

	All facilities	1/3 of facilities	2/3 of facilities
# MON Facilities	201	67	134
# ETO Facilities	8	3	5
# Facilities w/Tank Scrubbers	3	1	2
# Facilities w/PV Scrubbers	3	1	2
# Facilities w/Flares	21	7	14

Flare Management Plan - One-time cost	
Parameter	Value
Avg. Cost Per Facility	\$13,576

Process Vents and Tanks - Scrubber Monitoring & Testing	
Parameter	Value
Monitor Capital Cost	\$23,200
Monitor Annual Cost	\$4,900
Initial Scrubber Testing	\$38,302
Scrubber Testing: 5-yr Re-test	\$19,151

one-time  
every 5 yrs, not included in burden as not in

Flare Monitor Costs			
Monitoring Equipment	Capital Equipment Cost (\$/flare)	Annualized Cost (\$/yr/flare)	Number of Flares Impacted
H2 Analyzer	35,405	22,502	16
Calorimeter	103,265	28,017	16
Flare Gas Flow Monitor	432,731	73,184	16
Steam Controls/Flow Monitor	672,699	112,461	11
Air Controls/Flow Monitor	161,290	48,818	3
Avg. Cost Per Facility			

PRD Monitor		
Parameter	Capital Cost	Annual Cost
Total	\$12,693,240	\$1,678,123
# facilities with atmospheric PRDs	201	
Avg. Cost Per Facility	\$63,150	\$8,349

HEX El Paso Method Monitor		
Parameter	Capital Cost	Annual Cost
Total	\$1,483,221	\$342,624
# facilities with atmospheric PRDs	201	
Avg. Cost Per Facility	\$7,379	\$1,705

### Industry Wages

May 2016 National Industry-Specific Occupational Employment and Wage Estimates  
NAICS 325000 - Chemical Manufacturing

Category	Occupation Code	Title	2016 Wage
Technical	17-2081	Environmental Engineer	49.95
Clerical	43-0000	Office and Administrati	20.66
Managerial	11-9041	Architectural and Engi	68.36

<b>EPA Wages</b>		
	<b>Hourly Mean Wage</b>	<b>With Fringe &amp; Overhead</b>
(GS- 12, step 1) - Tech.	29.76	\$47.62
(GS- 13, step 5) - Mgmt.	40.1	\$64.16
(GS-6, step 3) - Cler.	16.1	\$25.76

[https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/pdf/2016/GS\\_h.pdf](https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/pdf/2016/GS_h.pdf)  
or <https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/>

2016/GS\_h.pdf

3-yr window

Nationwide Capital Equipment Cost (\$)	Nationwide Total Annualized Cost (\$/yr)
\$566,480	\$360,038
\$1,652,240	\$448,275
\$6,923,696	\$1,170,952
\$7,399,689	\$1,237,070
\$483,870	\$146,455
<b>\$810,761</b>	<b>\$160,133</b>

Loaded Wage
104.90
43.39
143.56

\_\_\_\_\_

<b>Capital/Startup and O&amp;M Costs</b>				
(A)	(B)	(C)	(D)	(E)
Source & Monitor Type	Capital/Startup Costs for One Respondent	Number of Respondents with Capital/Startup Costs	Total Capital/ Startup Cost (B X C)	Annual Cost (O&M and Capital) for One Respondent
Flare Monitors	\$810,761	21	\$17,025,981	\$160,133
PRD Monitor	\$63,150	201	\$12,693,150	\$8,349
Heat Exchangers - El Paso Method	\$7,379	201	\$1,483,179	\$1,705
Ethylene Oxide Process Vents & Storage Tanks - Scrubber Monitor	\$23,200	6	\$139,200	\$4,900
Ethylene Oxide Process Vents & Storage Tanks - Scrubber Testing	\$38,302	6	\$229,812	NA
<b>TOTAL</b>			<b>\$31,571,322</b>	

(a) Within a given year, there are a maximum of 201 respondents per information collection activity, however the

<b>Total Annual Responses</b>				
(A)	(B)	(C)	(D)	(E)
Information Collection Activity	Number of Respondents	Number of Responses	Number of Existing Respondents That Keep Records But Do Not Submit Reports	Total Annual Responses E=(BxC)+D
Notification of Compliance Status				
Flares	21	1	0	21
PRDs	201	1	0	201
Ethylene Oxide Process Vents & Storage Tanks	6	1	0	6
Equipment Leaks	8	1	0	8
Periodic Reports				
Flares	28	2	0	56
PRDs	268	2	0	536
Maintenance Vents	268	2	0	536
Bypass Lines	268	2	0	536
HEX El Paso Method	268	2	0	536
Ethylene Oxide Process Vents & Storage Tanks	12	2	0	24
Ethylene Oxide Equipment Leaks	16	2	0	32
<b>TOTAL</b>				<b>2492</b>

(F)	(G)
Number of Respondents <sup>a</sup>	Total Annual Cost, (E X F)
28	\$4,483,724
268	\$2,237,532
268	\$456,940
12	\$58,800
NA	NA
	<b>\$7,236,996</b>

values in column F reflect the sum of these respondents for years 2 and 3.

**Table 1 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the MON RTR - Year 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) Technical Hours per Respondent Per Year (A X C)	(E) Number of Respondents Per Year	(F) Technical Hours per Year (D X E)	(G) Clerical Hours per Year (F X 0.1)	(H) Management Hours per Year (F X .05)	(I) Total Hours per Year (F + G + H)	(J) Total Labor Costs Per Year	(K) Total Non- Labor Costs Per Year (B x C x E)	(L) Total Number of Responses per Year (C X E)	Footnotes
1. Applications	NA												
2. Surveys and Studies	NA												
3. Reporting Requirements													
A. Read Rule	24	\$0	1	24	201	4,824	482	241	5,548	\$561,596	\$0	0	a
B. Required Activities													
1. Flare Monitors													b,f
a. Capital Cost	0	\$810,761	1	0	0	0	0	0	0	\$0	\$0	0	
b. Annualized Cost	0	\$160,133	1	0	0	0	0	0	0	\$0	\$0	0	
2. PRD Monitor													f
a. Capital Cost	0	\$63,150	1	0	0	0	0	0	0	\$0	\$0	0	
b. Annualized Cost	0	\$8,349	1	0	0	0	0	0	0	\$0	\$0	0	
3. HEX El Paso Method													f
a. Capital Cost	0	\$7,379	1	0	0	0	0	0	0	\$0	\$0	0	
b. Annualized Cost	0	\$1,705	1	0	0	0	0	0	0	\$0	\$0	0	
4. Ethylene Oxide Process Vents & Storage Tanks - Scrubber Monitor													c,f
a. Capital Cost	0	\$23,200	1	0	0	0	0	0	0	\$0	\$0	0	
b. Annualized Cost	0	\$4,900	1	0	0	0	0	0	0	\$0	\$0	0	
5. Ethylene Oxide Process Vents & Storage Tanks - Scrubber Testing													c,f
a. Initial Testing	0	\$38,302	1	0	0	0	0	0	0	\$0	\$0	0	
b. Re-Testing	0	\$19,151	1	0	0	0	0	0	0	\$0	\$0	0	
C. Create Information	Inc. in 3B												
D. Gather Information	Inc. in 3E												
E. Report Preparation													
1. Notification of Compliance Status													
a. Flares	5	\$0	1	5	0	0	0	0	0	\$0	\$0	0	f
b. PRDs	15	\$0	1	15	0	0	0	0	0	\$0	\$0	0	f
c. Ethylene Oxide Process Vents & Tanks	4	\$0	1	4	0	0	0	0	0	\$0	\$0	0	c
d. Ethylene Oxide Eq. Leaks	4	\$0	1	4	0	0	0	0	0	\$0	\$0	0	c
2. Periodic Report													
a. Flares	5	\$0	2	10	0	0	0	0	0	\$0	\$0	0	f
b. PRDs	10	\$0	2	20	0	0	0	0	0	\$0	\$0	0	f
c. Maintenance Vents	4	\$0	2	8	0	0	0	0	0	\$0	\$0	0	f
d. Bypass Lines	4	\$0	2	8	0	0	0	0	0	\$0	\$0	0	d,f
e. HEX El Paso Method	3	\$0	2	6	0	0	0	0	0	\$0	\$0	0	f
f. Ethylene Oxide Process Vents & Tanks	4	\$0	2	8	0	0	0	0	0	\$0	\$0	0	c
g. Ethylene Oxide Eq. Leaks	4	\$0	2	8	0	0	0	0	0	\$0	\$0	0	c
<b>Reporting Subtotal</b>						<b>4,824</b>	<b>482</b>	<b>241</b>	<b>5,548</b>	<b>\$561,596</b>	<b>\$0</b>	<b>0</b>	

**Table 1 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the MON RTR - Year 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) Technical Hours per Respondent Per Year (A X C)	(E) Number of Respondents Per Year	(F) Technical Hours per Year (D X E)	(G) Clerical Hours per Year (F X 0.1)	(H) Management Hours per Year (F X .05)	(I) Total Hours per Year (F + G + H)	(J) Total Labor Costs Per Year	(K) Total Non- Labor Costs Per Year (B x C x E)	(L) Total Number of Responses per Year (C X E)	Footnotes
<b>4. Recordkeeping Requirements</b>													
A. Read Instructions	Inc. in 3.A												
B. Implement Activities	NA												
C. Develop Record System	NA												
D. Record information													
1. Flares	0.4	\$0	365	146	0	0	0	0	0	\$0	\$0	0	f
2. PRDs	10	\$0	1	10	0	0	0	0	0	\$0	\$0	0	f
3. HEX El Paso Method	0	\$0	1	0	0	0	0	0	0	\$0	\$0	0	e
4. Maintenance Vents	1	\$0	1	1	0	0	0	0	0	\$0	\$0	0	f
5. Bypass Lines	0	\$0	1	0	0	0	0	0	0	\$0	\$0	0	d
6. Ethylene Oxide Process Vents & Tanks	2	\$0	1	2	0	0	0	0	0	\$0	\$0	0	c
7. Flare Management Plan	75	\$0	1	75	21	1,575	158	79	1,811	\$183,357	\$0	0	a
E. Personnel Training	16	\$0	1	16	201	3,216	322	161	3,698	\$374,397	\$0	0	
F. Time for Audits	NA												
<b>Recordkeeping Subtotal</b>						<b>4,791</b>	<b>479</b>	<b>240</b>	<b>5,510</b>	<b>\$557,754</b>	<b>\$0</b>	<b>0</b>	
<b>TOTAL</b>						<b>9,615</b>	<b>962</b>	<b>481</b>	<b>11,057</b>	<b>\$1,119,350</b>	<b>\$0</b>	<b>0</b>	
									Total Hours	Labor	Non-Labor	Total	
Summary of Respondent Burden									11,057	\$1,119,350	\$0	\$1,119,350	
Initial Capital and Startup											\$0		
Annualized Capital/Start-up and O & M											\$0		

Footnotes:

- (a) This is a one-time cost (e.g., to read rule or develop plan).
- (b) Includes costs for the following monitoring equipment: H2 analyzer, calorimeter, flare gas flow monitor, steam controls/flow monitor, and air controls/flow monitor.
- (c) Only applicable to facilities with ethylene oxide emissions. Assumed facilities would begin complying in year 2. Note, there are not new monitoring or recordkeeping costs for ethylene oxide equipment leaks (there are only reporting costs), as these activities are already conducted under the original MON requirements.
- (d) Assumed that bypass lines were not used during the 3-year period, so costs for bypass lines would not be incurred.
- (e) Assumed recordkeeping hours are comparable to previously required water methods, and assigned 0 additional hours to implement the El Paso Method.
- (f) Assumed that one-third of the facilities would begin complying in year 2 and the remaining two-thirds of the facilities in year 3.



**Table 2 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the MON RTR - Year 2**

Burden Item	(A) Respondent Hours per Occurrence (Technical hours)	(B) Non-Labor Costs Per Occurrence	(C) Number of Occurrences Per Respondent Per Year	(D) Technical Hours per Respondent Per Year (A X C)	(E) Number of Respondents Per Year	(F) Technical Hours per Year (D X E)	(G) Clerical Hours per Year (F X 0.1)	(H) Management Hours per Year (F X .05)	(I) Total Hours per Year (F + G + H)	(J) Total Labor Costs Per Year	(K) Total Non- Labor Costs Per Year (B x C x E)	(L) Total Number of Responses per Year (C X E)	Footnotes
1. Applications	NA												
2. Surveys and Studies	NA												
3. Reporting Requirements													
A. Read Rule	24	\$0	1	24	0	0	0	0	\$0	\$0	0	a	
B. Required Activities													
1. Flare Monitors												b,f	
a. Capital Cost	0	\$810,761	1	0	7	0	0	0	\$0	\$5,675,327	0		
b. Annualized Cost	0	\$160,133	1	0	7	0	0	0	\$0	\$1,120,931	0		
2. PRD Monitor												f	
a. Capital Cost	0	\$63,150	1	0	67	0	0	0	\$0	\$4,231,050	0		
b. Annualized Cost	0	\$8,349	1	0	67	0	0	0	\$0	\$559,383	0		
3. HEX El Paso Method												f	
a. Capital Cost	0	\$7,379	1	0	67	0	0	0	\$0	\$494,393	0		
b. Annualized Cost	0	\$1,705	1	0	67	0	0	0	\$0	\$114,235	0		
4. Ethylene Oxide Process Vents & Storage Tanks - Scrubber Monitor												c,f	
a. Capital Cost	0	\$23,200	1	0	6	0	0	0	\$0	\$139,200	0		
b. Annualized Cost	0	\$4,900	1	0	6	0	0	0	\$0	\$29,400	0		
5. Ethylene Oxide Process Vents & Storage Tanks - Scrubber Testing												c,f	
a. Initial Testing	0	\$38,302	1	0	6	0	0	0	\$0	\$229,812	0		
b. Re-Testing	0	\$19,151	1	0	0	0	0	0	\$0	\$0	0		
C. Create Information	Inc. in 3B												
D. Gather Information	Inc. in 3E												
E. Report Preparation													
1. Notification of Compliance Status													
a. Flares	5	\$0	1	5	7	35	4	2	40	\$4,075	\$0	7	f
b. PRDs	15	\$0	1	15	67	1005	101	50	1156	\$116,999	\$0	67	f
c. Ethylene Oxide Process Vents & Tanks	4	\$0	1	4	6	24	2	1	28	\$2,794	\$0	6	c
d. Ethylene Oxide Eq. Leaks	4	\$0	1	4	8	32	3	2	37	\$3,725	\$0	8	c
2. Periodic Report													
a. Flares	5	\$0	2	10	7	70	7	4	81	\$8,149	\$0	14	f
b. PRDs	10	\$0	2	20	67	1340	134	67	1541	\$155,999	\$0	134	f
c. Maintenance Vents	4	\$0	2	8	67	536	54	27	616	\$62,400	\$0	134	f
d. Bypass Lines	4	\$0	2	8	67	536	54	27	616	\$62,400	\$0	134	d,f
e. HEX El Paso Method	3	\$0	2	6	67	402	40	20	462	\$46,800	\$0	134	f
f. Ethylene Oxide Process Vents & Tanks	4	\$0	2	8	6	48	5	2	55	\$5,588	\$0	12	c
g. Ethylene Oxide Eq. Leaks	4	\$0	2	8	8	64	6	3	74	\$7,451	\$0	16	c
<b>Reporting Subtotal</b>						<b>4,092</b>	<b>409</b>	<b>205</b>	<b>4,706</b>	<b>\$476,380</b>	<b>\$1,823,949</b>	<b>666</b>	

**Table 2 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the MON RTR - Year 2**

Burden Item	(A) Respondent Hours per Occurrence (Technical hours)	(B) Non-Labor Costs Per Occurrence	(C) Number of Occurrences Per Respondent Per Year	(D) Technical Hours per Respondent Per Year (A X C)	(E) Number of Respondents Per Year	(F) Technical Hours per Year (D X E)	(G) Clerical Hours per Year (F X 0.1)	(H) Management Hours per Year (F X .05)	(I) Total Hours per Year (F + G + H)	(J) Total Labor Costs Per Year	(K) Total Non- Labor Costs Per Year (B x C x E)	(L) Total Number of Responses per Year (C X E)	Footnotes
<b>4. Recordkeeping Requirements</b>													
A. Read Instructions	Inc. in 3.A												
B. Implement Activities	NA												
C. Develop Record System	NA												
D. Record information													
1. Flares	0.4	\$0	365	146	7	1,022	102	51	1,175	\$118,978	\$0	0	f
2. PRDs	10	\$0	1	10	67	670	67	34	771	\$77,999	\$0	0	f
3. HEX El Paso Method	0	\$0	1	0	67	0	0	0	0	\$0	\$0	0	e
4. Maintenance Vents	1	\$0	1	1	67	67	7	3	77	\$7,800	\$0	0	f
5. Bypass Lines	0	\$0	1	0	67	0	0	0	0	\$0	\$0	0	d
6. Ethylene Oxide Process Vents & Tanks	2	\$0	1	2	6	12	1	1	14	\$1,397	\$0	0	c
7. Flare Management Plan	75	\$0	3	225	0	0	0	0	0	\$0	\$0	0	a
E. Personnel Training	16	\$0	1	16		0	0	0	0	\$0	\$0	0	
F. Time for Audits	NA												
<b>Recordkeeping Subtotal</b>						<b>1,771</b>	<b>177</b>	<b>89</b>	<b>2,037</b>	<b>\$206,174</b>	<b>\$0</b>	<b>0</b>	
<b>TOTAL</b>						<b>5,863</b>	<b>586</b>	<b>293</b>	<b>6,742</b>	<b>\$682,554</b>	<b>\$1,823,949</b>	<b>666</b>	
									Total Hours	Labor	Non-Labor	Total	
Summary of Respondent Burden									6,742	\$682,554	\$1,823,949	\$2,506,503	
Initial Capital and Startup											\$10,769,782		
Annualized Capital/Start-up and O & M											\$1,823,949		

Footnotes:

- (a) This is a one-time cost (e.g., to read rule or develop plan).
- (b) Includes costs for the following monitoring equipment: H2 analyzer, calorimeter, flare gas flow monitor, steam controls/flow monitor, and air controls/flow monitor.
- (c) Only applicable to facilities with ethylene oxide emissions. Assumed facilities would begin complying in year 2. Note, there are not new monitoring or recordkeeping costs for ethylene oxide equipment leaks (there are only reporting costs), as these activities are already conducted under the original MON requirements.
- (d) Assumed that bypass lines were not used during the 3-year period, so costs for bypass lines would not be incurred.
- (e) Assumed recordkeeping hours are comparable to previously required water methods, and assigned 0 additional hours to implement the El Paso Method.
- (f) Assumed that one-third of the facilities would begin complying in year 2 and the remaining two-thirds of the facilities in year 3.

**Table 3 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the MON RTR - Year 3**

Burden Item	(A) Respondent Hours per Occurrence (Technical hours)	(B) Non-Labor Costs Per Occurrence	(C) Number of Occurrences Per Respondent Per Year	(D) Technical Hours per Respondent Per Year (A X C)	(E) Number of Respondents Per Year	(F) Technical Hours per Year (D X E)	(G) Clerical Hours per Year (F X 0.1)	(H) Management Hours per Year (F X .05)	(I) Total Hours per Year (F + G + H)	(J) Total Labor Costs Per Year	(K) Total Non- Labor Costs Per Year (B x C x E)	(L) Total Number of Responses per Year (C X E)	Footnotes
1. Applications	NA												
2. Surveys and Studies	NA												
3. Reporting Requirements													
A. Read Rule	24	\$0	1	24	0	0	0	0	0	\$0	\$0	0	a
B. Required Activities													
1. Flare Monitors													b,f
a. Capital Cost	0	\$810,761	1	0	14	0	0	0	0	\$0	\$11,350,654	0	
b. Annualized Cost	0	\$160,133	1	0	21	0	0	0	0	\$0	\$3,362,793	0	
2. PRD Monitor													f
a. Capital Cost	0	\$63,150	1	0	134	0	0	0	0	\$0	\$8,462,100	0	
b. Annualized Cost	0	\$8,349	1	0	201	0	0	0	0	\$0	\$1,678,149	0	
3. HEX El Paso Method													f
a. Capital Cost	0	\$7,379	1	0	134	0	0	0	0	\$0	\$988,786	0	
b. Annualized Cost	0	\$1,705	1	0	201	0	0	0	0	\$0	\$342,705	0	
4. Ethylene Oxide Process Vents & Storage Tanks - Scrubber Monitor													c,f
a. Capital Cost	0	\$23,200	1	0	0	0	0	0	0	\$0	\$0	0	
b. Annualized Cost	0	\$4,900	1	0	6	0	0	0	0	\$0	\$29,400	0	
5. Ethylene Oxide Process Vents & Storage Tanks - Scrubber Testing													c,f
a. Initial Testing	0	\$38,302	1	0	0	0	0	0	0	\$0	\$0	0	
b. Re-Testing	0	\$19,151	1	0	0	0	0	0	0	\$0	\$0	0	
C. Create Information	Inc. in 3B												
D. Gather Information	Inc. in 3E												
E. Report Preparation													
1. Notification of Compliance Status													
a. Flares	5	\$0	1	5	14	70	7	4	81	\$8,149	\$0	14	f
b. PRDs	15	\$0	1	15	134	2010	201	101	2312	\$233,998	\$0	134	f
c. Ethylene Oxide Process Vents & Tanks	4	\$0	1	4	0	0	0	0	0	\$0	\$0	0	c
d. Ethylene Oxide Eq. Leaks	4	\$0	1	4	0	0	0	0	0	\$0	\$0	0	c
2. Periodic Report													
a. Flares	5	\$0	2	10	21	210	21	11	242	\$24,448	\$0	42	f
b. PRDs	10	\$0	2	20	201	4020	402	201	4623	\$467,996	\$0	402	f
c. Maintenance Vents	4	\$0	2	8	201	1608	161	80	1849	\$187,199	\$0	402	f
d. Bypass Lines	4	\$0	2	8	201	1608	161	80	1849	\$187,199	\$0	402	d,f
e. HEX El Paso Method	3	\$0	2	6	201	1206	121	60	1387	\$140,399	\$0	402	f
f. Ethylene Oxide Process Vents & Tanks	4	\$0	2	8	6	48	5	2	55	\$5,588	\$0	12	c
g. Ethylene Oxide Eq. Leaks	4	\$0	2	8	8	64	6	3	74	\$7,451	\$0	16	c
<b>Reporting Subtotal</b>						<b>10,844</b>	<b>1,084</b>	<b>542</b>	<b>12,471</b>	<b>\$1,262,427</b>	<b>\$5,413,047</b>	<b>1,826</b>	

**Table 3 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the MON RTR - Year 3**

Burden Item	(A) Respondent Hours per Occurrence (Technical hours)	(B) Non-Labor Costs Per Occurrence	(C) Number of Occurrences Per Respondent Per Year	(D) Technical Hours per Respondent Per Year (A X C)	(E) Number of Respondents Per Year	(F) Technical Hours per Year (D X E)	(G) Clerical Hours per Year (F X 0.1)	(H) Management Hours per Year (F X .05)	(I) Total Hours per Year (F + G + H)	(J) Total Labor Costs Per Year	(K) Total Non- Labor Costs Per Year (B x C x E)	(L) Total Number of Responses per Year (C X E)	Footnotes																			
<b>4. Recordkeeping Requirements</b>																																
A. Read Instructions	Inc. in 3.A																															
B. Implement Activities	NA																															
C. Develop Record System	NA																															
D. Record information																																
1. Flares	0.4	\$0	365	146	21	3,066	307	153	3,526	\$356,935	\$0	0	f																			
2. PRDs	10	\$0	1	10	201	2,010	201	101	2,312	\$233,998	\$0	0	f																			
3. HEX El Paso Method	0	\$0	1	0	201	0	0	0	0	\$0	\$0	0	e																			
4. Maintenance Vents	1	\$0	1	1	201	201	20	10	231	\$23,400	\$0	0	f																			
5. Bypass Lines	0	\$0	1	0	201	0	0	0	0	\$0	\$0	0	d																			
6. Ethylene Oxide Process Vents & Tanks	2	\$0	1	2	6	12	1	1	14	\$1,397	\$0	0	c																			
7. Flare Management Plan	75	\$0	3	225	0	0	0	0	0	\$0	\$0	0	a																			
E. Personnel Training	16	\$0	1	16		0	0	0	0	\$0	\$0	0																				
F. Time for Audits	NA																															
<b>Recordkeeping Subtotal</b>						<b>5,289</b>	<b>529</b>	<b>264</b>	<b>6,082</b>	<b>\$615,730</b>	<b>\$0</b>	<b>0</b>																				
<b>TOTAL</b>						<b>16,133</b>	<b>1,613</b>	<b>807</b>	<b>18,553</b>	<b>\$1,878,157</b>	<b>\$5,413,047</b>	<b>1826</b>																				
									<table border="1"> <thead> <tr> <th></th> <th>Total Hours</th> <th>Labor</th> <th>Non-Labor</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Summary of Respondent Burden</td> <td>18,553</td> <td>\$1,878,157</td> <td>\$5,413,047</td> <td>\$7,291,204</td> </tr> <tr> <td>Initial Capital and Startup</td> <td></td> <td></td> <td></td> <td>\$20,801,540</td> </tr> <tr> <td>Annualized Capital/Start-up and O &amp; M</td> <td></td> <td></td> <td></td> <td>\$5,413,047</td> </tr> </tbody> </table>					Total Hours	Labor	Non-Labor	Total	Summary of Respondent Burden	18,553	\$1,878,157	\$5,413,047	\$7,291,204	Initial Capital and Startup				\$20,801,540	Annualized Capital/Start-up and O & M				\$5,413,047
	Total Hours	Labor	Non-Labor	Total																												
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Footnotes:

- (a) This is a one-time cost (e.g., to read rule or develop plan).
- (b) Includes costs for the following monitoring equipment: H2 analyzer, calorimeter, flare gas flow monitor, steam controls/flow monitor, and air controls/flow monitor.
- (c) Only applicable to facilities with ethylene oxide emissions. Assumed facilities would begin complying in year 2. Note, there are not new monitoring or recordkeeping costs for ethylene oxide equipment leaks (there are only reporting costs), as these activities are already conducted under the original MON requirements.
- (d) Assumed that bypass lines were not used during the 3-year period, so costs for bypass lines would not be incurred.
- (e) Assumed recordkeeping hours are comparable to previously required water methods, and assigned 0 additional hours to implement the El Paso Method.
- (f) Assumed that one-third of the facilities would begin complying in year 2 and the remaining two-thirds of the facilities in year 3.

**Table 4 - Summary of Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for RTR**

Year	Technical Hours	Clerical Hours	Management Hours	Total Labor Hours	Labor Costs	Non-Labor (Annualized Capital/Startup and O&M) Costs
1	9,615	962	481	11,057	\$1,119,350	\$0
2	5,863	586	293	6,742	\$682,554	\$1,823,949
3	16,133	1,613	807	18,553	\$1,878,157	\$5,413,047
Total	31,611	3,161	1,581	36,353	\$3,680,061	\$7,236,996
Average	10,537	1,054	527	12,118	\$1,226,687	\$2,412,332

**or the MON**

Total Costs
\$1,119,350
\$2,506,503
\$7,291,204
\$10,917,057
\$3,639,019

**Table 5 - Annual Agency Burden and Cost of Recordkeeping and Reporting Requirements for the MON RTR - Year 1**

Burden Item	(A) Number of Occurrences Per Year	(B) Technical Hours Per Occurrence	(C) Tech Hours Per Year (C=A x B)	(D) Management Hours Per Year (D = C x 0.05)	(E) Clerical Hours Per Year (E = C x 0.1)	(F) Total Hours Per Year (C+D+E)	(G) Total Cost Per Year	Footnotes
1. Applications	not applicable							
2. Read and Understand Rule Requirements	45	24	1080	54	108	1242	\$57,672	a
3. Required Activities	not applicable							
A. Observe stack tests	0	16	0	0	0	0	\$0	
B. Excess emissions -- Enforcement Activities	0	24	0	0	0	0	\$0	
C. Create Information	not applicable							
D. Gather Information	not applicable							
E. Report Reviews	not applicable							
1. Review notification of compliance status	not applicable							
a. Flares	0	2	0	0	0	0	\$0	
b. PRDs	0	2	0	0	0	0	\$0	
c. Process Vents & Tanks	0	2	0	0	0	0	\$0	
d. Eq. Leaks	0	2	0	0	0	0	\$0	
2. Review periodic reports	not applicable							
a. Flares	0	2	0	0	0	0	\$0	
b. PRDs	0	2	0	0	0	0	\$0	
c. Maintenance Vents	0	2	0	0	0	0	\$0	
d. Bypass Lines	0	2	0	0	0	0	\$0	
e. HEX El Paso Method	0	2	0	0	0	0	\$0	
f. Process Vents & Tanks	0	2	0	0	0	0	\$0	
g. Eq. Leaks	0	2	0	0	0	0	\$0	
3. Review flare management plan	21	5	105	5	11	121	\$5,607	
F. Prepare annual summary report	1	10	10	1	1	12	\$534	
4. Travel expenses: (1 person * 30 hours per year / 8 hours per day * \$75 per diem) + (\$600 per round trip) =				\$0	per trip		\$0	
<b>TOTAL</b>			1195	60	120	1374	\$63,813	

Footnotes:

a Number of occurrences is the number of states and EPA Regions with affected sources (35 states + 10 EPA regions = 45 respondents).

**Table 6 - Annual Agency Burden and Cost of Recordkeeping and Reporting Requirements for the MON RTR - Year 2**

Burden Item	(A) Number of Occurrences Per Year	(B) Technical Hours Per Occurrence	(C) Tech Hours Per Year (C=A x B)	(D) Management Hours Per Year (D = C x 0.05)	(E) Clerical Hours Per Year (E = C x 0.1)	(F) Total Hours Per Year (C+D+E)	(G) Total Cost Per Year	Footnotes
1. Applications	not applicable							
2. Read and Understand Rule Requirements	0	24	0	0	0	0	\$0	
3. Required Activities								
A. Observe stack tests	6	16	96	5	10	110	\$5,126	
B. Excess emissions -- Enforcement Activities	0	24	0	0	0	0	\$0	
C. Create Information	not applicable							
D. Gather Information	not applicable							
E. Report Reviews								
1. Review notification of compliance status								
a. Flares	7	2	14	1	1	16	\$748	
b. PRDs	67	2	134	7	13	154	\$7,156	
c. Process Vents & Tanks	6	2	12	1	1	14	\$641	
d. Eq. Leaks	8	2	16	1	2	18	\$854	
2. Review periodic reports								
a. Flares	14	2	28	1	3	32	\$1,495	
b. PRDs	134	2	268	13	27	308	\$14,311	
c. Maintenance Vents	134	2	268	13	27	308	\$14,311	
d. Bypass Lines	134	2	268	13	27	308	\$14,311	
e. HEX El Paso Method	134	2	268	13	27	308	\$14,311	
f. Process Vents & Tanks	12	2	24	1	2	28	\$1,282	
g. Eq. Leaks	16	2	32	2	3	37	\$1,709	
3. Review flare management plan	0	5	0	0	0	0	\$0	
F. Prepare annual summary report	1	10	10	1	1	12	\$534	
4. Travel expenses: (1 person * 30 hours per year / 8 hours per day * \$75 per diem) + (\$600 per round trip) =				\$881	per trip		\$5,288	
<b>TOTAL</b>			1438	72	144	1654	\$82,077	

Footnotes:

a Number of occurrences is the number of states and EPA Regions with affected sources (35 states + 10 EPA regions = 45 respondents).



**Table 7 - Annual Agency Burden and Cost of Recordkeeping and Reporting Requirements for the MON RTR - Year 3**

Burden Item	(A) Number of Occurrences Per Year	(B) Technical Hours Per Occurrence	(C) Tech Hours Per Year (C=A x B)	(D) Management Hours Per Year (D = C x 0.05)	(E) Clerical Hours Per Year (E = C x 0.1)	(F) Total Hours Per Year (C+D+E)	(G) Total Cost Per Year	Footnotes
1. Applications	not applicable							
2. Read and Understand Rule Requirements	0	24	0	0	0	0	\$0	
3. Required Activities	not applicable							
A. Observe stack tests	0	16	0	0	0	0	\$0	
B. Excess emissions -- Enforcement Activities	0	24	0	0	0	0	\$0	
C. Create Information	not applicable							
D. Gather Information	not applicable							
E. Report Reviews	not applicable							
1. Review notification of compliance status								
a. Flares	14	2	28	1	3	32	\$1,495	
b. PRDs	134	2	268	13	27	308	\$14,311	
c. Process Vents & Tanks	0	2	0	0	0	0	\$0	
d. Eq. Leaks	0	2	0	0	0	0	\$0	
2. Review periodic reports								
a. Flares	42	2	84	4	8	97	\$4,486	
b. PRDs	402	2	804	40	80	925	\$42,934	
c. Maintenance Vents	402	2	804	40	80	925	\$42,934	
d. Bypass Lines	402	2	804	40	80	925	\$42,934	
e. HEX El Paso Method	402	2	804	40	80	925	\$42,934	
f. Process Vents & Tanks	12	2	24	1	2	28	\$1,282	
g. Eq. Leaks	16	2	32	2	3	37	\$1,709	
3. Review flare management plan	0	5	0	0	0	0	\$0	
F. Prepare annual summary report	1	10	10	1	1	12	\$534	
4. Travel expenses: (1 person * 30 hours per year / 8 hours per day * \$75 per diem) + (\$600 per round trip) =				\$0	per trip		\$0	
<b>TOTAL</b>			3662	183	366	4211	\$195,551	

Footnotes:

a Number of occurrences is the number of states and EPA Regions with affected sources (35 states + 10 EPA regions = 45 respondents).

**Table 8 - Summary of Annual Agency Burden and Cost of Recordkeeping and Reporting Requirements for the MON RTR**

Year	Technical Hours	Management Hours	Clerical Hours	Total Hours	Labor Costs	Non-Labor Costs	Total Costs
1	1,195	60	120	1,374	\$63,813	\$0	\$63,813
2	1,438	72	144	1,654	\$82,077	\$0	\$82,077
3	3,662	183	366	4,211	\$195,551	\$0	\$195,551
Total	6,295	315	630	7,239	\$341,441	\$0	\$341,441
Average	2,098	105	210	2,413	\$113,814	\$0	\$113,814