOLIDS, VISIBLE FOAM AND/OR OILS

There shall be no discharge of floating solids or visible foam in other than trace amounts. There shall be no discharge of visible films of oil, globules of oil, grease or solids in or on the water, or coatings on stream banks.

SECTION B: SCHEDULE OF COMPLIANCE

None

SECTION C. MONITORING AND REPORTING (MINOR DISCHARGERS)

1. Monitoring results must be reported to EPA on either the electronic or paper Discharge Monitoring Report (DMR) approved formats. Monitoring results can be submitted electronically in lieu of the paper DMR Form. All DMRs shall be electronically reported effective December 21, 2016, per 40 CFR 127.16. See 80 FR 64063. To submit electronically, access the NetDMR website at www.epa.gov/netdmr and contact the R6NetDMR@epa.gov in-box for further instructions. Until you are approved for Net DMR, you must report on the Discharge Monitoring Report (DMR) Form EPA No. 3320-1 in accordance with the "General Instructions" provided on the form. No additional copies are needed if reporting electronically, however when submitting paper form EPA No. 3320-1, the permittee shall submit the original DMR signed and certified as required by Part III.D.11 and all other reports required by Part III.D. to the EPA and other agencies as required. (See Part III.D.IV of the permit.)

Discharge Monitoring Report Form(s) shall be submitted quarterly. Each quarterly submittal shall include separate forms for each month of the reporting period.

2. Reporting periods shall end on the last day of the months March, June, September, and December.
3. The first Discharge Monitoring Report(s) shall represent facility operations from the effective date of the permit through the last day of the current reporting period.
4. Thereafter, the permittee is required to submit regular quarterly reports as described above and shall submit those reports postmarked no later than the 28th day of the month following each reporting period.

5. NO DISCHARGE REPORTING - If there is no discharge from any outfall during the sampling month, place an "X" in the NO DISCHARGE box located in the upper right corner of the Discharge Monitoring Report.
6. If any daily maximum or monthly average value exceeds the effluent limitations specified in Part I. A, the permittee shall report the excursion in accordance with the requirements of Part III. D.
7. Any daily maximum or monthly average value reported in the required Discharge Monitoring Report which is in excess of the effluent limitation specified in Part I. A shall constitute evidence of violation of such effluent limitation and of this permit.
8. The permittee shall effectively monitor the operation and efficiency of all treatment and control facilities and the quantity and quality of the treated discharge.
9. All reports shall be sent both to EPA and the Texas Railroad Commission at the addresses shown in Part III of the permit.

PART II - OTHER REQUIREMENTS

GENERAL:

A. MINIMUM QUANTIFICATION LEVEL (MQL)

See list of MQL's at Appendix A of Part II below. For pollutants listed on Appendix A of Part II with MQL's, analyses must be performed to the listed MQL. If any individual analytical test result is less than the MQL listed, a value of zero (0) may be used for that pollutant result for the Discharge Monitoring Report (DMR) calculations and reporting requirements.

In addition, any additional pollutant sampling for purposes of this permit, including renewal applications or any other reporting, shall be tested to the MQL shown on the attached Appendix A of Part II. Results of analyses that are less than the listed MQL may be reported as "non detect" (ND).

B. 24-HOUR ORAL REPORTING: DAILY MAXIMUM LIMITATION VIOLATIONS

Under the provisions of Part III.D.7.b.(3) of this permit, violations of daily maximum limitations for the following pollutants shall be reported orally to EPA Region 6, Compliance and Assurance Division, Water Enforcement Branch (6EN-W), Dallas, Texas, at (214) 665-6595, and concurrently to Railroad Commission of Texas, at (512) 463-6804, within 24 hours from the time the permittee becomes aware of the violation followed by a written report in five days.

Total Aluminum

C. 40 CFR PART 136 ANALYTICAL REQUIREMENTS

Unless otherwise specified in this permit, monitoring shall be conducted according to the analytical, apparatus and materials, sample collection, preservation, handling, etc., procedures listed at 40 CFR Part 136 in effect on the effective date of this permit. Appendices A, B, and C to 40 CFR Part 136 are specifically referenced as part of this requirement. Amendments to 40 CFR Part 136 promulgated after the effective date of this permit shall supersede these requirements as applicable.

Sufficiently Sensitive Analytical Methods (SSM)

The permittee must use sufficiently sensitive EPA-approved analytical methods (SSM) (under 40 CFR part 136 or required under 40 CFR chapter I, subchapters N or O) when quantifying the presence of pollutants in a discharge for analyses of pollutants or pollutant parameters under the permit. In case the approved methods are not sufficiently sensitive to the limits, the most SSM with the lowest method detection limit (MDL) must be used as defined under 40 CFR 122.44(i)(1)(iv)(A). If no analytical laboratory is able to perform a test satisfying the SSM in the region, the most SSM with the lowest MDL must be used after adequate demonstrations by the permittee and EPA approval.

D. STORM WATER POLLUTION PREVENTION

Stormwater has been identified by the applicant/permittee as a component of the discharge through Outfall 001. This section applies to all stormwater discharges from the facility through permitted outfalls. The language below has been included in this permit to control stormwater from the facility subject to NPDES regulation:

1. The permittee shall prepare, implement, and maintain a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit. The terms and conditions of the SWP3 shall be an enforceable Part of the permit.
2. A visual inspection of the facility shall be conducted and a report made annually as described in Paragraphs E.2.d and E.2.e below. The annual report shall be retained on site and available upon request.

The following conditions shall be included in the SWP3 for this facility.

- a. The permittee shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from the facility; describe and ensure implementation of practices which will be used to reduce pollutants in storm water discharges from the facility; and assure compliance with the terms and conditions of this permit.
- b. The permittee must document where potential spills and leaks could occur that could contribute pollutants to stormwater discharges, and the corresponding outfall(s). The permittee must document all significant spills and leaks of oil or toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a stormwater conveyance, in the 3 years prior to the date you prepare or amend your SWPPP.

Note: Significant spills and leaks include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under CWA Section 311 (see 40 CFR 110.6 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC §9602. This permit does not relieve you of the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302 relating to spills or other releases of oils or hazardous substances.

- c. Where experience indicates a reasonable potential for equipment failure (e.g. a tank overflow or leakage), natural condition of (e.g. precipitation), or other circumstances which result in significant amounts of pollutants reaching surface waters, the SWP3 should include a prediction of the direction, rate of flow and total quantity of pollutants which could be discharged from the facility as a result of each condition or circumstance.
- d. The permittee shall maintain for a period of three years a record summarizing the results of the inspection and a certification that the facility is in compliance with the SWP3 and the permit, and identifying any incidents of noncompliance. The summary report should

contain, at a minimum, the date and time of inspection, name of inspectors(s), conditions found, and changes to be made to the SWP3.

- e. The summary report and the following certification shall be signed and attached to the SWP3 and provided to the Environmental Protection Agency and the Railroad Commission of Texas upon request.

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Signatory requirements for the certification may be found in Part III, Section D.11 of this permit.

- f. The permittee shall make available to the Agency, the Railroad Commission of Texas, and/or the USFWS, upon request, a copy of the SWP3 and any supporting documentation.
3. The following shall be included in the SWP3, if applicable.
 - a. The permittee shall utilize all reasonable methods to minimize any adverse impact on the drainage system including but not limited to:
 - i. maintaining adequate road and driveway surfaces;
 - ii. removing debris and accumulated solids from the drainage system;
and
 - iii. cleaning up prior to the next storm event, any spill by sweeping, absorbent pads, or other appropriate methods.
 - b. All spilled product and other spilled wastes shall be immediately cleaned up and disposed of according to all applicable regulations, Spill Prevention and Control (SPC) plans or Spill Prevention Control and Countermeasures (SPCC) plans. Use of detergents, emulsifiers, or dispersants to clean up spilled product is prohibited except where necessary to comply with State or Federal safety regulations (i.e., requirement for non-slippery work surface). In all such cases, initial cleanup shall be done by physical removal and chemical usage shall be minimized.
 - c. All equipment, parts, dumpsters, trash bins, petroleum products, chemical solvents, detergents, or other materials exposed to stormwater shall be maintained in a manner which prevents contamination of stormwater by pollutants.

- d. All waste fuel, lubricants, coolants, solvents, or other fluids used in repair or maintenance of vehicles or equipments shall be recycled or contained for proper disposal. Spills of these materials are to be cleaned up by dry means whenever possible.
- e. Stormwater Pollution Prevention Plan must be consistent with the requirements of the current Oil Pollution Prevention regulations.
- f. Prior to discharge of uncontaminated stormwater from a secondary containment area, the permittee will conduct a visual inspection of the containment area for a visible sheen, an odor associated within the tanked products, and/or a stain pattern within the contained area that is indicative of a spill or leak into that area. No dewatering of the area is allowed under the condition of this permit, if evidence exists of a spill or leak, unless the discharge will not exceed 50 mg/l TOC, 15 mg/l Oil and Grease, or having a pH less than 6.0 or greater than 9.0 standard units.
- g. The permittee shall assure compliance with all applicable regulations promulgated under 40 CFR Part 257. Management practices required under regulations found in this Part shall be referenced in the SWP3.
- h. The permittee shall amend the SWP3 whenever there is a change in the facility or change in the operation of the facility which materially increases the potential for the ancillary activities to result in a discharge of significant amounts of pollutants.
- i. If the SWP3 proves to be ineffective in achieving the general objectives preventing the release of significant amounts of pollutants to water of the state, then the specific objectives and requirements of the SWP3 shall be subject to modification to incorporate revised SWP3 requirements.

E. REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of the Texas Commission on Environmental Quality (TCEQ) Water Quality Standards for Interstate and Intrastate Streams are revised or remanded. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing the Water Quality Standards are either revised or promulgated by the TCEQ. Should the State adopt a State water quality standard, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that approved State standard in accordance with 40CFR122.44(d). Modification of the permit is subject to the provisions of 40CFR124.5.

Additionally, in accordance with 40 CFR Part 122.62 (s) (2), the permit may be reopened and modified if new information is received that was not available at the time of permit issuance that would have justified the application of different permit conditions at the time of permit issuance. Permit modifications shall reflect the results of any of these actions and shall follow regulations listed at 40 CFR Part 124.5.

F. WHOLE EFFLUENT TOXICITY TESTING (7-DAY CHRONIC NOEC FRESHWATER)

It is unlawful and a violation of this permit for a permittee or his designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed unless specific authority has been granted by EPA Region 6 or the State NPDES permitting authority.

1. SCOPE AND METHODOLOGY

- a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO FINAL OUTFALL(S): 001

REPORTED ON DMR AS FINAL OUTFALL: 001

CRITICAL DILUTION (%): 14.7%

EFFLUENT DILUTION SERIES (%): 6.2%, 8.3%, 11.0%, 14.7%, & 19.6%.

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA-821-R-02-013, or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

- b. The NOEC (No Observed Lethal Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.
- c. This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

2. PERSISTENT LETHAL and/or SUB-LETHAL EFFECTS

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal and/or sub-lethal effects at or below the critical dilution. The purpose of additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result.

If any valid test demonstrates significant lethal or sub-lethal effects to a test species at or below the critical dilution, the frequency of testing for that species is automatically increased to once per quarter for the life of the permit.

a. Part I Testing Frequency Other Than Monthly

- i. The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant toxic effects at or below the critical dilution. The additional tests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.
- ii. **IF LETHAL EFFECTS HAVE BEEN DEMONSTRATED** if any of the additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section. The permittee shall notify EPA in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.
- iii. **IF ONLY SUB-LETHAL EFFECTS HAVE BEEN DEMONSTRATED** If any two of the three additional tests demonstrates significant sub-lethal effects at 19.8% effluent or lower, the permittee shall initiate the Sub-Lethal Toxicity Reduction Evaluation (TRE_{SL}) requirements as specified in Item 5 of this section. The permittee shall notify EPA in writing within 5 days of the failure of any retest, and the Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required for failure to perform the required retests.
- iv. The provisions of Item 2.a.i. are suspended upon submittal of the TRE Action Plan.

b. Part I Testing Frequency of Monthly

The permittee shall initiate the Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section when any two of three consecutive monthly toxicity tests exhibit significant lethal effects at or below the critical dilution. A TRE may also be required due to a demonstration of intermittent lethal and/or sub-lethal effects at or below the critical dilution, or for failure to perform the required retests.

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

- i. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- ii. The mean number of *Ceriodaphnia dubia* neonates produced per surviving female in the control (0% effluent) must be 15 or more.
- iii. 60% of the surviving control females must produce three broods.
- iv. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.
- v. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test; the growth and survival endpoints of the Fathead minnow test.
- vi. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or nonlethal effects are exhibited for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test; the growth and survival endpoints of the Fathead minnow test.
- vii. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for *Ceriodaphnia dubia* reproduction;
- viii. A PMSD range of 12 - 30 for Fathead minnow growth.

Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

b. Statistical Interpretation

- i. For the *Ceriodaphnia dubia* survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA/821/R-02-013 or the most recent update thereof.
- ii. For the *Ceriodaphnia dubia* reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA/821/R-02-013 or the most recent update thereof.
- iii. If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

c. Dilution Water

- i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for;
 - (A) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and
 - (B) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.
- ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:
 - (A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;
 - (B) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);
 - (C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4

below; and

- (D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

- i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above.
- ii. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.
- iii. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to 6 degrees Centigrade during collection, shipping, and/or storage.
- iv. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must collect an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 4 of this section.
- v. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in item 1.a. above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

4. REPORTING

- a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of

EPA/821/R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.3 of this permit. The permittee shall submit full reports upon the specific request of the Agency. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

- b. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of biomonitoring data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST lethal and sub-lethal effects results for each species during the reporting period. All invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for EPA review.
- c. The permittee shall submit the results of each valid toxicity test on the subsequent monthly DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.
 - i. *Pimephales promelas* (Fathead Minnow)
 - (A) If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP6C
 - (B) Report the NOEC value for survival, Parameter No. TOP6C
 - (C) Report the Lowest Observed Effect Concentration (LOEC) value for survival, Parameter No. TXP6C
 - (D) Report the NOEC value for growth, Parameter No. TPP6C
 - (E) Report the LOEC value for growth, Parameter No. TYP6C
 - (F) If the No Observed Effect Concentration (NOEC) for growth is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP6C
 - (G) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQP6C
 - ii. *Ceriodaphnia dubia*
 - (A) If the NOEC for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP3B
 - (B) Report the NOEC value for survival, Parameter No. TOP3B

- (C) Report the LOEC value for survival, Parameter No. TXP3B
 - (D) Report the NOEC value for reproduction, Parameter No. TPP3B
 - (E) Report the LOEC value for reproduction, Parameter No. TYP3B
 - (F) If the No Observed Effect Concentration (NOEC) for reproduction is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP3B
 - (G) Report the higher (critical dilution or control) Coefficient of Variation, Parameter No. TQP3B
- d. Enter the following codes on the DMR for retests only:
- i. For retest number 1, Parameter 22415, enter a '1' if the NOEC for survival and/or sub-lethal effects is less than the critical dilution; otherwise, enter a '0'
 - ii. For retest number 2, Parameter 22416, enter a '1' if the NOEC for survival and/or sub-lethal effects is less than the critical dilution; otherwise, enter a '0'
 - iii. For retest number 3, Parameter 51443, enter a '1' if the NOEC for survival and/or sub-lethal effects is less than the critical dilution; otherwise, enter a '0'

5. TOXICITY REDUCTION EVALUATIONS (TREs)

TREs for lethal and sub-lethal effects are performed in a very similar manner. EPA Region 6 is currently addressing TREs as follows: a sub-lethal TRE (TRE_{SL}) is triggered based on three sub-lethal test failures while a lethal effects TRE (TRE_L) is triggered based on only two test failures for lethality. In addition, EPA Region 6 will consider the magnitude of toxicity and use flexibility when considering a TRE_{SL} where there are no effects at effluent dilutions of less than 19.8% effluent.

- a. Within ninety (90) days of confirming persistent toxicity, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The goal of the TRE is to maximally reduce the toxic effects of effluent at the critical dilution and includes the following:
- i. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may

include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures' (EPA-600/6-91/003) and 'Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I' (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/080) and 'Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (703) 487-4650, or by writing:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

- ii. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;

Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where lethality was demonstrated within 48 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;
 - iii. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and
 - iv. Project Organization (e.g., project staff, project manager, consulting services, etc.).
- b. The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal. The permittee shall assume all risks for failure to

achieve the required toxicity reduction.

- c. The permittee shall submit a quarterly TRE Activities Report, with the Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:
- i. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
 - ii. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and
 - iii. any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution.

A copy of the TRE Activities Report shall also be submitted to the state agency.

- d. The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming lethality in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant lethality at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.

A copy of the Final Report on Toxicity Reduction Evaluation Activities shall also be submitted to the state agency.

- e. Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).

6. MONITORING FREQUENCY REDUCTION

- a. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing for one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the Fathead minnow) and not less than twice per year for the more sensitive test species (usually the *Ceriodaphnia dubia*).
- b. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item 3.a. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and

acceptance of this information the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance System section to update the permit reporting requirements.

- c. SUB-LETHAL OR SURVIVAL FAILURES - If any test fails the survival or sub-lethal endpoint at any time during the life of this permit, three monthly retests are required and the monitoring frequency for the affected test species shall be increased to once per quarter until the permit is re-issued. Monthly retesting is not required if the permittee is performing a TRE.

Any monitoring frequency reduction granted applies only until the expiration date of this permit, at which time the monitoring frequency for both test species reverts to once per quarter until the permit is re-issued.

APPENDIX A of PART II

The following Minimum Quantification Levels (MQL's) are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

POLLUTANTS	MQL µg/l	POLLUTANTS	MQL µg/l
METALS, RADIOACTIVITY, CYANIDE and CHLORINE			
Aluminum	2.5	Molybdenum	10
Antimony	60	Nickel	0.5
Arsenic	0.5	Selenium	5
Barium	100	Silver	0.5
Beryllium	0.5	Thallium	0.5
Boron	100	Uranium	0.1
Cadmium	1	Vanadium	50
Chromium	10	Zinc	20
Cobalt	50	Cyanide	10
Copper	0.5	Cyanide, weak acid dissociable	10
Lead	0.5	Total Residual Chlorine	33
Mercury *1	0.0005 0.005		
DIOXIN			
2,3,7,8-TCDD	0.00001		
VOLATILE COMPOUNDS			
Acrolein	50	1,3-Dichloropropylene	10
Acrylonitrile	20	Ethylbenzene	10
Benzene	10	Methyl Bromide	50
Bromoform	10	Methylene Chloride	20
Carbon Tetrachloride	2	1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10	Tetrachloroethylene	10
Clorodibromomethane	10	Toluene	10
Chloroform	50	1,2-trans-Dichloroethylene	10
Dichlorobromomethane	10	1,1,2-Trichloroethane	10
1,2-Dichloroethane	10	Trichloroethylene	10
1,1-Dichloroethylene	10	Vinyl Chloride	10
1,2-Dichloropropane	10		
ACID COMPOUNDS			
2-Chlorophenol	10	2,4-Dinitrophenol	50
2,4-Dichlorophenol	10	Pentachlorophenol	5
2,4-Dimethylphenol	10	Phenol	10
4,6-Dinitro-o-Cresol	50	2,4,6-Trichlorophenol	10

POLLUTANTS	MQL µg/l	POLLUTANTS	MQL µg/l
BASE/NEUTRAL			
Acenaphthene	10	Dimethyl Phthalate	10
Anthracene	10	Di-n-Butyl Phthalate	10
Benzidine	50	2,4-Dinitrotoluene	10
Benzo(a)anthracene	5	1,2-Diphenylhydrazine	20
Benzo(a)pyrene	5	Fluoranthene	10
3,4-Benzofluoranthene	10	Fluorene	10
Benzo(k)fluoranthene	5	Hexachlorobenzene	5
Bis(2-chloroethyl)Ether	10	Hexachlorobutadiene	10
Bis(2-chloroisopropyl)Ether	10	Hexachlorocyclopentadiene	10
Bis(2-ethylhexyl)Phthalate	10	Hexachloroethane	20
Butyl Benzyl Phthalate	10	Indeno(1,2,3-cd)Pyrene	5
2-Chloronaphthalene	10	Isophorone	10
Chrysene	5	Nitrobenzene	10
Dibenzo(a,h)anthracene	5	n-Nitrosodimethylamine	50
1,2-Dichlorobenzene	10	n-Nitrosodi-n-Propylamine	20
1,3-Dichlorobenzene	10	n-Nitrosodiphenylamine	20
1,4-Dichlorobenzene	10	Pyrene	10
3,3'-Dichlorobenzidine	5	1,2,4-Trichlorobenzene	10
Diethyl Phthalate	10		
PESTICIDES AND PCBS			
Aldrin	0.01	Beta-Endosulfan	0.02
Alpha-BHC	0.05	Endosulfan sulfate	0.02
Beta-BHC	0.05	Endrin	0.02
Gamma-BHC	0.05	Endrin Aldehyde	0.1
Chlordane	0.2	Heptachlor	0.01
4,4'-DDT and derivatives	0.02	Heptachlor Epoxide	0.01
Dieldrin	0.02	PCBs	0.2
Alpha-Endosulfan	0.01	Toxaphene	0.3

(MQL's Revised November 1, 2007)

Footnotes:

*1 Default MQL for Mercury is 0.005 unless Part I of your permit requires the more sensitive Method 1631 (Oxidation / Purge and Trap / Cold vapor Atomic Fluorescence Spectrometry), then the MQL shall be 0.0005

PART III - STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. INTRODUCTION

In accordance with the provisions of 40 CFR Part 122.41, et. seq., this permit incorporates by reference ALL conditions and requirements applicable to NPDES Permits set forth in the Clean Water Act, as amended, (hereinafter known as the "Act") as well as ALL applicable regulations.

2. DUTY TO COMPLY

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

3. TOXIC POLLUTANTS

- a. Notwithstanding Part III.A.5, if any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition.
- b. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

4. DUTY TO REAPPLY

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated at 40 CFR Part 122.6 and any subsequent amendments.

5. PERMIT FLEXIBILITY

This permit may be modified, revoked and reissued, or terminated for cause in accordance with 40 CFR 122.62-64. The filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

7. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

8. CRIMINAL AND CIVIL LIABILITY

Except as provided in permit conditions on "Bypassing" and "Upsets", nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of the permit, the Act, or applicable regulations, which avoids or effectively defeats the regulatory purpose of the Permit may subject the Permittee to criminal enforcement pursuant to 18 U.S.C. Section 1001.

9. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

10. STATE LAWS

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

11. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

B. PROPER OPERATION AND MAINTENANCE1. NEED TO HALT OR REDUCE NOT A DEFENSE

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failure either by means of alternate power sources, standby generators or retention of inadequately treated effluent.

2. DUTY TO MITIGATE

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

3. PROPER OPERATION AND MAINTENANCE

- a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this permit.
- b. The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

4. BYPASS OF TREATMENT FACILITIES

- a. BYPASS NOT EXCEEDING LIMITATIONS

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts III.B.4.b. and 4.c.
- b. NOTICE
 - (1) ANTICIPATED BYPASS

If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
 - (2) UNANTICIPATED BYPASS

The permittee shall, within 24 hours, submit notice of an unanticipated bypass as required in Part III.D.7.
- c. PROHIBITION OF BYPASS
 - (1) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

- (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and,
 - (c) The permittee submitted notices as required by Part III.B.4.b.
- (2) The Director may allow an anticipated bypass after considering its adverse effects, if the Director determines that it will meet the three conditions listed at Part III.B.4.c(1).

5. UPSET CONDITIONS

a. EFFECT OF AN UPSET

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Part III.B.5.b. are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

b. CONDITIONS NECESSARY FOR A DEMONSTRATION OF UPSET

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
- (2) The permitted facility was at the time being properly operated;
- (3) The permittee submitted notice of the upset as required by Part III.D.7; and,
- (4) The permittee complied with any remedial measures required by Part III.B.2.

c. BURDEN OF PROOF

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. REMOVED SUBSTANCES

Unless otherwise authorized, solids, sewage sludges, filter backwash, or other pollutants removed in the course of treatment or wastewater control shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

7. PERCENT REMOVAL (PUBLICLY OWNED TREATMENT WORKS)

For publicly owned treatment works, the 30-day average (or Monthly Average) percent removal for Biochemical Oxygen Demand and Total Suspended Solids shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR 133.103.

C. MONITORING AND RECORDS

I. INSPECTION AND ENTRY

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by the law to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

2. REPRESENTATIVE SAMPLING

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

3. RETENTION OF RECORDS

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

4. RECORD CONTENTS

Records of monitoring information shall include:

- a. The date, exact place, and time of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) and time(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

5. MONITORING PROCEDURES

- a. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.
- b. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.
- c. An adequate analytical quality control program, including the analyses of sufficient standards, spikes, and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory.

6. FLOW MEASUREMENTS

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes.

D. REPORTING REQUIREMENTS

1. PLANNED CHANGES

a. INDUSTRIAL PERMITS

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- (1) The alteration or addition to a permitted facility may meet one of the criteria for determining

whether a facility is a new source in 40 CFR Part 122.29(b); or,

- (2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements listed at Part III.D.10.a.

b. MUNICIPAL PERMITS

Any change in the facility discharge (including the introduction of any new source or significant discharge or significant changes in the quantity or quality of existing discharges of pollutants) must be reported to the permitting authority. In no case are any new connections, increased flows, or significant changes in influent quality permitted that will cause violation of the effluent limitations specified herein.

2. ANTICIPATED NONCOMPLIANCE

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. TRANSFERS

This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

4. DISCHARGE MONITORING REPORTS AND OTHER REPORTS

Monitoring results must be reported on Discharge Monitoring Report (DMR) Form EPA No. 3320-1 in accordance with the "General Instructions" provided on the form. The permittee shall submit the original DMR signed and certified as required by Part III.D.11 and all other reports required by Part III.D. to the EPA at the address below. Duplicate copies of DMR's and all other reports shall be submitted to the appropriate State agency(ies) at the following address(es):

EPA:

Compliance Assurance and Enforcement Division
Water Enforcement Branch (6EN-W)
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

Texas:

Program Manager
Environmental Services
Railroad Commission of Texas
1701 North Congress Avenue
P.O. Box 12967
Austin, Texas 7871-2967

5. ADDITIONAL MONITORING BY THE PERMITTEE

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report (DMR). Such increased monitoring frequency shall also be indicated on the DMR.

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.

6. AVERAGING OF MEASUREMENTS

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

7. TWENTY-FOUR HOUR REPORTING

- a. The permittee shall report any noncompliance which may endanger health or the environment. Any

information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall be provided within 5 days of the time the permittee becomes aware of the circumstances. The report shall contain the following information:

- (1) A description of the noncompliance and its cause;
 - (2) The period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and,
 - (3) Steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.
- b. The following shall be included as information which must be reported within 24 hours:
- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;
 - (2) Any upset which exceeds any effluent limitation in the permit; and,
 - (3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part II (industrial permits only) of the permit to be reported within 24 hours.
- c. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

8. OTHER NONCOMPLIANCE

The permittee shall report all instances of noncompliance not reported under Parts III.D.4 and D.7 and Part I.B (for industrial permits only) at the time monitoring reports are submitted. The reports shall contain the information listed at Part III.D.7.

9. OTHER INFORMATION

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

10. CHANGES IN DISCHARGES OF TOXIC SUBSTANCES

All existing manufacturing, commercial, mining, and silvacultural permittees shall notify the Director as soon as it knows or has reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitro-phenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
 - (4) The level established by the Director.
- b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- (1) Five hundred micrograms per liter (500 µg/L);
 - (2) One milligram per liter (1 mg/L) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or

- (4) The level established by the Director.

11. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to the Director shall be signed and certified.

a. ALL PERMIT APPLICATIONS shall be signed as follows:

- (1) FOR A CORPORATION - by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
- (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or,
 - (b) The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- (2) FOR A PARTNERSHIP OR SOLE PROPRIETORSHIP - by a general partner or the proprietor, respectively.
- (3) FOR A MUNICIPALITY, STATE, FEDERAL, OR OTHER PUBLIC AGENCY - by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
- (a) The chief executive officer of the agency, or
 - (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

b. ALL REPORTS required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- (1) The authorization is made in writing by a person described above;
- (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or an individual occupying a named position; and,

- (3) The written authorization is submitted to the Director.

c. CERTIFICATION

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for

submitting false information, including the possibility of fine and imprisonment for knowing violations."

12. AVAILABILITY OF REPORTS

Except for applications, effluent data, permits, and other data specified in 40 CFR 122.7, any information submitted pursuant to this permit may be claimed as confidential by the submitter. If no claim is made at the time of submission, information may be made available to the public without further notice.

E. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

I. CRIMINAL

a. NEGLIGENT VIOLATIONS

The Act provides that any person who negligently violates permit conditions implementing Section 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

b. KNOWING VIOLATIONS

The Act provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

c. KNOWING ENDANGERMENT

The Act provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than \$250,000, or by imprisonment for not more than 15 years, or both.

d. FALSE STATEMENTS

The Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or by both. (See Section 309.c.4 of the Clean Water Act)

2. CIVIL PENALTIES

The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed \$27,500 per day for each violation.

3. ADMINISTRATIVE PENALTIES

The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows:

a. CLASS I PENALTY

Not to exceed \$16,000 per violation nor shall the maximum amount exceed \$37,500.

b. CLASS II PENALTY

Not to exceed \$16,000 per day for each day during which the violation continues nor shall the maximum amount exceed \$177,500.

F. DEFINITIONS

All definitions contained in Section 502 of the Act shall apply to this permit and are incorporated herein by reference. Unless otherwise specified in this permit, additional definitions of words or phrases used in this permit are as follows:

1. ACT means the Clean Water Act (33 U.S.C. 1251 et. seq.), as amended.

2. ADMINISTRATOR means the Administrator of the U.S. Environmental Protection Agency.
3. APPLICABLE EFFLUENT STANDARDS AND LIMITATIONS means all state and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards or performance, toxic effluent standards and prohibitions, and pretreatment standards.
4. APPLICABLE WATER QUALITY STANDARDS means all water quality standards to which a discharge is subject under the Act.
5. BYPASS means the intentional diversion of waste streams from any portion of a treatment facility.
6. DAILY DISCHARGE means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the sampling day. "Daily discharge" determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be arithmetic average (weighted by flow value) of all samples collected during that sampling day.
7. DAILY MAXIMUM discharge limitation means the highest allowable "daily discharge" during the calendar month.
8. DIRECTOR means the U.S. Environmental Protection Agency Regional Administrator or an authorized representative.
9. ENVIRONMENTAL PROTECTION AGENCY means the U.S. Environmental Protection Agency.
10. GRAB SAMPLE means an individual sample collected in less than 15 minutes.
11. INDUSTRIAL USER means a nondomestic discharger, as identified in 40 CFR 403, introducing pollutants to a publicly owned treatment works.
12. MONTHLY AVERAGE (also known as DAILY AVERAGE) discharge limitations means the highest allowable average of "daily discharge(s)" over a calendar month, calculated as the sum of all "daily discharge(s)" measured during a calendar month divided by the number of "daily discharge(s)" measured during that month. When the permit establishes daily average concentration effluent limitations or conditions, the daily average concentration means the arithmetic average (weighted by flow) of all "daily discharge(s)" of concentration determined during the calendar month where C = daily concentration, F = daily flow, and n = number of daily samples; daily average discharge =

$$\frac{C_1F_1 + C_2F_2 + \dots + C_nF_n}{F_1 + F_2 + \dots + F_n}$$
13. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the Act.
14. SEVERE PROPERTY DAMAGE means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
15. SEWAGE SLUDGE means the solids, residues, and precipitates separated from or created in sewage by the unit processes of a publicly owned treatment works. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and storm water runoff that are discharged to or otherwise enter a publicly owned treatment works.
16. TREATMENT WORKS means any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage and industrial wastes of a liquid nature to implement Section 201 of the Act, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intercepting sewers, sewage

collection systems, pumping, power and other equipment, and their appurtenances, extension, improvement, remodeling, additions, and alterations thereof.

17. UPSET means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
18. FOR FECAL COLIFORM BACTERIA, a sample consists of one effluent grab portion collected during a 24-hour period at peak loads.
19. The term "MGD" shall mean million gallons per day.
20. The term "mg/L" shall mean milligrams per liter or parts per million (ppm).
21. The term "µg/L" shall mean micrograms per liter or parts per billion (ppb).
22. MUNICIPAL TERMS
 - a. 7-DAY AVERAGE or WEEKLY AVERAGE, other than for fecal coliform bacteria, is the arithmetic mean of the daily values for all effluent samples collected during a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. The 7-day average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.
 - b. 30-DAY AVERAGE or MONTHLY AVERAGE, other than for fecal coliform bacteria, is the arithmetic mean of the daily values for all effluent samples collected during a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. The 30-day average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar month.
 - c. 24-HOUR COMPOSITE SAMPLE consists of a minimum of 12 effluent portions collected at equal time intervals over the 24-hour period and combined proportional to flow or a sample collected at frequent intervals proportional to flow over the 24-hour period.
 - d. 12-HOUR COMPOSITE SAMPLE consists of 12 effluent portions collected no closer together than one hour and composited according to flow. The daily sampling intervals shall include the highest flow periods.
 - e. 6-HOUR COMPOSITE SAMPLE consists of six effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) and composited according to flow.
 - f. 3-HOUR COMPOSITE SAMPLE consists of three effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) and composited according to flow.