Appendix A. Relative Benzene Levels for Refineries Exceeding Action Level in 2019 (micrograms per cubic meter of air, a

2-week Sampling Period (2019)	Philadelphia Energy Solutions	Artesia	Total PAR	Pasadena	FHR CC East	Chevron Pascagoula	Valero CC East
1	24	290	26.79	14	14.6	11.1	21
2	26	280	23.23	14	14.8	11.1	21
3	28	280	23.44	14	14.8	10.8	22
4	29	280	22.91	14	15	10.6	22
5	29	270	23.22	14	15	9.9	22
6	29	260	23.16	14	14.5	9.7	21
7	30	250	22.73	14	14.3	9.6	21
8	30	250	22.96	15	15	9.5	20
9	37	240	21.89	15	14.8	13.5	19
10	37	220	21.53	15	15	13.4	18
11	38	180	21.6	15	15.4	14.1	17
12	39	160	21.52	15	15	14.2	16
13	46	120	20.95	16	14.6	14.3	16
14	47	81	19.72	16	14.8	14.9	15
15	49	57	20.67	16	15.4	14.4	14
16	49	51	22.25	18	15.7	14.4	14
17	49	44	22.87	18	16.2	13.9	14
18	49	36	22.5	18	16.4	13.8	13
19			22.33	18	16.1		
20							

*Annual Average Fenceline Concentrations (Δc) represent the rolling annual average concentration (in µg/m3) that is assessed against the action level.
always line up, and are here expressed as the number sampling period in 2019 (e.g. sampling period 1 represents the first reported 2019 2-week sampl

annual average)

Chalmette	Shell Deer Park	Marathon Galveston
15	14.9	8.5
15	15.18	8.3
15	15.32	8.6
13	15.66	8.4
13	16.11	9.7
13	16.57	10
13	16.57	10
14	16.48	10
11	16.48	10
12	16.44	10
12	16.16	10
12.2	16.06	10
12.3	13.20	10
12.7	13.71	10
12.8	13.28	10
12.5	12.94	10
12.3	12.87	10
12.3	12.37	10
	11.08	

2-week sampling periods between facilities do not
ling period).