

ATTACHMENT 1
SUPPORTING STATEMENT

Review of the New Source Performance Standards for VOC from Reactor Processes in the

TABLES 1, 2, and 3

Annual Respondent Burden and Cost of the Review of the New Source Performance Standards for VOC

TABLE 4

Summary of Annual Respondent Burden and Cost of the Review of the New Source Performance Standards for VOC

TABLES 5, 6, and 7

Annual Agency Burden and Cost of the Review of the New Source Performance Standards for VOC

TABLE 8

Summary of Annual Agency Burden and Cost of the Review of the New Source Performance Standards for VOC

I
e SOCMi (40 CFR Part 60, Subpart RRRa) (Proposed Rule)

VOC from Reactor Processes in the SOCMi (40 CFR Part 60, Subpart RRRa) (Proposed Rule) – Year

Standards for VOC from Reactor Processes in the SOCMi (40 CFR Part 60, Subpart RRRa) (Proposed

Standards for VOC from Reactor Processes in the SOCMi (40 CFR Part 60, Subpart RRRa) (Proposed Rule) – Years 1

Standards for VOC from Reactor Processes in the SOCMi (40 CFR Part 60, Subpart RRRa) (Proposed Rule)

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Table 1: Annual Respondent Burden and Cost Year One - Review of the New Source Performan

\$101.24

Burden item	(A)	(B)	(C)	(D)	(E)
	Person-hours per occurrence	No. of occurrences per respondent per year	Person-hours per respondent per year (C=AxB)	Respondents per year ^a	Technical hours per year (E=CxD)
1. Applications	N/A				
2. Survey and Studies	N/A				
3. Reporting requirements					
A. Familiarize with regulatory requirements ^c					
New Sources	8	1	1	2	2
Existing Sources	1	1	1	0	0
B. Required activities					
Initial performance test report	60	1	60	2	120
Repeat performance test report ^d	60	1	60	0.40	24
C. Write report					
Notification of construction/modification	2	1	2	2	4.00
Notification of actual startup	1	1	1	2	2.00
Notification of initial/repeat performance test	2	1	2	2.40	4.8
Semiannual report	3	2	6	2	12
Subtotal for Reporting Requirements					
4. Recordkeeping requirements					
Records of operating parameters for control devices	1	12	12	2	24
Records of operating conditions exceeding last performance test	1	8	8	2	16.00
Records of flow events from a relief valve discharge ^e	1	1	1	0	0
Records for bypass lines ^e	1	1	1	0	0
Subtotal for Recordkeeping Requirements					
TOTAL LABOR BURDEN AND COST (rounded) ^f					
TOTAL CAPITAL AND O&M COST (rounded) ^f					
GRAND TOTAL (rounded) ^f					

Assumptions:

^a We have assumed that there will be 6 new respondents over the three-year period of this ICR. We have assumed that on a year.

^b This ICR uses the following labor rates for privately-owned sources: \$161.34 for managerial, \$101.24 for technical, and \$78.12 for unskilled labor, based on the United States Department of Labor, Bureau of Labor Statistics, May 2021, National Industry-Specific Occupational Employment Statistics - Chemical Manufacturing. These rates have been adjusted using a Fringe Benefit Loading Rate of 1.5 and an Overhead and Profit Rate of 15% (Loaded Rate = Fringe Benefit Loading Rate * Overhead and Profit Rate) to account for varying industry wage rates and to include costs of employing workers beyond their wages and benefits, including business expenses associated with hiring, training, and equipment.

^c This ICR assumes all existing respondents will have to familiarize with the regulatory requirements each year.

^d Assume 20 percent of initial performance tests must be repeated due to failure.

^e We have assumed that no respondents will bypass the control device or have a relief valve discharge to the atmosphere due to a failure.

^f Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.

ce Standards for VOC from Reactor Processes in the SOCFI (40 CFR Part 60, Subpart RRRa)

\$161.34 \$45.17

(F)	(G)	(H)
Management hours per year (F=Ex0.05)	Clerical hours per year (G=Ex0.1)	Total cost per year (\$) ^b
0.10	0.20	\$227.65
0	0	\$0.00
6	12	\$13,658.88
1.2	2.4	\$2,731.78
0.20	0.40	\$455.30
0.10	0.20	\$227.65
0.2	0.5	\$546.36
1	1	\$1,365.89
194		\$19,213
1.2	2.4	\$2,731.78
1	2	\$1,821.18
0	0	\$0.00
0	0	\$0.00
46		\$4,553
240		\$23,800
		\$3,190,000
		\$3,210,000

average, there will be 2 new respondents per

\$45.17 for clerical labor. These rates are from Employment and Wage Estimates for NAICS and Profit Rate of 1.4 (Mean Hourly Rate) plus the additional overhead business costs of supporting their employees.

During the three-year period of this ICR.

) (Proposed Rule)

Table 2: Annual Respondent Burden and Cost Year Two - Review of the New Source Perfo

\$101.24

Burden item	(A)	(B)	(C)	(D)	(E)
	Person-hours per occurrence	No. of occurrences per respondent per year	Person-hours per respondent per year (C=AxB)	Respondents per year ^a	Technical hours per year (E=CxD)
1. Applications	N/A				
2. Survey and Studies	N/A				
3. Reporting requirements					
A. Familiarize with regulatory requirements ^c					
New Sources	8	1	1	2	2
Existing Sources	1	1	1	2	2
B. Required activities					
Initial performance test report	60	1	60	2	120
Repeat performance test report ^d	60	1	60	0.40	24
C. Write report					
Notification of construction/modification	2	1	2	2	4
Notification of actual startup	1	1	1	2	2
Notification of initial/repeat performance test	2	1	2	2.40	4.8
Semiannual report	3	2	6	4	24
Subtotal for Reporting Requirements					
4. Recordkeeping requirements					
Records of operating parameters for control devices	1	12	12	2	24
Records of operating conditions exceeding last performance test	1	8	8	4	32
Records of flow events from a relief valve discharge ^e	1	1	1	0	0
Records for bypass lines ^e	1	1	1	0	0
Subtotal for Recordkeeping Requirements					
TOTAL LABOR BURDEN AND COST (rounded) ^f					
TOTAL CAPITAL AND O&M COST (rounded) ^f					
GRAND TOTAL (rounded) ^f					

Assumptions:

^a We have assumed that there will be 6 new respondents over the three-year period of this ICR. We have assumed that per year.

^b This ICR uses the following labor rates for privately-owned sources: \$161.34 for managerial, \$101.24 for technical from the United States Department of Labor, Bureau of Labor Statistics, May 2021, National Industry-Specific Occupational Employment Statistics, NAICS 325000 - Chemical Manufacturing. These rates have been adjusted using a Fringe Benefit Loading Rate of 1 Hourly Rate * Fringe Benefit Loading Rate * Overhead and Profit Rate = Loaded Rate) to account for varying industry business costs of employing workers beyond their wages and benefits, including business expenses associated with hiring and training.

- ^c This ICR assumes all existing respondents will have to familiarize with the regulatory requirements each year.
- ^d Assume 20 percent of initial performance tests must be repeated due to failure.
- ^e We have assumed that no respondents will bypass the control device or have a relief valve discharge to the atmosphere.
- ^f Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.

Performance Standards for VOC from Reactor Processes in the SOCFI (40 CFR Part 60, Subpart R

\$161.34 \$45.17

(F)	(G)	(H)
Management hours per year (F=Ex0.05)	Clerical hours per year (G=Ex0.1)	Total cost per year (\$) ^b
0.10	0.20	\$227.65
0.10	0.20	\$227.65
6	12	\$13,658.88
1.2	2.4	\$2,731.78
0.20	0.40	\$455.30
0.10	0.20	\$227.65
0.2	0.5	\$546.36
1	2	\$2,731.78
210		\$20,807
1.2	2.4	\$2,731.78
2	3	\$3,642.37
0	0	\$0.00
0	0	\$0.00
64		\$6,374
275		\$27,200
		\$3,800,000
		\$3,830,000

that on average, there will be 2 new respondents

, and \$45.17 for clerical labor. These rates are based on Bureau of Labor Statistics Occupational Employment and Wage Estimates for 2014 and an Overhead and Profit Rate of 1.4 (Mean monthly wage rates and the additional overhead for hiring, training, and equipping their employees.

ere during the three-year period of this ICR.

ERRA (Proposed Rule)

Table 3: Annual Respondent Burden and Cost Year Three - Review of the New Source Perf

\$101.24

Burden item	(A)	(B)	(C)	(D)	(E)
	Person-hours per occurrence	No. of occurrences per respondent per year	Person-hours per respondent per year (C=AxB)	Respondents per year ^a	Technical hours per year (E=CxD)
1. Applications	N/A				
2. Survey and Studies	N/A				
3. Reporting requirements					
A. Familiarize with regulatory requirements ^c					
New Sources	8	1	1	2	2.00
Existing Sources	1	1	1	4	4.00
B. Required activities					
Initial performance test report	60	1	60	2	120
Repeat performance test report ^d	60	1	60	0.40	24
C. Write report					
Notification of construction/modification	2	1	2	2	4.00
Notification of actual startup	1	1	1	2	2.00
Notification of initial/repeat performance test	2	1	2	2.40	4.8
Semiannual report	3	2	6	6	36
Subtotal for Reporting Requirements					
4. Recordkeeping requirements					
Records of operating parameters for control devices	1	12	12	2	24
Records of operating conditions exceeding last performance test	1	8	8	6	48
Records of flow events from a relief valve discharge ^e	1	1	1	0	0
Records for bypass lines ^e	1	1	1	0	0
Subtotal for Recordkeeping Requirements					
TOTAL LABOR BURDEN AND COST (rounded) ^f					
TOTAL CAPITAL AND O&M COST (rounded) ^f					
GRAND TOTAL (rounded) ^f					

Assumptions:

^a We have assumed that there will be 6 new respondents over the three-year period of this ICR. We have assumed that per year.

^b This ICR uses the following labor rates for privately-owned sources: \$161.34 for managerial, \$101.24 for technical from the United States Department of Labor, Bureau of Labor Statistics, May 2021, National Industry-Specific Occupational Employment Statistics, NAICS 325000 - Chemical Manufacturing. These rates have been adjusted using a Fringe Benefit Loading Rate of 1 Hourly Rate * Fringe Benefit Loading Rate * Overhead and Profit Rate = Loaded Rate) to account for varying industry business costs of employing workers beyond their wages and benefits, including business expenses associated with hiring and training.

- ^c This ICR assumes all existing respondents will have to familiarize with the regulatory requirements each year.
- ^d Assume 20 percent of initial performance tests must be repeated due to failure.
- ^e We have assumed that no respondents will bypass the control device or have a relief valve discharge to the atmosphere.
- ^f Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.

Performance Standards for VOC from Reactor Processes in the SOCFI (40 CFR Part 60, Subpart

\$161.34 \$45.17

(F)	(G)	(H)
Management hours per year (F=Ex0.05)	Clerical hours per year (G=Ex0.1)	Total cost per year (\$) ^b
0.10	0.20	\$227.65
0.20	0.40	\$455.30
6	12	\$13,658.88
1.2	2.4	\$2,731.78
0.20	0.40	\$455.30
0.10	0.20	\$227.65
0.2	0.5	\$546.36
2	4	\$4,097.66
226		\$22,401
1.2	2.4	\$2,731.78
2	5	\$5,463.55
0	0	\$0.00
0	0	\$0.00
83		\$8,195
309		\$30,600
		\$4,410,000
		\$4,440,000

at on average, there will be 2 new respondents

, and \$45.17 for clerical labor. These rates are based on Occupational Employment and Wage Estimates for 2019 and an Overhead and Profit Rate of 1.4 (Mean monthly wage rates and the additional overhead for hiring, training, and equipping their employees.

ere during the three-year period of this ICR.

RRRa) (Proposed Rule)

Table 4 - Summary of Annual Respondent Burden and Cost - Review of the New Source Perform

Year	Total Labor Hours	Labor Costs	Non-Labor (Capital/Startup and O&M) Costs
1	240	\$23,800	\$3,186,011
2	275	\$27,200	\$3,796,516
3	309	\$30,600	\$4,407,022
Total (rounded)	824	\$81,600	\$11,400,000
Average (rounded)	275	\$27,200	\$3,800,000

Finance Standards for VOC from Reactor Processes in the SOCFI (40 CFR Part 60, Subpart RRF

Total Costs
\$3,209,811
\$3,823,716
\$4,440,000
\$11,500,000
\$3,820,000

2a) (Proposed Rule)

Table 5: Average Annual EPA Burden and Cost Year One - Review of the New Source Perfor

Burden item	(A)	(B)	(C)	(D)
	Person-hours per occurrence	No. of occurrences per respondent per year	Person-hours per respondent per year (C=AxB)	Respondents per year ^a
Report review: New plant				
Notification of construction/ modification	2	1	2	2
Notification of actual startup	2	1	2	2
Notification of initial/repeat performance test	2	1	2	2.4
Initial performance test	8	1	8	2
Repeat performance test ^c	8	1	8	0.4
Semiannual report	2	2	4	2
TOTAL (rounded) ^d				

Assumptions:

^a We have assumed that there will be 6 new respondents over the three-year period of this ICR. We have assumed that year.

^b This ICR uses the following labor rates: \$69.04 for managerial, \$51.23 for technical, and \$27.73 for clerical labor. Management (OPM), 2021 General Schedule, which excludes locality rates of pay. The rates have been increased by 6 available to government employees.

^c Assume 20 percent of initial performance tests must be repeated due to failure.

^d Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.

Performance Standards for VOC from Reactor Processes in the SOCFI (40 CFR Part 60, Subpart

\$51.23 \$69.04 \$27.73

(E)	(F)	(G)	(H)
Technical hours per year (E=CxD)	Management hours per year (F=Ex0.05)	Clerical hours per year (G=Ex0.1)	Total cost per year (\$) ^b
4	0.2	0.4	\$229.82
4	0.2	0.4	\$229.82
4.8	0.24	0.48	\$275.78
16	0.8	1.6	\$919.28
3.2	0.2	0.3	\$183.86
8	0.4	0.8	\$459.64
46			\$2,300

On average, there will be 2 new respondents per

These rates are from the Office of Personnel
 0 percent to account for the benefit packages

t RRRa) (Proposed Rule)

Table 6: Average Annual EPA Burden and Cost Year Two - Review of the New Source Perfo

Burden item	(A)	(B)	(C)	(D)
	Person-hours per occurrence	No. of occurrences per respondent per year	Person-hours per respondent per year (C=AxB)	Respondents per year ^a
Report review: New plant				
Notification of construction/ modification	2	1	2	2
Notification of actual startup	2	1	2	2
Notification of initial/repeat performance test	2	1	2	2.4
Initial performance test	8	1	8	2
Repeat performance test ^c	8	1	8	0.4
Semiannual report	2	2	4	4
TOTAL (rounded) ^d				

Assumptions:

^a We have assumed that there will be 6 new respondents over the three-year period of this ICR. We have assumed that year.

^b This ICR uses the following labor rates: \$69.04 for managerial, \$51.23 for technical, and \$27.73 for clerical labor. Management (OPM), 2021 General Schedule, which excludes locality rates of pay. The rates have been increased by 6 available to government employees.

^c Assume 20 percent of initial performance tests must be repeated due to failure.

^d Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.

Performance Standards for VOC from Reactor Processes in the SOCFI (40 CFR Part 60, Subpart

\$51.23

\$69.04

\$27.73

(E)	(F)	(G)	(H)
Technical hours per year (E=CxD)	Management hours per year (F=Ex0.05)	Clerical hours per year (G=Ex0.1)	Total cost per year (\$) ^b
4	0.2	0.4	\$229.82
4	0.2	0.4	\$229.82
4.8	0.24	0.48	\$275.78
16	0.8	1.6	\$919.28
3.2	0.2	0.3	\$183.86
16	0.8	1.6	\$919.28
55			\$2,760

On average, there will be 2 new respondents per

These rates are from the Office of Personnel
 10 percent to account for the benefit packages

t RRRa) (Proposed Rule)

Table 7: Average Annual EPA Burden and Cost Year Three - Review of the New Source Per

Burden item	(A)	(B)	(C)	(D)
	Person-hours per occurrence	No. of occurrences per respondent per year	Person-hours per respondent per year (C=AxB)	Respondents per year ^a
Report review: New plant				
Notification of construction/ modification	2	1	2	2
Notification of actual startup	2	1	2	2
Notification of initial/repeat performance test	2	1	2	2.4
Initial performance test	8	1	8	2
Repeat performance test ^c	8	1	8	0.4
Semiannual report	2	2	4	6
TOTAL (rounded) ^d				

Assumptions:

^a We have assumed that there will be 6 new respondents over the three-year period of this ICR. We have assumed that year.

^b This ICR uses the following labor rates: \$69.04 for managerial, \$51.23 for technical, and \$27.73 for clerical labor. Management (OPM), 2021 General Schedule, which excludes locality rates of pay. The rates have been increased by 6 available to government employees.

^c Assume 20 percent of initial performance tests must be repeated due to failure.

^d Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.

Performance Standards for VOC from Reactor Processes in the SOCFI (40 CFR Part 60, Subpart

\$51.23 \$69.04 \$27.73

(E)	(F)	(G)	(H)
Technical hours per year (E=CxD)	Management hours per year (F=Ex0.05)	Clerical hours per year (G=Ex0.1)	Total cost per year (\$) ^b
4	0.2	0.4	\$229.82
4	0.2	0.4	\$229.82
4.8	0.24	0.48	\$275.78
16	0.8	1.6	\$919.28
3.2	0.2	0.3	\$183.86
24	1.2	2.4	\$1,378.92
64			\$3,220

On average, there will be 2 new respondents per

These rates are from the Office of Personnel
 10 percent to account for the benefit packages

irt RRRa) (Proposed Rule)

Table 8: Summary of Average Annual EPA Burden and Cost - Review of the New Source Performanc

Year	Total Hours	Labor Costs	Non-Labor Costs	Total Costs
1	46	\$2,300	\$0	\$2,300
2	55	\$2,760	\$0	\$2,760
3	64	\$3,220	\$0	\$3,220
Total (Rounded)	165	\$8,280	\$0	\$8,280
Average (Rounded)	55	\$2,760	\$0	\$2,760

Proposed Standards for VOC from Reactor Processes in the SOCM (40 CFR Part 60, Subpart RRRa) (Proposed)

sed Rule)

Capital/Startup vs. Operation and Mainten.		
(A)	(B)	(C)
Continuous Monitoring Device ^a	Capital/Startup Cost for One Respondent	Number of New Respondents ^{a, b}
Flare monitoring requirements	\$3,752,223	0.63
Maintenance vent requirements	N/A	N/A
Non-flare control of vent streams	\$39,277	0.74
Carbon cannisters	\$26,500	0.21
H2 Analyzer	\$46,274	0.11
Calorimeter	\$134,967	0.11
Flare Gas Flow Monitor	\$565,578	0.11
Steam Controls/Flow Monitor	\$879,215	0.11
Avg. NG Cost per Flare to Meet NHVcz	\$0	0.11
Steam Cost Savings per Flare to Meet NHVcz	\$0	0.11
Total ^c		

^a Costs are shown in 2021 \$. Respondent counts and monitoring and control requirements are based on the meeting (B) review for the SOCOMI air oxidation unit processes, distillation operations, and reactor processes NSPS sub

^b Number of respondents is based on 19 new sources becoming subject to 40 CFR Part 60, Subparts IIIa, NNN of the 19 will be subject to Subpart RRRa and have adjusted the respondent counts for capital/startup costs by O&M estimates for sources subject to RRRa (approximately 2 new sources per year for the three-year period c approximately 0.3158 (6/19 = 0.3158) to apportion the costs to the 6 sources that will be subject to Subpart RF separately under EPA ICR Numbers 2757.01 and 2756.01.

^c Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.

ance (O&M) Costs			
(D)	(E)	(F)	(G)
Total Capital/Startup Cost, (B X C) ^a	Annual O&M Costs for One Respondent	Number of Respondents with O&M ^{a, b}	Total O&M, (E X F) ^a
\$2,369,825	\$789,173	1.89	\$1,495,275
N/A	\$455	5.68	\$2,588
\$28,941	\$98,429	2.21	\$217,580
\$5,579	\$2,500	0.63	\$1,579
\$4,871	\$29,581	0.32	\$9,341
\$14,207	\$37,115	0.32	\$11,721
\$59,535	\$97,733	0.32	\$30,863
\$92,549	\$150,221	0.32	\$47,438
\$0	\$110,031	0.32	\$34,747
\$0	-\$62,117.19	0.32	-\$19,615.95
\$2,580,000			\$1,830,000

morandum from Eastern Research Group, Inc. to EPA titled "CAA 111(b)(1) parts III, NNN, and RRR," March 2023, EPA-HQ-OAR-2022-0730.

a, or RRRa during the three-year period of this ICR. We have assumed that 6 a factor of approximately 0.1053 ($2/19 = 0.1053$) to apportion the capital and of this ICR). We have adjusted the annual O&M costs by a factor of 2Ra. The burden and costs for Subparts NNNa and IIIa are accounted for

Summary of Total Annual Responses

(A)	(B)	(C)
Information Collection Activity	Number of Respondents	Number of Responses
Initial performance test report	2	1
Repeat performance test report	0.4	1
Notification of construction/modification	2	1
Notification of actual startup	2	1
Notification of initial/repeat performance test	2	1
Semiannual report	4	2

(D)	(E)
Number of Existing Respondents That Keep Records But Do Not Submit Reports	Total Annual Responses E=(BxC)+D
0	2
0	0.4
0	2
0	2
0	2.4
0	8
Subtotal (rounded)	17

Number of Respondents			
	Respondents That Submit Reports		Respondents That Do Not Submit Any Reports
	(A)	(B)	(C)
Year	Number of New Respondents ¹	Number of Existing Respondents	Number of Existing Respondents that keep records but do not submit reports
1	2	0	0
2	2	2	0
3	2	4	0
Average	2	2	

¹We have assumed that there will be 6 new respondents over the three-year period of this ICR. We have assumed th

(D)	(E)
Number of Existing Respondents That Are Also New Respondents	Number of Respondents (E=A+B+C-D)
0	2
0	4
0	6
	4

at on average, there will be 2 new respondents per year.