122.2 153.55 61.51 **Updated labor rates**

Table 1: Annual Respondent Burden and Cost – NESHAP for Polyvinyl Chloride and Copolymers Production (40 CFR Part 63, Subpart HHHHHHH) (Renewal)

Burden Item	(A) Respondent Hours per Occurrence (Technical hours)	(B) Number of Occurrences Per Respondent Per Year	(C) Hours Per Respondent Per Year (C=A x B)	(D) Number of Respondents Per Year [a]	(E) Technical Hours Per Year (C x D)	(F) Management Hours Per Year (E x 0.05)	(G) Clerical Hours Per Year (E x 0.1)	(H) Total Labor Costs Per Year [b]
1. Applications	N/A							
2. Surveys and Studies	N/A							
3. Reporting Requirements								
A. Familiarization with Regulatory Requirements [e,n]								
1) Existing respondents	8	1	8	13	104	5	10	$14,147
2) New respondents	320	1	320	0	0	0	0	$0
B. Required Activities								
1) Initial performance test, sampling, and report								
a) Process Vents [c,e]	120	1	120	0	0	0	0	$0
b) Resins [c,g]	36	1	36	0	0	0	0	$0
c) wastewater [c,h]	8	1	8	0	0	0	0	$0
d) uncontrolled wastewater [c,h]	40	1	40	0	0	0	0	$0
e) heat exchangers [c,i]	8	1	8	0	0	0	0	$0
f) equipment leaks [c,i]	850	1	850	0	0	0	0	$0
2) Periodic performance test, sampling, and report								
a) Process Vents [f]	17.1	350	5985	13	77,805	3,890	7,781	$10,583,697.44
b) Resins [g]	36	362	13032	13	169,416	8,471	16,942	$23,045,404
c) wastewater [h]	8	12	96	13	1,248	62	125	$169,763.57
d) uncontrolled wastewater [h]	40	1	40	13	520	26	52	$70,734.82
e) heat exchangers [i]	8	12	96	13	1,248	62	125	$169,763.57
f) equipment leaks [i]	43	12	516	13	6,708	335	671	$912,479.18
3) Establish operating parameters and monitoring plan								
a) Process Vents [c,d,e]	8	1	8	0	0	0	0	$0
4) Continuous parameter monitoring								
a) Initial capital costs (PRD Electronic Monitor) [c,k]	524	1	524	0	0	0	0	$0
b) Annualized PRD Electronic Monitor Review [k]	10	1	10	13	130	6.50	13.00	$17,683.71
5) Other requirements								
a) equipment openings, initial measurement [c,o]	1.5	1	1.5	0	0	0	0	$0
b) equipment openings, daily measurement [o]	1.5	350	525	13	6,825	341.25	682.5	$928,395
c) gasholders [p]	1	1	1	12	12	0.6	1.2	$1,632
d) storage vessels [q]	2	1	2	13	26	1.3	2.6	$3,537
e) bypasses, initial requirement [c,r]	40	1	40	0	0	0	0	$0
f) bypasses, ongoing inspection [r]	2	12	24	13	312	15.6	31.2	$42,440.89
C. Create Information	Incl. in 3.B							
D. Gather Information	Incl. in 3.E							
E. Report Preparation								
1) Initial Notification [c,d]	5	1	5	0	0	0	0	$0
2) Batch precompliance report [c,d]	5	1	5	0	0	0	0	$0
3) Notification of performance test with test plan [c,d]	10	1	10	0	0	0	0	$0
4) Notification of compliance status [c,d]	20	1	20	0	0	0	0	$0
5) Compliance report [d,s]	40	2	80	13	1,040	52	104	$141,469.64
6) Notice of inspection [d]	5	1	5	13	65	3	7	$8,841.85
Subtotal for Reporting Requirements [m]						***305,278***		***$36,109,990***
4. Recordkeeping Requirements								
A. Familiarization with Regulatory Requirements	Incl. in 3.A							
B. Implement Activities	N/A							
C. Develop Record System	N/A							
D. Record Information								
1) Records of process vent requirements [d]	10	12	120	13	1,560	78	156	$212,204.46
2) Records of resin stripper requirements [d]	10	12	120	13	1,560	78	156	$212,204.46
3) Records wastewater requirements [d]	10	12	120	13	1,560	78	156	$212,204.46
4) Records of storage vessel requirements [d]	10	12	120	13	1,560	78	156	$212,204.46
5) Records of equipment leak requirements [d]	10	12	120	13	1,560	78	156	$212,204.46
6) Records of heat exchanger requirements [d]	10	12	120	13	1,560	78	156	$212,204.46
7) Records of other emission sources requirements [d]	10	12	120	13	1,560	78	156	$212,204.46
E. Personnel Training	Incl. in 3.B							
F. Time for Audits	N/A							
Subtotal for Recordkeeping Requirements						***12,558***		***1,485,000***
TOTAL LABOR BURDEN AND COSTS (rounded)[t]						**318,000**		**37,600,000**
TOTAL CAPITAL AND O&M COST (rounded)[t]								**7,140,000**
GRAND TOTAL (rounded)[t]								**44,700,000**

39

8,154 [t] per resp

FOOTNOTES

[a]Assumes that, over the next three years, approximately 13 respondents per year will be subject to the standard, and no additional respondents per year will become subject to the standard.

[b]Labor rates are $153.55 for managerial, $122.20 for technical, and $61.51 for clerical. These rates from the United States Department of Labor, Bureau of Labor Statistics, March 2021, "Table 2. Civilian Workers, by occupational and industry group." The rates are from column 1, "Total compensation." The rates have been increased by 110 percent to account for the benefit packages available to those employed by private industry.

[c]One-time only costs.

[d]Cost incurred by a facility regardless of the number of affected units at the plant. Per VI's comments, this is performed monthly. We have assumed 10 hours per month for each process listed.

[e]There are 13 major sources in the affected source category. The previous count of 15 major sources counted Formosa Point Comfort as two facilities; however, this ICR assumes this is a single facility due to shared equipment, controls, and/or employees. Additionally, the Vinyl Institute (VI) informed EPA that the Wacker Calvert city facility discontinued PVC operations. Therefore, the count of major source facilities is adjusted to 13.

[f]13 major sources are expected to perform testing for process vents. OxyVinyls Pedricktown does not operate a process vent control, but rather sends process vent gas streams to Mexichem Pedricktown for control. Per VI, it is assumed that performance testing for process vents will take 120 hours per occurrence initially. The initial compliance and operating procedure development for continuous compliance and will take 8 hours. The daily monitoring of parameters will take 5 min per record with 112 records a day across 32 devices in the industry. There are 3 area source and 13 major sources subject to this requirement. Therefore, the continuous/daily monitoring will take on avg 17.1 hr per facility per day over 350 day/yr.

[g]Per VI's previous comments, it is assumed that performance testing for resins will take 4 hours per sample for 9 samples per facility, initially and daily (350 days per year). Pursuant to 40 CFR 63.11960(d)(2), we have increased the number of occurrences from 350 to 362 to account for 12 monthly samples.

[h]Per VI, wastewater testing is estimated to take 4 hours per sample for 2 samples per facility. There are 13 wastewater streams for 13 major sources, yields 13/13 wastewater streams per major source that are sampled monthly. There are 5 uncontrolled wastewater streams per source that are sampled annually. See Capital/O&M costs for non-VC TOHAP samples.

[i]Per VI, it is assumed that performance testing on heat exchangers will take 4 hours per sample for 2 samples per facility, initially and monthly, for 16 of the 17 major sources. One of the sources relies on another facility to cool the water.

[j]For Equipment leaks, VI estimates approx 10,000 components per facility and 5 minutes per component, plus additional time calibration of analytical device for a total of 850 hr per facility. For continuous monitoring, we assume 1 hr is required per component for leak repair, if detected. It was assumed that overall continuous compliace of leak monitoring will take 5% of the time with initial monitoring per month.

[k]The Annualized PRD Electronic Monitor Review hours have been updated to include hours for corrective action for discharges and hours for replacement analysis. Per VI's comments, corrective action for discharge from a PRD would take 24 hours, and less than one PRD discharge event occurs per year in the entire industry. The number of hours for a discharge event is estimated to be 24/13 = 1.8 (rounded to 2) hours per facility. Per VI's comments, analysis for replacement of PRD monitors is estimated to take 24 hours per facility. Because the lifetime of a PRD monitor is expected to be 7 years, we do not expect the replacement analysis to occur annually, and we have assumed that this occurs once every 3 years (24 hrs/3 years = 8 hours per year).

[l]Per VI, Estimated that semiannual compliance reports would take 40 technical hours twice per year.

[m]Reporting subtotal does not include capital costs for PRD monitoring system.

ATTACHMENT E: RECORDKEEPING AND REPORTING COST ALGORITHM
February 9, 2012

Record Keeping and Reporting Burden by Emission Point

Note: This table is used to caluclate the record keeping and reporting burden by emission point for the PVC NESHAP. The costs presented in the table below represent costs not otherwise included in the PVC NESHAP Impact estimate (i.e., testing and monitoring costs are already included in the PVC NESHAP impacts estimate, therefore, they are not included in the table below). The costs presented in the table below should be added to the previously calculated PVC Impacts to obtain an impacts estimate which includes record keeping and reporting.

Record Keeping and Reporting Burden By Emission Point						
Emission Point	Initial Cost ($)	Initial Notes	Annual Cost ($/yr)			Annual Notes
			Yr 1	Yr 2	Yr 3	
Resins	#REF!	a,b,d	#REF!	#REF!	$23,279,081.89	e,f,g
Process Vents	#REF!	a,b,c,d	#REF!	#REF!	$10,817,374.97	e,f,g
Wastewater	#REF!	a,b,d	#REF!	#REF!	$474,175.92	e,f,g
Equipment Leaks	#REF!	a,b,d	#REF!	#REF!	$1,163,840.41	e,f,g,h
Storage Vessels	#REF!	a,d	#REF!	#REF!	$233,677.53	e,f,g
Heat Exchange Systems	#REF!	a,b,d	#REF!	#REF!	$403,441.10	e,f,g
Other Sources	#REF!	a,d	#REF!	#REF!	$233,677.53	e,f,g
Total	**#REF!**		**#REF!**	**#REF!**	**$36,605,269.35**	

a Labor/Non Labor Costs to "Read/Understand Rule Requirements" divided by 7 emission points
b Initial Performance Test/Sampling/Report
c Establishment of operating parameters and monitoring plan
d Report preparation for item 3.E.1-6 divided by 7 emission points
e Periodic sampling/testing/and monitoring (not applicable for process vents in year 1)
f Years 2 and 3 include items 3.E.5 and 3.E.6 divided by 7 emission points
g In year 2 and 3, recordkeeping items under 4.D are included
h includes annual labor cost for PRD monitoring system

Equipment Leaks BTF Costs Calculation on a Facility Basis

Equipment Leaks	#REF!	#REF!	#REF!	$86,948.12	Facilities going from V to UU
Equipment Leaks	#REF!	#REF!	#REF!	$16,757.42	MACT
Equipment Leaks	#REF!	#REF!	#REF!	$70,191	Incremental BTF Costs for Facilities going from V to UU

2. Required activities			
a. Perf. spec. tests (certif.) for CMS	11	1	11

Notes:
2. Person-hours per occurrence for CMS performance specification costs are based on the performance specification costs to certify CMS ($700) divided by the composite hourly labor rate ($66.41/hr).

Sources:
1. Bureau of Labor Statistics, Occupational Employment Statistics, May 2008 National Industry-Specific Occupational Employment and Wage Estimates.
2. Hospital/Medical/Infectious Waste Incinerators (HMIWI) [EPA-HQ-OAR2006-0534] Testing and Monitoring Options and Costs Memo (IV-B-66).

				2021:	51.23	69.04	27.73
	(A)	(B)	(C)	(D)			
	EPA person-hours per occurrence	**No. of occurrences per plant per year**	**EPA person-hours per plant per year (C=AxB)**	**Plants Per Year [a]**	**(E) Technical person-hours per year (E=CxD)**	**(F) Management person-hours per year (Ex0.05)**	**(G) Clerical person-hours per year (Ex0.10)**
1. Applications	not applicable						
2. Familiarization with Rule Requirements	15	1	15	0	0	0	0
3. Required Activities							
A. Observe initial performance tests [c]	48	1	48	0	0	0	0
B. Excess emissions -- Enforcement Activities [d]	24	1	24	1.3	31	2	3
C. Create Information	not applicable						
D. Gather Information	not applicable						
E. Report Reviews							
1) Review initial notification	3	1	3	0	0	0	0
2) Review batch precompliance report	5	1	5	0	0	0	0
3) Review notification of performance test	10	1	10	0	0	0	0
4) Review notification of compliance status	40	1	40	0	0	0	0
5) Review compliance report	20	2	40	13	520	26	52
6) Review notice of inspection	3	1	3	13	39	2	4
F. Prepare annual summary report [e]	4	1	4	6	24	1	2
4. Travel expenses: (1 person * 30 hours per year / 8 hours per day * $75 per diem) + ($600 per round trip) =						n/a	per trip
TOTAL ANNUAL BURDEN AND COST (rounded)[f]					706		

FOOTNOTES

[a]Assumes that, over the next three years, approximately 13 respondents per year will be subject to the standard, and no additional respondents per year will become subject to the standard.

[b]Labor rates are $69.04 for managerial (GS-13, Step 5, $43.15 + 60%), $51.23 for technical (GS-12, Step 1, $32.02 + 60%), and $27.73 for clerical (GS-6, Step 3, $17.33 + 60%). These rates are from the Office of Personne (OPM), 2021 General Schedule, which excludes locality rates of pay. The rates have been increased by 60 percent to account for the benefit packages available to government employees.

[c]Assumes EPA personnel attend 20 percent of the initial process vent stack tests.

[d]Assume 10% of major source facilities (13) have emission exceedances.

[e]Using four hours per state (6 states) to write annual summary report.

(A) Continuous Monitoring Device	(B) Capital/Startup Cost for One Respondent
PRD Electronic Monitor [8]	$375,000
VC Ambient monitoring [9]	
Gas holders	$5,000
Process Vent Testing[10]	$51,198
Resin Sampling and Monitoring [1]	$1,803
Stripped resin: Non-VC TOHAP testing [2]	$1,950
Wastewater Testing[3]	$491
Wastewater: Non-VC TOHAP testing[4]	$650
Uncontrolled Wastewater testing [5]	$0
Uncontrolled wastewater: Non-VC TOHAP testing [6]	$3,250
Equipment Leak Testing [7]	$77,798

[1]Per VI's comments, monthly maintenance and service of a lab GC costs $600 per unit.

[2]Per VI's previous comments, the costs of Non-VC TOHAP testing is $650 per sample, and 3

[3]Monthly testing ($491 x 12 months = $5,892 per year)

[4]Per VI's previous comments, the costs of Non-VC TOHAP testing is $650 per sample, and o

[5]Per VI's comments, there are 5 uncontrolled wastewater streams and 2 cooling tower streams

[6]The costs of Non-VC TOHAP testing is assumed to be $650 per sample. Per VI's comments

[7]13 facilities maintain LDAR programs to comply with 40 CFR 63, Subpart UU

[8] The capital cost of a PRD monitor is $15,000 per device, and it is assumed that 25 devices p

[9] Per VI's comments, there are approximately 60 GC monitors at the 13 major sources in the i

[10] Per VI's comments, the cost to test one thermal oxidizer in 2018 was $99,080 and there are

Capital/Startup vs. Operation and Maintenance (O&M) Costs

(C) Number of New Respondents	(D) Total Capital/Startup Cost, (B X C)	(E) Annual O&M Costs for One Respondent
Continuous Parameter Monitoring		
0	$0	$26,897
		$207,692
0	$0	
Periodic Testing		
0	$0	$99,080
0	$0	$7,200
0	$0	$23,400
0	$0	$5,892
0	$0	$7,800
0	$0	$3,437
0	$0	$4,550
0	$0	$18,205
Total		
	$0	

resin samples per facility.

ne sample per facility.

; per source sampled annually. Using a cost of $491 per sample x 7 samples = $3,437

there are 5 uncontrolled wastewater streams and 2 cooling water streams per source sampled annually. $650 x 7 = $4,550

ıer facility require indicators.

ndustry with an annual O&M cost of $45,000 per monitor.

32 thermal oxidizers in operation at 13 major source facilities

(F) Number of Respondents with O&M	(G) Total O&M, (E X F)
13	$349,661
13	$2,700,000
32	$3,170,560
13	$93,600
13	$304,200
13	$76,596
13	$101,400
13	$44,681
13	$59,150
13	$236,665
	$7,140,000