Polyvinyl Chloride and Copolymers (PVC) Production

Major Source NESHAP Burden Estimate

February 9, 2012

Worksheet Name	Description
PVC YR 1	NESHAP Burden Estimate for Industry in Year 1
PVC YR 2	NESHAP Burden Estimate for Industry in Year 2
PVC YR 3	NESHAP Burden Estimate for Industry in Year 3
PVC-Summary-PV	Summary of NESHAP Burden Estimate for Industry
Record&Reporting Burden Only	Calculation of Record Keeping and Reporting Burden for Industry
EPA YR 1	NESHAP Burden Estimate for EPA in Year 1
EPA YR 2	NESHAP Burden Estimate for EPA in Year 2
EPA YR 3	NESHAP Burden Estimate for EPA in Year 3
EPA Summary	Summary of NESHAP Burden Estimate for EPA
Hrs_Responses	Summary of Hours required by responses
Process Vent - T&M Costs	Process Vent Testing and Monitoring Costs
Resin T&M Costs	Stripped Resin Testing and Monitoring Costs
Wastewater T&M Costs	Wastewater Testing and Monitoring Costs
EquipmentLeaks - T&M Costs	Equipment Leaks - Testing and Monitoring Costs
Hourly Rates	Hourly Rate Calculations

Table 1 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements of the MACT Floor for Existing Major Sources: Polyvinyl Chloride and Conglymer Manufacturing Units - Year 1

for Existing Maj	or Sources:	Polyvinyl	Chloride ar	nd Copolyn	ner Manufa	cturing	Units - Yea	ır 1				
Burden Item	(A) Respondent Hours per Occurrence (Technical hours)	(B) Non-Labor Costs Per Occurrence	(C) Number of Occurrences Per Respondent Per Year	(D) Hours Per Respondent Per Year (C=A x C	(E) Number of Respondents Per Year	(F) Technical Hours Per Year (D x E)	(G) Management Hours Per Year (F x 0.05)	(H) Clerical Hours Per Year (F x 0.1)	Total Labor Costs Per Year	Total Non-Labor Costs Per Year	Total Responses Per Year	-ootnotes
1. Applications	N/A					<u> </u>						
2. Surveys and Studies	N/A											
3. Reporting Requirements												
A. Read and Understand Rule Requirements	25	\$100	1	25	15	375	19	38	\$40,790	\$1,500	0	a,b,c
B. Required Activities												
Initial performance test, sampling, and report												
a) Process Vents	32	\$51,198	1	32	14	448	22	45	\$48,731	\$716,768	0	a,d
b) Resins	2	\$1,803	1	2	18	36	2	4	\$3,916	\$32,454	0	a,e
c) wastewater	2	\$491	1	2	57	114	6	11	\$12,400	\$27,987	0	a,f
d) heat exchangers	-	\$0	0	0	23	0	0	0	\$0	\$0	0	g
e) equipment leaks	2	\$77,798	1	2	13	26	1	3	\$2,828	\$1,011,368	0	h
Periodic performance test, sampling, and report												
a) Process Vents	32	\$48,030	1	32	0	0	0	0	\$0	\$0	0	i
b) Resins	1	\$601	11	11	18	198	10	20	\$21,537	\$118,998	0	е
c) wastewater	1	\$491	11	11	15	165	8	17	\$17,948	\$80,933	0	f
d) uncontrolled wastewater	1	\$491	1	1	0	0	0	0	\$0	\$0	0	f
e) heat exchangers	1	\$0	12	12	23	276	14	28	\$30,022	\$0	0	g
f) equipment leaks	1	\$18,205	1	1	13	13	1	1	\$1,414	\$236,666	0	h
Establish operating parameters and monitoring plan												
a) Process Vents	3.5	\$0	1	3.5	14	49	2	5	\$5,330	\$0	0	a,b,c
4) Continuous parameter monitoring												
a) Initial capital costs (PRD Electronic Monitor)	0	\$188,913	1	0	15	0	0	0	\$0	\$2,833,695	0	a,b
b) Annualized capital and O&M costs (PRD Electronic Monitor)	11	\$26,897	1	11	15	165	8	17	\$17,948	\$403,455	0	b
C. Create Information	Incl. in 3.B											
D. Gather Information	Incl. in 3.E											
E. Report Preparation												
1) Initial Notification	5	\$0	1	5	15	75	4	8	\$8,158	\$0	15	a,b
2) Batch precompliance report	5	\$0	1	5	15	75	4	8	\$8,158	\$0	15	a,b
Notification of performance test with test plan	10	\$0	1	10	15	150	8	15	\$16,316	\$0	15	a,b
4) Notification of compliance status	20	\$0	1	20	15	300	15	30	\$32,632	\$0	15	a,b
5) Compliance report	25	\$0	1	25	0	0	0	0	\$0	\$0	0	b,k
6) Notice of inspection	5	\$0	1	5	15	75	4	8	\$8,158	\$0	15	b,k
7) Affirmative defense	18	\$0	1	18	0	18	12	0	\$0	\$0	0	j
Reporting Subtotal						2,540	127	254	\$276,285	\$2,630,128	75	- 1
Recordkeeping Requirements												
A. Read Instructions	Incl. in 3.A											
B. Implement Activities	N/A											
C. Develop Record System	N/A											
D. Record Information												
Records of process vent requirements	10	\$0	1	10	0	0	0	0	\$0	\$0	0	b,k
Records of resin stripper requirements	15	\$0	1	15	0	0	0	0	\$0	\$0	0	b,k
3) Records wastewater requirements	15	\$0	1	15	0	0	0	0	\$0	\$0	0	b,k
Records of storage vessel requirements	10	\$0	1	10	0	0	0	0	\$0	\$0	0	b,k
5) Records of equipment leak requirements	25	\$0	1	25	0	0	0	0	\$0	\$0	0	b,k
Records of heat exchanger requirements	10	\$0	1	10	0	0	0	0	\$0	\$0	0	b,k
7) Records of other emission sources requirements	10	\$0	1	10	0	0	0	0	\$0	\$0	0	b,k
E. Personnel Training	Incl. in 3.B											
F. Time for Audits	N/A											
Recordkeeping Subtotal						0	0	0	\$0	\$0	0	
TOTAL:		-		-	-	2,540	127	254	\$276,285	\$2,630,128	75	
							Total Hours	Labor	Non-Labor	Total		
				Summary of Res	pondent Burden		2,921	\$276,285	\$2,630,128	\$2,906,413		
1				Initial Capital and	Startup				\$2,835,195			

FOOTNOTES

- a One-time only costs.
- b Cost incurred by a facility regardless of the number of affected units at the plant.
- c 15 major sources in affected source category
- d 14 major sources are expected to perform testing for process vents. OxyViny/s Pasadena does not operate a process vent control, but rather sends process vent gas streams to PolyOne Pedricktown for control.
- e 18 respondents equivalent to 19 unique combinations of facilities and resin types.
- f An estimated 42 uncontrolled streams and 15 wastewater stripper outlets (across 15 facilities) are expected to require initial wastewater stripper outlets are expected to require monthly testing. 42 uncontrolled streams will require annual testing
- g All heat exchnager testing and monitoring costs assumed to be incurred annually. 23 cooling towers at 15 facilities.

 h 13 facilities are expected to be required to increase stringency of their LDAR programs to 40 CFR Part 63, Subpart UU. Non-Labor costs technically include labor to perform LDAR testing in addition to monitoring equipment and maintenance materials. Respondent hours are an estimation of the additional reporting required by the final rule.

Annualized Capital/Start-up and O & M

\$2,630,128

- i process vent testing is required initially and once every five years, therefore no additional costs are expected in additional to the initial testing requirement.
- j Hours for affirmative defense are shown only for illustration and are not included in the total burden estimate
- k Annual cost. Annual costs are not incurred until the second year of operation. I Reporting subtotal does not include capital costs for PRD monitoring system.

Table 2 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements of the MACT Floor for Existing Major Sources: Polyvinyl Chloride and Copolymer Manufacturing Units - Year 2

Pergention No. 1	for Existing	for Existing Major Sources: Polyvinyl Chloride and Copolymer Manufacturing Units - Year 2											
Application		Hours per Occurrence	Costs Per	Occurrences Per	Per Respondent	Respondents	Hours	Hours	Hours	Labor Costs	Non-Labor Costs	Total Responses Per Year	otes
Applications	Double No.		Occurrence				(D.:.E)	(F 0.0F)	(504)		Per Year		ootu
2 Storage of Student				Per Year	(C=A x C		(D x E)	(F X 0.05)	(F X U.1)				- L
Regimen Section Sect	***			+									\vdash
A. Rogue and contented that Registering and specific content is a second position of the content and the conte		N/A		+									+-
8. Rogovor civities 3) in play processor with a second processor of the pr		25	\$100	1	25	0	0	0	0	0.0	¢n	0	a,b,c
3 10 10 10 10 10 10 10			4100	1	2.5		-	-	<u> </u>	•••		l -	4,0,0
Prices Verse													+-
Processor		22	\$51 100	1	22		0	0	0	¢n.	en en	0	a,d
1 Section 1 1 2 1 1 2 1 1 2 1 1	1											0	a,e
Post extravegers	1											0	a,f
												0	
2) Pelectic portionance inst., sampling, and report 1									_			0	g h
Section Sect			\$11,190	1			0	0	0	30	30	-	
Disease 1 5901, 12 12 18 210 11 22 33,466 312,818			040.000		20					00.740	0404404	0	
Classification 1 5491 12 12 15 190 9 13 519.79 588.200												0	e
0 Junctificate diseasement													_
c) heat exchangers	-,											0	f
Sequence leaks	-,								_	. ,		0	f
3 Sealatin operating parameters and monitoring plan									-			0	g
Springer Veries 3.5 50 1 3.5 0 0 0 0 50 50 50 50	1 1 1	1	\$18,205	1	1	13	13	1	1	\$1,414	\$236,666	0	h
4 Operations parameters monotoring													
a) Initial capital code (GPRD Electronic Monitor) 11 326,997 1 11 15 156 6 17 517,488 \$403,455	V 11111	3.5	\$0	1	3.5	0	0	0	0	\$0	\$0	0	a,b,c
b) Annualized capital and QAM costs (PRD Electronic Monitor) 11 \$26,897 1 11 15 156 6 17 \$17,948 \$403,455													_
C. Create information				1		0			_			0	a,b
D. Galler Information			\$26,897	1	11	15	165	8	17	\$17,948	\$403,455	0	b
E. Report Preparation 1) Infield Notification 2) Belich precompliance report 5	C. Create Information	Incl. in 3.B											
1) Initial Notification 5 \$0 1 5 0 0 0 50 \$0 \$0 \$0 \$	D. Gather Information	Incl. in 3.E											
2) Billeth precompliance report 5 \$0 1 5 0 0 0 0 50 \$0 \$0 \$0	E. Report Preparation												
3) Neglication of performance test with test plain 10 80 1 10 0 0 0 0 80 8	1) Initial Notification	5	\$0	1	5	0	0	0	0	\$0	\$0	0	a,b
4) Nelficiation of compliance estatus 20 \$0 1 20 0 0 0 0 0 50 50	2) Batch precompliance report	5	\$0	1	5	0	0	0	0	\$0	\$0	0	a,b
S Compliance report 25 80 1 25 15 375 19 38 \$40,790 \$0	Notification of performance test with test plan	10	\$0	1	10	0	0	0	0	\$0	\$0	0	a,b
6) Netice of inspection 5 80 1 5 15 75 4 8 8 83,158 50 7 7 Affirmative defense 18 90 1 18 0 18 12 0 50 50 50 50 1 18 0 18 12 0 50 50 50 50 50 50 50 50 50 50 50 50 5	Notification of compliance status	20	\$0	1	20	0	0	0	0	\$0	\$0	0	a,b
18 \$0 1 18 0 18 12 0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	5) Compliance report	25	\$0	1	25	15	375	19	38	\$40,790	\$0	15	b,k
Report/display Requirements Report/display Report	6) Notice of inspection	5	\$0	1	5	15	75	4	8	\$8,158	\$0	15	b,k
Recordkeeping Requirements	7) Affirmative defense	18	\$0	1	18	0	18	12	0	\$0	\$0	0	j
A Read Instructions B. Implement Activities N/A D. Record Rocord System NA 10 S0 1 10 15 150 8 15 \$16,316 \$0 2) Records of process vent requirements 15 \$0 1 15 15 225 11 23 \$24,474 \$0 3) Records of swastewater requirements 15 \$0 1 15 15 225 11 23 \$24,474 \$0 4) Records of storage vessel requirements 16 \$0 1 10 15 15 225 11 23 \$24,474 \$0 4) Records of storage vessel requirements 17 \$0 1 15 15 15 225 11 23 \$24,474 \$0 5) Records of equipment leak requirements 18 \$0 1 1 10 15 15 15 225 11 23 \$24,474 \$0 5) Records of storage vessel requirements 19 \$0 1 10 15 150 8 15 \$16,316 \$0 5) Records of other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 5) Records of requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 7) Records of other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 7) Records of other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 7) Records of other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 F. Time for Audits Recordkeeping Subtotal Total Hours Labor Non-Labor Total Summary of Respondent Burden Initial Capital and Startup	Reporting\$ubtotal						1,432	72	143	\$155,720	\$1,013,312	30	- 1
B. Implement Activities	Recordkeeping Requirements												
C. Develop Record System N/A	A. Read Instructions	Incl. in 3.A											
D. Record Information 1) Records of process vent requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 2	B. Implement Activities	N/A											
D. Record Information	C. Develop Record System	N/A											
2) Records of resin stripper requirements 15 \$0 1 15 15 225 11 23 \$24,474 \$0 \\ 3) Records wastewater requirements 15 \$0 1 15 15 15 225 11 23 \$24,474 \$0 \\ 4) Records of storage vessel requirements 10 \$0 1 10 15 15 8 15 \$16,316 \$0 \\ 5) Records of equipment teak requirements 25 \$0 1 25 15 375 19 38 \$40,790 \$0 \\ 6) Records of the emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 \\ 7) Records of ofther emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 \\ 7) Records of other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 \\ 7) Records of other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 \\ F. Time for Audits NA	D. Record Information												
3) Records wastewater requirements 15 \$0 1 15 15 225 11 23 \$24,474 \$0 \\ 4) Records of storage vessel requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 \\ 5) Records of equipment leak requirements 25 \$0 1 25 15 375 19 38 \$40,790 \$0 \\ 6) Records of theat exchanger requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 \\ 7) Records of other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 \\ 7) Records of other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 \\ 7) Records of other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 \\ F. Time for Audits N/A \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	Records of process vent requirements	10	\$0	1	10	15	150	8	15	\$16,316	\$0	0	b,k
4) Records of storage vessel requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 5) Records of equirements 25 50 1 25 15 375 19 38 \$40,790 50 6) Records of heat exchanger requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 7) Records of other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 E. Personnel Training Incl. in 3.8	Records of resin stripper requirements	15	\$0	1	15	15	225	11	23	\$24,474	\$0	0	b,k
4) Records of storage vessel requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 5) Records of equirements 25 50 1 25 15 375 19 38 \$40,790 50 6) Records of heat exchanger requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 7) Records of other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 E. Personnel Training Incl. in 3.8		15		1	15	15	225	11	23	\$24,474	\$0	0	b,k
S) Records of equipment leak requirements 25 \$0 1 25 15 375 19 38 \$40,790 \$0												0	b,k
6) Records of heat exchanger requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 7) Records of Other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0 8												0	b,k
7) Records of other emission sources requirements 10 \$0 1 10 15 150 8 15 \$16,316 \$0												0	b,k
E. Personnel Training	•								_			0	b,k
F. Time for Audits N/A 1425 71.25 142.5 \$155,003 \$0 TOTAL: 2,857 143 286 \$310,723 \$1,013,312 TOTAL: 1425 71.25 142.5 \$155,003 \$0 TOTAL: 2,857 143 286 \$310,723 \$1,013,312 TOTAL: 1425 71.25 142.5 \$155,003 \$0 TOTAL: 1425 71.25 142.5 \$155,003 \$0 TOTAL: 1425 71.25 142.5 \$150,003 \$0 TOTAL: 1425 71.25 142.5 \$1.03,003 \$1.03,				<u> </u>				<u> </u>		,			+-,^
1425 71.25 142.5 \$155,003 \$0 TOTAL: 2,857 143 286 \$310,723 \$1,013,312 Total Hours Labor Non-Labor Total Summary of Respondent Burden 3,285 \$310,723 \$1,013,312 Summary of Respondent Burden 3,285 \$1,013	-			+									+
TOTAL: 2,857 143 286 \$310,723 \$1,013,312 Total Hours Labor Non-Labor Total Summary of Respondent Burden 3,285 \$310,723 \$1,013,312 \$1,013,013,012 \$1,013,012 \$1,013,012 \$1,013,012 \$1,013,012 \$1,013,012 \$1,		N/A		_			4 405	74.05	440.5	\$155,003	***	0	+
Total Hours Labor Non-Labor Total Summary of Respondent Burden 3,285 \$310,723 \$1,013,312 \$1,324,035 Initial Capital and Startup \$0									_			30	+
Summary of Respondent Burden 3,285 \$310,723 \$1,033,312 \$1,324,035 Initial Capital and Startup \$0	TOTAL.						2,007					30	Ь
										\$1,013,312			
Approximated Control (Chart up and O. 9. M.					Initial Capital and	Startup				\$0			
Annualized Capital/Start-up and O & M \$1,013,312					Annualized Capit	al/Start-up and O	& M			\$1,013,312			

- a One-time only costs.
- b Cost incurred by a facility regardless of the number of affected units at the plant.
- c 15 major sources in affected source category
- 414 major sources are expected to perform testing for process vents. OxyVinyls Pasadena does not operate a process vent control, but rather sends process vent gas streams to PolyOne Pedricktown for control.
- e 18 respondents equivalent to 19 unique combinations of facilities and resin types.
- f An estimated 42 uncontrolled streams and 15 wastewater stripper outlets (across 15 facilities) are expected to require initial wastewater testing. 15 wastewater stripper outlets are expected to require monthly testing. 42 uncontrolled streams will require annual testing g All heat exchanger testing and monitoring costs assumed to be incurred annually. 23 cooling towers at 15 facilities.
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- i process vent testing is required initially and once every five years, therefore no additional costs are expected in additional to the initial testing requirement.
- j Hours for affirmative defense are shown only for illustration and are not included in the total burden estimate
- k Annual cost. Annual costs are not incurred until the second year of operation. I Reporting subtotal does not include capital costs for PRD monitoring system.

Table 3 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements of the MACT Floor for Existing Major Sources: Polyvinyl Chloride and Copolymer Manufacturing Units - Year 3

for Existing Major Sources: Polyvinyl Chloride and Copolymer Manufacturing Units - Year 3																			
	(A) Respondent Hours per Occurrence	(B) Non-Labor Costs Per	(C) Number of Occurrences Per	(D) Hours Per Respondent	(E) Number of Respondents Per Year	(F) Technical Hours Per Year	(G) Management Hours Per Year	(H) Clerical Hours Per Year	Total Labor Costs Per Year	Total Non-Labor Costs	Total Responses Per Year	otes							
Poster less	(Technical	Occurrence	Respondent	Per Year		(D.:.E)	(5 0.05)	(F x 0.1)		Per Year		ootu							
Burden Item 1. Applications	hours) N/A		Per Year	(C=A x C		(D x E)	(F x 0.05)	(F X U.1)				- LE							
Surveys and Studies	N/A N/A											\vdash							
Reporting Requirements	N/A											—							
A. Read and Understand Rule Requirements	25	\$100	1	25	0	0	0	0	\$0	\$0	0	a,b,c							
B. Required Activities		Q100	-	2.5	<u> </u>	-	-	<u> </u>	- 40		<u> </u>	4,5,0							
Initial performance test, sampling, and report												\vdash							
a) Process Vents	32	\$51,198	1	32	0	0	0	0	\$0	\$0	0	a,d							
b) Resins	2	\$1,803	1	2	0	0	0	0	\$0	\$0	0	a,e							
c) wastewater	2	\$491	1	2	0	0	0	0	\$0	\$0	0	a,t							
d) heat exchangers		\$0	0	0	0	0	0	0	\$0	\$0	0	g							
e) equipment leaks	2	\$77,798	1	2	0	0	0	0	\$0	\$0	0	h							
Periodic performance test, sampling, and report		\$11,190	1		-	0	0	0	3 0	30	0	+"							
a) Percess Vents	32	\$48,030	1	32	3	90	4	9	\$9,746	\$134,484	0	-							
a) Process vents b) Resins	1	\$48,030	12	12	18	216	11	22	\$23,495	\$134,484	0	e							
												-							
c) wastewater	1	\$491	12	12	15	180	9	18	\$19,579	\$88,290	0	f							
d) uncontrolled wastewater	1	\$491	1	1	42	42	2	4	\$4,568	\$20,601	0	f							
e) heat exchangers	1	\$0	12	12	23	276	14	28	\$30,022	\$0	0	g							
f) equipment leaks	1	\$18,205	1	1	13	13	1	1	\$1,414	\$236,666	0	h							
Stablish operating parameters and monitoring plan												₩							
a) Process Vents	3.5	\$0	1	3.5	0	0	0	0	\$0	\$0	0	a,b,c							
4) Continuous parameter monitoring												-							
a) Initial capital costs (PRD Electronic Monitor)	0	\$188,913	1	0	0	0	0	0	\$0	\$0	0	a,b							
b) Annualized capital and O&M costs (PRD Electronic Monitor)	11	\$26,897	1	11	15	165	8	17	\$17,948	\$403,455	0	b							
C. Create Information	Incl. in 3.B																		
D. Gather Information	Incl. in 3.E																		
E. Report Preparation																			
1) Initial Notification	5	\$0	1	5	0	0	0	0	\$0	\$0	0	a,b							
2) Batch precompliance report	5	\$0	1	5	0	0	0	0	\$0	\$0	0	a,b							
Netification of performance test with test plan	10	\$0	1	10	0	0	0	0	\$0	\$0	0	a,b							
Notification of compliance status	20	\$0	1	20	0	0	0	0	\$0	\$0	0	a,b							
5) Compliance report	25	\$0	1	25	15	375	19	38	\$40,790	\$0	15	b,k							
6) Notice of inspection	5	\$0	1	5	15	75	4	8	\$8,158	\$0	15	b,k							
7) Affirmative defense	18	\$0	1	18	0	18	12	0	\$0	\$0	0	j							
ReportingSubtotal						1,432	72	143	\$155,720	\$1,013,312	30	-1							
Recordkeeping Requirements																			
A. Read Instructions	Incl. in 3.A																		
B. Implement Activities	N/A																		
C. Develop Record System	N/A																		
D. Record Information																			
1) Records of process vent requirements	10	\$0	1	10	15	150	8	15	\$16,316	\$0	0	b,k							
Records of resin stripper requirements	15	\$0	1	15	15	225	11	23	\$24,474	\$0	0	b,k							
3) Records wastewater requirements	15	\$0	1	15	15	225	11	23	\$24,474	\$0	0	b,k							
Records of storage vessel requirements	10	\$0	1	10	15	150	8	15	\$16,316	\$0	0	b,k							
5) Records of equipment leak requirements	25	\$0	1	25	15	375	19	38	\$40,790	\$0	0	b,k							
6) Records of heat exchanger requirements	10	\$0	1	10	15	150	8	15	\$16,316	\$0	0	b,k							
7) Records of other emission sources requirements	10	\$0	1	10	15	150	8	15	\$16,316	\$0	0	b,k							
E. Personnel Training	Incl. in 3.B		<u> </u>									Ė							
F. Time for Audits	N/A											\vdash							
Recordkeeping Subtotal	IN/A		<u> </u>			1425	71.25	142.5	\$155,003	\$0	0	\vdash							
TOTAL:			-			2,857	143	286	\$310,723	\$0 \$1,013,312	30	\vdash							
						2,331	Total Hours	Labor	Non-Labor	Total									
				Summary of Res	nondent Burdon		3,285	\$310,723	\$1,013,312	\$1,324,035									
				Initial Capital and			0,200	1010,710	\$0	#2,024,000									
						& M			\$1,013,312										
				, umuanzeu capit	and and C	u. 181			VI,013,312			Annualized Capital/Start-up and O & M \$1,013,312							

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- b Cost incurred by a facility regardless of the number of affected units at the plant.
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- 414 major sources are expected to perform testing for process vents. OxyVinyls Pasadena does not operate a process vent control, but rather sends process vent gas streams to PolyOne Pedricktown for control.
- e 18 respondents equivalent to 19 unique combinations of facilities and resin types.
- f An estimated 42 uncontrolled streams and 15 wastewater stripper outlets (across 15 facilities) are expected to require initial wastewater testing. 15 wastewater stripper outlets are expected to require monthly testing. 42 uncontrolled streams will require annual testing g All heat exchanger testing and monitoring costs assumed to be incurred annually. 23 cooling towers at 15 facilities.
- h 13 facilities are expected to be required to increase stringency of their LDAR programs to 40 CFR Part 63, Subpart UU. Non-Labor costs technically include labor to perform LDAR testing in addition to monitoring equipment and maintenance materials. Respondent hours are an estimation of the additional reporting required by the final rule.
- i process vent testing is required initially and once every five years, therefore no additional costs are expected in additional to the initial testing requirement.
- j Hours for affirmative defense are shown only for illustration and are not included in the total burden estimate
- k Annual cost. Annual costs are not incurred until the second year of operation. I Reporting subtotal does not include capital costs for PRD monitoring system.

Table 4 - Summary of Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements of the MACT Floor for Existing Sources: Polyvinyl Chloride and Copolymer Manufacturing Units

Year	Technical Hours	Management Hours	Clerical Hours	Total Hours	Labor Costs	Non-Labor (Annualized Capital/Startup and O&M) Costs	Total Costs
1	2.540	127	254	2.921	\$276.285	\$2,630,128	\$2,906,413
	2,340	127	234	2,921	Φ270,203	\$2,030,120	\$2,900,413
2	2,857	143	286	3,285	\$310,723	\$1,013,312	\$1,324,035
3	2,857	143	286	3,285	\$310,723	\$1,013,312	\$1,324,035
Total	8,253	413	825	9,491	\$897,731	\$4,656,752	\$5,554,483
Average	2,751	138	275	3,164	\$299,244	\$1,552,251	\$1,851,494

Table 5 - Annual Designated Administrator Burden and Cost of Recordkeeping and Reporting Requirements of the MACT Floor for Existing Sources: Polyvinyl Chloride and Copolymer Manufacturing Units - Year 1

Existing Sources. Folly vii	.,							
	(A)		(B)	(C)	(D)	(E)	(F)	
Burden Item	Number of Occurrences Per Year		EPA Hours Per Occurrence	Tech Hours Per Year (C=AxB)	Management Hours Per Year (D=Cx0.05)	Clerical Hours Per Year (E=Cx0.1)	EPA Cost Per Year (a,b)	
1. Applications				not app	olicable	,		
2. Read and Understand Rule Requirements	10		16	160	8	16	\$8,292	
3. Required Activities								
Observe initial performance tests	3	b	48	134	7	13	\$6,965	
B. Excess emissions Enforcement Activities	2	d	24	38	2	4	\$1,990	
C. Create Information	not applicable							
D. Gather Information	not applicable							
E. Report Reviews								
Review initial notification	15		3	45	2	5	\$2,332	
Review batch precompliance report	15		5	75	4	8	\$3,887	
Review notification of performance test	15		10	150	8	15	\$7,773	
Review notification of compliance status	15		40	600	30	60	\$31,093	
5) Review compliance report	0		20	0	0	0	\$0	
Review notice of inspection	15		3	45	2	5	\$2,332	
7) Review affirmative defense	0		10	0	0	0	\$0	
F. Prepare annual summary report	1	С	32	32	2	3	\$1,658	
4. Travel expenses: (1 person * 30 hours per year / 8 hours per da	y * \$75 per diem)) + (\$6	00 per round trip)	=	\$881	per trip	\$2,468	
TOTAL	1280	64	128	\$68,790				

a Figures may not add exactly due to rounding.

b Assumes EPA personnel attend 20 percent of the initial process vent stack tests.

c Using four hours per state to write annual summary report.

d Assume 10% of major source facilities (16) have emission exceedances.

Table 6 - Annual Designated Administrator Burden and Cost of Recordkeeping and Reporting Requirements of the MACT Floor for Existing Sources: Polyvinyl Chloride and Copolymer Manufacturing Units - Year 2

Existing Sources. Polyvii	.y. Ooac		- Соролуппол	manara eta mg	Cinto ioui =			
	(A)		(B)	(C)	(D)	(E)	(F)	
Burden Item	Number of Occurrences Per Year		EPA Hours Per Occurrence	Tech Hours Per Year (C=AxB)	Management Hours Per Year (D=Cx0.05)	Clerical Hours Per Year (E=Cx0.1)	EPA Cost Per Year (a,b)	
1. Applications				not app	licable		,	
Read and Understand Rule Requirements	0		16	0	0	0	\$0	
3. Required Activities								
A. Observe initial performance tests	0	b	48	0	0	0	\$0	
B. Excess emissions Enforcement Activities	2	d	24	38	2	4	\$1,990	
C. Create Information	not applicable							
D. Gather Information	not applicable							
E. Report Reviews								
Review initial notification	0		3	0	0	0	\$0	
Review batch precompliance report	0		5	0	0	0	\$0	
Review notification of performance test	0		10	0	0	0	\$0	
Review notification of compliance status	0		40	0	0	0	\$0	
5) Review compliance report	15		20	300	15	30	\$15,547	
Review notice of inspection	15		3	45	2	5	\$2,332	
7) Review affirmative defense	0		10	0	0	0	\$0	
F. Prepare annual summary report	1	С	32	32	2	3	\$1,658	
4. Travel expenses: (1 person * 30 hours per year / 8 hours per day	y * \$75 per diem)) + (\$6	00 per round trip)	=	n/a	per trip	\$0	
TOTAL				415	21	42	\$21,527	

a Figures may not add exactly due to rounding.

b Assumes EPA personnel attend 20 percent of the initial process vent stack tests.

c Using four hours per state to write annual summary report.

d Assume 10% of major source facilities (16) have emission exceedances.

Table 7 - Annual Designated Administrator Burden and Cost of Recordkeeping and Reporting Requirements of the MACT Floor for Existing Sources: Polyvinyl Chloride and Copolymer Manufacturing Units - Year 3

Existing Sources. Polyv			. Соронуние		,			
	(A)		(B)	(C)	(D)	(E)	(F)	
Burden Item	Number of Occurrences Per Year		EPA Hours Per Occurrence	Tech Hours Per Year (C=AxB)	Management Hours Per Year (D=Cx0.05)	Clerical Hours Per Year (E=Cx0.1)	EPA Cost Per Year (a,b)	
1. Applications				not app	licable	,		
2. Read and Understand Rule Requirements	0		16	0	0	0	\$0	
3. Required Activities								
A. Observe initial performance tests	0	b	48	0	0	0	\$0	
B. Excess emissions Enforcement Activities	2	d	24	38	2	4	\$1,990	
C. Create Information	not applicable							
D. Gather Information	not applicable							
E. Report Reviews								
Review initial notification	0		3	0	0	0	\$0	
Review batch precompliance report	0		5	0	0	0	\$0	
Review notification of performance test	0		10	0	0	0	\$0	
Review notification of compliance status	0		40	0	0	0	\$0	
5) Review compliance report	15		20	300	15	30	\$15,547	
Review notice of inspection	15		3	45	2	5	\$2,332	
7) Review affirmative defense	0		10	0	0	0	\$0	
F. Prepare annual summary report	1	С	32	32	2	3	\$1,658	
4. Travel expenses: (1 person * 30 hours per year / 8 hours per da	y * \$75 per diem)) + (\$6	00 per round trip)	=	n/a	per trip	\$0	
TOTAL				415	21	42	\$21,527	

a Figures may not add exactly due to rounding.

b Assumes EPA personnel attend 20 percent of the initial process vent stack tests.

c Using four hours per state to write annual summary report.

d Assume 10% of major source facilities (16) have emission exceedances.

Table 8 - Summary of Annual Designated Administrator Burden and Cost of Recordkeeping and Reporting Requirements of the MACT Floor for Existing Sources: Polyvinyl Chloride and Copolymer Manufacturing Units

Year	Technical Hours	Management Hours	Clerical Hours	Total Hours	Labor Costs	Non-Labor Costs	Total Costs
1	1,280	64	128	1,472	\$68,790	\$0	\$68,790
2	415	21	42	478	\$21,527	\$0	\$21,527
3	415	21	42	478	\$21,527	\$0	\$21,527
Total	2,111	106	211	2,427	\$111,844	\$0	\$111,844
Average	704	35	70	809	\$37,281	\$0	\$37,281

Response Hours Analysis

	Reporting						
	Hours	# of Respondents	# of Responses				
Year 1	2,921	15	75				
Year 2	1,646	15	30				
Year 3	1,646	15	30				
Total	6,214	45	135				
Average Annual	2,071	15	45				

Total hours	9,491
Hours per year	3,164
# of responses per respondent (annual)	3.00
Hours per response (annual)	70.305
Reporting hours per response (annual)	46.0273
Recorkeeping hours per response (annual)	24.27778

Cost per response (non-labor)	###

Recordkeeping		
Hours		
	-	
	1,639	
	1,639	
	3,278	
	1,093	

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 In	Initial Cost	Initial Notes		Annual Notes			
	(\$)	initial Notes	Yr 1	Yr 2	Yr 3	Annual Notes	
Resins	\$20,446	a,b,d	\$21,537	\$54,961.80	\$54,961.80	e,f,g	
Process Vents	\$70,591	a,b,c,d	\$0	\$33,054.77	\$33,054.77	e,f,g	
Wastewater	\$28,931	a,b,d	\$17,948	\$55,614.44	\$55,614.44	e,f,g	
Equipment Leaks	\$19,358	a,b,d	\$19,362	\$67,144.45	\$67,144.45	e,f,g,h	
Storage Vessels	\$16,530	a,d	\$0	\$23,308.65	\$23,308.65	e,f,g	
Heat Exchange Systems	\$16,530	a,b,d	\$30,022	\$53,330.19	\$53,330.19	e,f,g	
Other Sources	\$16,530	a,d	\$0	\$23,308.65	\$23,308.65	e,f,g	
Total	\$188,917		\$88,868.11	\$310,722.95	\$310,722.95		

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	\$1,320	\$1,305	\$4,490.80	\$4,490.80	Facilities going from V to UU
Equipment Leaks	\$1,102	\$1,197	\$4,382.03	\$4,382.03	MACT
Equipment Leaks	\$218	\$109	\$109	\$109	Incremental BTF Costs for Facilities going from V to UU

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).