SUPPORTING STATEMENT
ENVIRONMENTAL PROTECTION AGENCY

National Emission Standards for Hazardous Air Pollutants: Generic Maximum Achievable Control Technology Standards Residual Risk and Technology Review for Ethylene Production

1. IDENTIFICATION OF THE INFORMATION COLLECTION

1(a) Title of the Information Collection

National Emission Standards for Hazardous Air Pollutants: Generic Maximum Achievable Control Technology Standards Residual Risk and Technology Review for Ethylene Production (40 CFR part 63, subparts XX and YY), EPA ICR Number 1983.09, OMB Control Number 2060-0489.

1(b) Short Characterization/Abstract

This supporting statement addresses information collection activities that will be imposed by proposed amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Ethylene Production source category in the Generic Maximum Achievable Control Technology standards, 40 CFR part 63, subparts XX and YY, referred to as the ethylene production MACT standards (or EMACT). The current EMACT standards were promulgated on July 12, 2002 (67 FR 46257) and amended on April 13, 2005 (70 FR 19266).

As part of the residual risk and technology reviews for the NESHAP, the Environmental Protection Agency (EPA) is proposing amendments to correct and clarify regulatory provisions related to emissions during periods of startup, shutdown, and malfunction; add requirements for electronic reporting of performance test results; add operational requirements for flares; add standards and monitoring requirements for pressure relief devices (PRDs); add requirements and clarifications for vent control bypasses, including bypass lines, in situ sampling systems, maintenance activities, and certain gaseous streams routed to a fuel gas system; and revise requirements for storage vessels and heat exchange systems. This information collection request documents the recordkeeping and reporting requirements and burden imposed by these proposed amendments only.

In general, all NESHAP standards require initial notifications, performance tests, and periodic reports by the owners/operators of the affected facilities. These notifications, reports, and records are essential in determining compliance and are required of all affected facilities subject to NESHAP. This information collection request (ICR) includes the burden for all activities that will be conducted in the first three years following promulgation of the proposed amendments to the EMACT standards. These activities include reading the rule, installing and maintaining monitors, and completing the recordkeeping and reporting requirements.

Any owner/operator subject to the provisions of this part shall maintain a file of these notifications, reports, and records, and retain the file for at least five years. All reports are sent to

the delegated state or local authority. In the event there is no such delegated authority, the reports are sent directly to the EPA regional office. The use of the term "Designated Administrator" throughout this document refers to the U.S. EPA or a delegated authority such as a state agency. The term "Administrator" alone refers to the U.S. EPA Administrator.

Over the next three years, 31 ethylene production facilities will be subject to this standard, and the total labor, capital, and operations and maintenance costs imposed by the proposed amendments will be approximately $4.4 million per year for the first 3 years after the proposed amendments are finalized. Note that there are 26 currently operating ethylene production facilities, and 5 facilities under construction; it was assumed each of the 5 new facilities would commence operations within three years after promulgation of the rule and are thus included in the burden calculations. The burden to the respondents from each facility is shown in Tables 1 through 4 in Attachment 1.

The total average annual cost to the Designated Administrator during the 3 years of the ICR is estimated to be $36,000 per year. This burden includes labor costs for the Federal EPA and state and local authorities to implement the requirements in the NESHAP after the proposed amendments are finalized. This burden is shown in Tables 5 through 8 of Attachment 2.

2. Need for and Use of the Collection

2(a) Need/Authority for the Collection

The EPA is charged under CAA Section 112, as amended, to establish standards of performance for each category or subcategory of major sources and area sources of hazardous air pollutants (HAP). These standards are applicable to new or existing sources of HAP and require the maximum degree of emission reduction. In addition, CAA section 114(a) states that the Administrator may require any owner/operator subject to any requirement of this Act to:

> (A) Establish and maintain such records; (B) make such reports; (C) install, use, and maintain such monitoring equipment, and use such audit procedures, or methods; (D) sample such emissions (in accordance with such procedures or methods, at such locations, at such intervals, during such periods, and in such manner as the Administrator shall prescribe); (E) keep records on control equipment parameters, production variables or other indirect data when direct monitoring of emissions is impractical; (F) submit compliance certifications in accordance with Section 114(a)(3); and (G) provide such other information as the Administrator may reasonably require.

In the Administrator's judgment, HAP emissions from ethylene production facilities cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. Therefore, the NESHAP were promulgated for major sources in this source category at 40 CFR part 63, subparts XX and YY.

2(b) Practical Utility/Users of the Data

The recordkeeping and reporting information will be used by Designated Administrators to ensure compliance with the applicable regulations, which were promulgated in accordance with the Clean Air Act. The collected information is also used for targeting inspections and as evidence in legal proceedings.

Continuous monitors, along with the other required monitors, are used to ensure compliance with the standards at all times.

The required notifications are used to inform the Designated Administrator when a source becomes subject to the requirement of the regulations. The reviewing authority may then inspect the source to ensure that monitors are properly installed and operated and the standards are being met.

The required semiannual reports and records are used to determine periods of excess emissions, identify problems at the facility, verify operation and maintenance procedures, and determine compliance.

3. Nonduplication, Consultations, and Other Collection Criteria

The requested recordkeeping and reporting will be required under 40 CFR part 63, subparts XX and YY.

3(a) Nonduplication

If the subject standards have not been delegated, the information is sent directly to the appropriate EPA regional office. Otherwise, the information is sent directly to the delegated state or local agency. If a state or local agency has adopted its own similar standards to implement the Federal standards, a copy of the report submitted to the state or local agency can be sent to the Administrator in lieu of the report required by the Federal standards. Therefore, no duplication exists.

3(b) Public notice prior to ICR submission to OMB

A public notice of this collection is provided in the Federal Register notice of proposed rulemaking published for the National Emission Standards for Hazardous Air Pollutants: Generic Maximum Achievable Control Technology Standards Residual Risk and Technology Review for Ethylene Production.

3(c) Consultations

The public will be provided the opportunity to review and comment on the burden estimated in this Information Collection Request during the comment period for the proposed rulemaking. In addition, consultations with ethylene production industry representatives were conducted throughout the residual risk and technology review process.

3(d) Effects of Less Frequent Data Collection

The EMACT standards require continuous monitoring and semiannual compliance reports. These periodic reports are essential to enforcement of the standards and detection of violations. The ongoing recordkeeping requirements also ensure that monitoring equipment is properly maintained and enhances the reliability of the data that is gathered for this collection.

3(e) General Guidelines

These reporting or recordkeeping requirements do not violate any of the regulations promulgated by OMB under 5 CFR part 1320, section 1320.5.

The EMACT standards require owners or operators of facilities to keep and maintain records for a period of five years. The title V permit programs also require records to be retained for five years. These records must be kept on file for use, if needed, by the regulating authority to ensure that the plant personnel are operating and maintaining control equipment properly.

3(f) Confidentiality

All information submitted to the Agency for which a claim of confidentiality is made will be safeguarded according to the Agency policies set forth in 40 CFR 2, subpart B -- Confidentiality of Business Information (see 40 CFR 2; 41 FR 36902, September 1, 1976, amended by 43 FR 39999, September 28, 1978; 43 FR 42251, September 28, 1978; 44 FR 17674, March 23, 1979).

3(g) Sensitive Questions

The reporting or recordkeeping requirements in the standard do not include sensitive questions.

4. THE RESPONDENTS AND THE INFORMATION REQUESTED

4(a) Respondents/NAICS Codes

The respondents to the recordkeeping and reporting requirements are owners or operators of new or existing major source ethylene production facilities. This includes, but is not limited to, North American Industry Classification System (NAICS) Code 325110, “Petrochemical Manufacturing.”

4(b) Information Requested

(i) Data Items

In this ICR, all data that is recorded or reported is required by the EMACT standards (40 CFR, part 63, subparts XX and YY). The tables below reflect the proposed amendments.

A source must make the following reports:

Notifications/Reports	
Notification of compliance status (for flares and PRDs)	63.1110(d)
Periodic reports (for heat exchangers, flares, PRDs, cracking furnace decoking operations, bypass lines, maintenance vents)	63.1090(f), 63.1110(e)

A source must keep the following records:

Recordkeeping	
Each notification and report	63.1109(a)
Records of heat exchangers, flares, maintenance vents, bypass lines, cracking furnace decoking operations, PRDs	63.1089(d), 63.1109(e)-(i)

Electronic Reporting

Some of the respondents are using monitoring equipment that automatically records parameter data. Although personnel at the affected facility must still evaluate the data, internal automation has significantly reduced the burden associated with monitoring and recordkeeping at a plant site.

Also, regulatory agencies in cooperation with the respondents continue to create reporting systems to transmit data electronically.

(ii) Respondent Activities

Respondent Activities
Read instructions.
Acquire, install, and operate monitoring devices for flares, PRDs, and heat exchangers.
Develop a flare management plan and maintenance vent opening procedures.
Adjust the existing ways to comply with any previously applicable instruction and requirements.
Write the notifications and reports listed above.
Enter information required to be recorded above.
Submit the required reports developing, acquiring, installing, and utilizing technology and systems for the purpose of collecting, validating, and verifying information.
Develop, acquire, install, and utilize technology and systems for the purpose of processing and maintaining information.
Develop, acquire, install, and utilize technology and systems for the purpose of disclosing and providing information.

Respondent Activities
Train personnel to be able to respond to a collection of information.
Transmit, or otherwise disclose the information.

Currently, sources are using monitoring and reporting equipment that provide automated data for emissions or a related parameter. Although personnel at the source still need to evaluate the data, this type of monitoring equipment has significantly reduced the burden associated with monitoring and recordkeeping.

5. THE INFORMATION COLLECTED -- AGENCY ACTIVITIES, COLLECTION, METHODOLOGY, AND INFORMATION MANAGEMENT

5(a) Agency Activities

The EPA conducts the following activities in connection with the acquisition, analysis, storage, and distribution of the required information.

Agency Activities
Review notifications and reports and excess emissions reports, required to be submitted by industry.
Audit facility records.
Input, analyze, and maintain data in Enforcement and Compliance History Online (ECHO) and Integrated Compliance Information System (ICIS).

5(b) Collection Methodology and Management

Data and records maintained by the respondents are tabulated and published for use in compliance and enforcement programs. The semiannual reports are used for problem identification, as a check on source operation and maintenance, and for compliance determinations.

Information contained in the reports is reported by state and local governments in the ICIS Air database, which is operated and maintained by EPA's Office of Compliance. ICIS is EPA’s database for the collection, maintenance, and retrieval of compliance data for industrial and government-owned facilities. EPA uses ICIS for tracking air pollution compliance and enforcement by local and state regulatory agencies, EPA regional offices and EPA headquarters. EPA and its delegated Authorities can edit, store, retrieve and analyze the data.

The records required by this regulation must be retained by the owner/operator for five years.

5(c) Small Entity Flexibility

There are no small entities (i.e., small businesses) affected by this regulation.

5(d) Collection Schedule

Upon promulgation of the proposed amendments, owners or operators of ethylene production facilities have up to three years to comply with most of the reporting and recordkeeping requirements associated with the proposed amendments. It is anticipated facilities will read the rule and perform certain one-time activities (e.g., develop a flare management plan) in year 1. Most facilities are expected to use the full three years to comply, but it was assumed that one-third of the facilities would begin complying in year 2 and the remaining facilities in year 3. The specific frequency for each information collection activity within this request is shown in Tables 1 through 3 of Attachment 1.

6. ESTIMATING THE BURDEN AND COST OF THE COLLECTION

Tables 1 through 4 of Attachment 1 present an itemization of the burden on the respondents subject to this NESHAP for the recordkeeping and reporting requirements in the first three years following promulgation of the proposed amendments to the EMACT standards. Tables 5 through 8 of Attachment 2 present a summary of the burden on the Federal EPA and state and local authorities in the first three years following promulgation of the proposed amendments to the EMACT standards.

The individual burdens are expressed under standardized headings believed to be consistent with the concept of burden under the Paperwork Reduction Act. Where appropriate, specific tasks and major assumptions have been identified. Responses to this information collection are mandatory.

The agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB Control Number.

6(a) Estimating Respondent Burden

The average annual burden to industry over the next three years from these recordkeeping and reporting requirements is estimated to be 8,500 hours. The average annual recordkeeping hours are 6,700 and the reporting requirement hours are 1,800, both of which are shown in Table 4 of Attachment 1. These hours are based on review of background documents and information gathered during site visits by the EPA in development of the proposed amendments to this NESHAP, Agency knowledge and experience with the NESHAP program, and related ICRs.

6(b) Estimating Respondent Costs

The information collection activities for sources subject to these requirements are presented in Tables 1 through 4 of Attachment 1. The total cost for each respondent activity includes labor costs, capital/startup costs, and operating and maintenance (O&M) costs.

(i) Estimating Labor Costs

This ICR uses the following labor rates:

Managerial	$145.26 ($69.17 + 110%)
Technical	$89.17 ($42.60 + 110%)
Clerical	$37.61 ($17.91 + 110%)

These rates are from the United States Department of Labor, Bureau of Labor Statistics, May 2016, "National Industry-Specific Occupational Employment and Wage Estimates, Sectors 31, 32, and 33 - Manufacturing." The rates are from column 8, mean hourly wage. The rates have been increased by 110 percent to account for the benefit packages available to those employed by private industry.

(ii) Estimating Capital/Start-up and Operation and Maintenance Costs

In addition to the labor costs mentioned above, industry costs associated with the information collection activities in the EMACT standards include capital/start-up costs and operation and maintenance costs associated with continuous monitoring. The capital/startup costs are one-time costs when a facility becomes subject to the regulation and include the installation of monitors. The annual operation and maintenance costs are the ongoing costs to maintain the monitors and complete performance evaluations, as well as other costs such as photocopying and postage.

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

Below are the estimated capital and startup costs and O&M costs for the respondents subject to the EMACT standards for the first three years after promulgation of the proposed amendments.

Capital/Startup and O&M Costs

(A) Unit Type	(B) Capital/Startup Costs for One Respondent	(C) Number of Respondents with Capital/Startup Costs	(D) Total Capital/ Startup Cost (B X C)	(E) Annual Cost (O&M and Capital) for One Respondent	(F) Number of Respondents[a]	(G) Total Annual Cost, (E X F)
Flare Monitors	$1,446,000	31	$44,826,000	$263,000	41	$10,783,000
PRD Monitor	$46,000	21	$966,000	$6,200	28	$173,600
Heat Exchangers - El Paso Method	$4,400	31	$136,400	$900	41	$36,900
TOTAL			$45,928,400			$10,993,500

a. Within a given year, there are a maximum of 31 respondents per information collection activity, however the values in column F reflect the sum of these respondents for years 2 and 3.

The total capital/startup costs for this ICR are $45.9 million; this is the total of column D.

The total annual costs for this ICR are $11.0 million; this is the total of column G. This includes O&M and annualized capital costs.

6(c) Estimating Agency Burden and Cost

The costs to the Agency are those costs associated with analysis of the reported information. The Agency's overall compliance and enforcement program includes activities such as the examination of records maintained by the respondents, periodic inspection of sources of emissions, and the publication and distribution of collected information.

The average annual Agency cost during the three years of the ICR is estimated to be $36,000.

This cost is based on the average hourly labor rates as follows:

Managerial $64.16 (GS-13, Step 5, $40.10+ 60%)
Technical $47.62 (GS-12, Step 1, $29.76+ 60%)
Clerical $25.76 (GS-6, Step 3, $16.10 + 60%)

These rates are from the Office of Personnel Management (OPM), 2016 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. Details on the line item estimates used to calculate these burdens are presented in Tables 5 through 8 of Attachment 2.

6(d) Estimating the Respondent Universe and Total Burden and Costs

The total number of respondents is also referred to as the respondent universe. Based on research conducted for the residual risk and technology reviews of the EMACT standards, 26 facilities are currently operating and subject to the standards. Additionally, five sources are expected to start-up over the next three years. As such, 31 ethylene production facilities will be subject to this standard. It was assumed that one-third of the facilities would begin complying in year 2 and the remaining two-thirds of the facilities would begin complying in year 3.

The total number of annual responses is calculated using the following table:

Total Annual Responses

(A) Information Collection Activity	(B) Number of Respondents	(C) Number of Responses	(D) Number of Existing Respondents That Keep Records But Do Not Submit Reports	(E) Total Annual Responses E=(BxC)+D
Notification of Compliance Status				
Flares	41	1	0	41
PRDs	28	1	0	28
Periodic Reports				
Flares	41	2	0	82
PRDs	28	2	0	56
Decoking Operations	35	2	0	70
Maintenance Vents	41	2	0	82
Bypass Lines	0	0	0	0
HEX El Paso Method	41	2	0	82
TOTAL				441

The number of total annual responses is 441.

6(e) Bottom Line Burden Hours and Cost Tables

(i) The Respondent Tally

The total annual labor hours for respondents are 25,500 at a cost of $2.2 million. Furthermore, the annual public reporting and recordkeeping burden for this collection of information is estimated to average 2,125 hours per respondent. Details regarding these estimates may be found in Tables 1 through 4 of Attachment 1.

The total annual capital/startup and O&M costs to the regulated entity are $13.2 million. The cost calculations are detailed in Section 6(b)(iii), Capital/Startup vs. Operation and Maintenance Costs.

(ii) The Agency Tally

The average annual burden over the first three years for the Agency is estimated to be 784 hours at a cost of $36,000. The Agency burden hours and costs are presented in Tables 5 through 8 of Attachment 2.

6(f) Reasons for change in burden

There is no change in the labor hours or cost in this ICR as it presents the burden based on the proposed amendments to the EMACT standards and is considered new burden.

6(g) Burden Statement

The annual public reporting and recordkeeping burden for this collection of information is estimated to be 2,125 hours per respondent. Burden means total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB Control Numbers for EPA regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

To comment on the agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, the EPA has established a public docket for this ICR

under Docket ID Number EPA-HQ-OAR-2017-0357. An electronic version of the public docket is available at http://www.regulations.gov/ which may be used to obtain a copy of the draft collection of information, submit or view public comments, access the index listing of the contents of the docket, and to access those documents in the public docket that are available electronically. When in the system, select “search,” then key in the docket ID number identified in this document. The documents are also available for public viewing at the Enforcement and Compliance Docket and Information Center in the EPA Docket Center (EPA/DC), EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1744, and the telephone number for the docket center is (202) 566-1927. Also, you can send comments to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, DC 20503, Attention: Desk Officer for EPA. Please include the EPA Docket ID Number EPA-HQ-OAR-2017-0357 and OMB Control Number 2060-0489 in any correspondence.

PART B OF THE SUPPORTING STATEMENT

This section is not applicable because statistical methods are not used in data collection associated with this regulation.

ATTACHMENT 1

TABLES 1, 2, 3, and 4

Tables 1 - 3: Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production RTR – Years 1-3

Table 4: Summary of Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production RTR

Table 1 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production 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	70	$0	1	70	31	2,170	217	109	2,496	$217,412	$0	0	a, b
B. Required Activities													c
1. Flare Monitors													d
a. Capital Cost	0	$1,446,000	1	0	0	0	0	0	0	$0	$0	0	
b. Annualized Cost	0	$263,000	1	0	0	0	0	0	0	$0	$0	0	
2. PRD Monitor													e
a. Capital Cost	0	$46,000	1	0	0	0	0	0	0	$0	$0	0	
b. Annualized Cost	0	$6,200	1	0	0	0	0	0	0	$0	$0	0	
3. HEX El Paso Method													
a. Capital Cost	0	$4,400	1	0	0	0	0	0	0	$0	$0	0	
b. Annualized Cost	0	$900	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													c
1. Notification of Compliance Status													
a. Flares	5	$0	1	5	0	0	0	0	0	$0	$0	0	
b. PRDs	15	$0	1	15	0	0	0	0	0	$0	$0	0	
2. Periodic Report													
a. Flares	5	$0	2	10	0	0	0	0	0	$0	$0	0	
b. PRDs	10	$0	2	20	0	0	0	0	0	$0	$0	0	
c. Decoking Operations	3	$0	2	6	0	0	0	0	0	$0	$0	0	
d. Maintenance Vents	4	$0	2	8	0	0	0	0	0	$0	$0	0	
e. Bypass Lines	4	$0	2	8	0	0	0	0	0	$0	$0	0	f
f. HEX El Paso Method	3	$0	2	6	0	0	0	0	0	$0	$0	0	
Reporting Subtotal						2,170	217	109	2,496	$217,412	$0	0	

Table 1 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production 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
4. Recordkeeping Requirements													c
A. Read Instructions	Inc. in 3.A												
B. Implement Activities	NA												
C. Develop Record System	NA												
D. Record information													
1. Daily Flame Impingement Inspection	0.083	$0	365	30	0	0	0	0	0	$0	$0	0	
2. Decoking Control Measures	2	$0	10	20	0	0	0	0	0	$0	$0	0	
3. Flares	0.4	$0	365	146	0	0	0	0	0	$0	$0	0	
4. PRDs	10	$0	1	10	0	0	0	0	0	$0	$0	0	
5. HEX El Paso Method	0	$0	1	0	0	0	0	0	0	$0	$0	0	g
6. Maintenance Vents	25	$0	1	25	0	0	0	0	0	$0	$0	0	
7. Bypass Lines	0	$0	1	0	0	0	0	0	0	$0	$0	0	
8. Flare Management Plan	75	$0	3	225	31	6,975	698	349	8,021	$698,825	$0	0	b
E. Personnel Training	20	$0	1	20	0	0	0	0	0	$0	$0	0	
F. Time for Audits	NA												
Recordkeeping Subtotal						6,975	698	349	8,021	$698,825	$0	0	
TOTAL						9,145	915	457	10,517	$916,237	$0	0	

	Total Hours	Labor	Non-Labor	Total
Summary of Respondent Burden	10,517	$916,237	$0	$916,237

Initial Capital and Startup	$217,412
Annualized Capital/Start-up and O & M	$0

Footnotes:

(a) There are 26 currently operating facilities, and 5 facilities under construction. We assumed each of the 5 new facilities would commence operations within three years after promulgation of the rule. As such, costs are estimated for 31 facilities.

(b) This is a one-time cost (e.g., to read rule or develop plan).

(c) Assumed facilities will read the rule and perform certain one-time activities (e.g., develop flare management plan) in year 1. Assumed that one-third of the facilities would begin complying in year 2 and the remaining two-thirds of the facilities in year 3.

(d) Includes costs for the following monitoring equipment: H2 analyzer, calorimeter, flare gas flow monitor, steam controls/flow monitor, and air controls/flow monitor.

(e) 21 of the 31 facilities have atmospheric PRDs.

(f) Assumed that bypass lines were not used during the 3-year period, so no bypass line periodic reports would be submitted.

(g) Assumed recordkeeping hours are comparable to previously required water methods, and assigned 0 additional hours to implement the El Paso Method.

Table 2 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production 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	70	$0	1	70	0	0	0	0	0	$0	$0	0	a, b
B. Required Activities													c
1. Flare Monitors													d
a. Capital Cost	0	$1,446,000	1	0	10	0	0	0	0	$0	$14,460,000	0	
b. Annualized Cost	0	$263,000	1	0	10	0	0	0	0	$0	$2,630,000	0	
2. PRD Monitor													e
a. Capital Cost	0	$46,000	1	0	7	0	0	0	0	$0	$322,000	0	
b. Annualized Cost	0	$6,200	1	0	7	0	0	0	0	$0	$43,400	0	
3. HEX El Paso Method													
a. Capital Cost	0	$4,400	1	0	10	0	0	0	0	$0	$44,000	0	
b. Annualized Cost	0	$900	1	0	10	0	0	0	0	$0	$9,000	0	
C. Create Information	Inc. in 3B												
D. Gather Information	Inc. in 3E												
E. Report Preparation													c
1. Notification of Compliance Status													
a. Flares	5	$0	1	5	10	50	5	3	58	$5,009	$0	10	
b. PRDs	15	$0	1	15	7	105	11	5	121	$10,520	$0	7	
2. Periodic Report													
a. Flares	5	$0	2	10	10	100	10	5	115	$10,019	$0	20	
b. PRDs	10	$0	2	20	7	140	14	7	161	$14,027	$0	14	
c. Decoking Operations	3	$0	2	6	9	54	5	3	62	$5,410	$0	18	
d. Maintenance Vents	4	$0	2	8	10	80	8	4	92	$8,015	$0	20	
e. Bypass Lines	4	$0	2	8	0	0	0	0	0	$0	$0	0	f
f. HEX El Paso Method	3	$0	2	6	10	60	6	3	69	$6,011	$0	20	
Reporting Subtotal						589	59	29	677	$59,011	$2,682,400	109	

Table 2 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production 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
4. Recordkeeping Requirements													c
A. Read Instructions	Inc. in 3.A												
B. Implement Activities	NA												
C. Develop Record System	NA												
D. Record information													
1. Daily Flame Impingement Inspection	0.083	$0	365	30	10	304	30	15	350	$30,474	$0	0	
2. Decoking Control Measures	2	$0	10	20	10	200	20	10	230	$20,038	$0	0	
3. Flares	0.4	$0	365	146	10	1,460	146	73	1,679	$146,277	$0	0	
4. PRDs	10	$0	1	10	7	70	7	4	81	$7,013	$0	0	
5. HEX El Paso Method	0	$0	1	0	10	0	0	0	0	$0	$0	0	g
6. Maintenance Vents	25	$0	1	25	10	250	25	13	288	$25,047	$0	0	
7. Bypass Lines	0	$0	1	0	0	0	0	0	0	$0	$0	0	
8. Flare Management Plan	75	$0	3	225	0	0	0	0	0	$0	$0	0	b
E. Personnel Training	20	$0	1	20	31	620	62	31	713	$62,118	$0	0	
F. Time for Audits	NA												
Recordkeeping Subtotal						2,904	290	145	3,340	$290,967	$0	0	
TOTAL						3,493	349	175	4,017	$349,978	$2,682,400	109	

	Total Hours	Labor	Non-Labor	Total
Summary of Respondent Burden	4,017	$349,978	$2,682,400	$3,032,378

Initial Capital and Startup	$14,826,000
Annualized Capital/Start-up and O & M	$2,682,400

Footnotes:

(a) There are 26 currently operating facilities, and 5 facilities under construction. We assumed each of the 5 new facilities would commence operations within three years after promulgation of the rule. As such, costs are estimated for 31 facilities.

(b) This is a one-time cost (e.g., to read rule or develop plan).

(c) Assumed facilities will read the rule and perform certain one-time activities (e.g., develop flare management plan) in year 1. Assumed that one-third of the facilities would begin complying in year 2 and the remaining two-thirds of the facilities in year 3.

(d) Includes costs for the following monitoring equipment: H2 analyzer, calorimeter, flare gas flow monitor, steam controls/flow monitor, and air controls/flow monitor.

(e) 21 of the 31 facilities have atmospheric PRDs.

(f) Assumed that bypass lines were not used during the 3-year period, so no bypass line periodic reports would be submitted.

(g) Assumed recordkeeping hours are comparable to previously required water methods, and assigned 0 additional hours to implement the El Paso Method.

Table 3 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production 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	70	$0	1	70	0	0	0	0	0	$0	$0	0	a, b
B. Required Activities													c
1. Flare Monitors													d
a. Capital Cost	0	$1,446,000	1	0	21	0	0	0	0	$0	$30,366,000	0	
b. Annualized Cost	0	$263,000	1	0	31	0	0	0	0	$0	$8,153,000	0	
2. PRD Monitor													e
a. Capital Cost	0	$46,000	1	0	14	0	0	0	0	$0	$644,000	0	
b. Annualized Cost	0	$6,200	1	0	21	0	0	0	0	$0	$130,200	0	
3. HEX El Paso Method													
a. Capital Cost	0	$4,400	1	0	21	0	0	0	0	$0	$92,400	0	
b. Annualized Cost	0	$900	1	0	31	0	0	0	0	$0	$27,900	0	
C. Create Information	Inc. in 3B												
D. Gather Information	Inc. in 3E												
E. Report Preparation													c
1. Notification of Compliance Status													
a. Flares	5	$0	1	5	31	155	16	8	178	$15,529	$0	31	
b. PRDs	15	$0	1	15	21	315	32	16	362	$31,560	$0	21	
2. Periodic Report													
a. Flares	5	$0	2	10	31	310	31	16	357	$31,059	$0	62	
b. PRDs	10	$0	2	20	21	420	42	21	483	$42,080	$0	42	
c. Decoking Operations	4	$0	2	8	26	208	21	10	239	$20,840	$0	52	
d. Maintenance Vents	4	$0	2	8	31	248	25	12	285	$24,847	$0	62	
e. Bypass Lines	4	$0	2	8	0	0	0	0	0	$0	$0	0	f
f. HEX El Paso Method	3	$0	2	6	31	186	19	9	214	$18,635	$0	62	
Reporting Subtotal						1,842	184	92	2,118	$184,550	$8,311,100	332	

Table 3 - Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production 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
4. Recordkeeping Requirements													c
A. Read Instructions	Inc. in 3.A												
B. Implement Activities	NA												
C. Develop Record System	NA												
D. Record information													
1. Daily Flame Impingement Inspection	0.083	$0	365	30	31	943	94	47	1,084	$94,471	$0	0	
2. Decoking Control Measures	2	$0	10	20	31	620	62	31	713	$62,118	$0	0	
3. Flares	0.4	$0	365	146	31	4,526	453	226	5,205	$453,460	$0	0	
4. PRDs	10	$0	1	10	21	210	21	11	242	$21,040	$0	0	
5. HEX El Paso Method	0	$0	1	0	31	0	0	0	0	$0	$0	0	g
6. Maintenance Vents	25	$0	1	25	31	775	78	39	891	$77,647	$0	0	
7. Bypass Lines	0	$0	1	0	0	0	0	0	0	$0	$0	0	
8. Flare Management Plan	75	$0	3	225	0	0	0	0	0	$0	$0	0	b
E. Personnel Training	20	$0	1	20	31	620	62	31	713	$62,118	$0	0	
F. Time for Audits	NA												
Recordkeeping Subtotal						7,694	769	385	8,848	$770,854	$0	0	
TOTAL						9,536	954	477	10,966	$955,404	$8,311,100	332	

Summary of Respondent Burden	Total Hours	Labor	Non-Labor	Total
	10,966	$955,404	$8,311,100	$9,266,504

Initial Capital and Startup	$31,102,400
Annualized Capital/Start-up and O & M	$8,311,100

Footnotes:

(a) There are 26 currently operating facilities, and 5 facilities under construction. We assumed each of the 5 new facilities would commence operations within three years after promulgation of the rule. As such, costs are estimated for 31 facilities.

(b) This is a one-time cost (e.g., to read rule or develop plan).

(c) Assumed facilities will read the rule and perform certain one-time activities (e.g., develop flare management plan) in year 1. Assumed that one-third of the facilities would begin complying in year 2 and the remaining two-thirds of the facilities in year 3.

(d) Includes costs for the following monitoring equipment: H2 analyzer, calorimeter, flare gas flow monitor, steam controls/flow monitor, and air controls/flow monitor.

(e) 21 of the 31 facilities have atmospheric PRDs.

(f) Assumed that bypass lines were not used during the 3-year period, so no bypass line periodic reports would be submitted.

(g) Assumed recordkeeping hours are comparable to previously required water methods, and assigned 0 additional hours to implement the El Paso Method.

Table 4 - Summary of Annual Respondent Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production RTR

Year	Technical Hours	Clerical Hours	Management Hours	Total Labor Hours	Labor Costs	Non-Labor (Annualized Capital/Startup and O&M) Costs	Total Costs
1	9,145	915	457	10,517	$916,237	$0	$916,237
2	3,493	349	175	4,017	$349,978	$2,682,400	$3,032,378
3	9,536	954	477	10,966	$955,404	$8,311,100	$9,266,504
Total	22,174	2,217	1,109	25,500	$2,221,619	$10,993,500	$13,215,119
Average	7,391	739	370	8,500	$740,540	$3,664,500	$4,405,040

Year	Number of Respondents	Number of Responses	Reporting Hours	Recordkeeping Hours	Total Hours	Hours per Response	Hours Per Respondent
1	31	0	2,496	8,021	10,517	--	2,629
2	31	109	677	3,340	4,017	37	1,004
3	31	332	2,118	8,848	10,966	33	2,742
Total	31	441	5,291	20,209	25,500	58	6,375
Average	31	147	1,764	6,736	8,500	58	2,125

ATTACHMENT 2

TABLES 5, 6, 7, and 8

Tables 5 - 7: Annual Agency Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production RTR - Year 1-3

Table 8: Summary of Annual Agency Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production RTR

Table 5 - Annual Agency Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production 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	11	70	770	39	77	886	$41,118	a
3. Required Activities								
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								
1. Review notification of compliance status								
a. Flares	0	5	0	0	0	0	$0	
b. PRDs	0	5	0	0	0	0	$0	
2. Review compliance reports								
a. Flares	0	2	0	0	0	0	$0	
b. PRDs	0	2	0	0	0	0	$0	
c. Decoking Operations	0	2	0	0	0	0	$0	
d. Maintenance Vents	0	2	0	0	0	0	$0	
e. HEX El Paso Method	0	2	0	0	0	0	$0	
3. Review flare management plan	31	5	155	8	16	178	$8,277	
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	
TOTAL			935	47	94	1075	$49,929	

Footnotes:

a Number of occurrences is the number of states and EPA Regions with affected sources (6 states + 5 EPA regions = 11 respondents).

Table 6 - Annual Agency Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production 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	70	0	0	0	0	$0	a
3. Required Activities								
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								
1. Review notification of compliance status								
a. Flares	10	5	50	3	5	58	$2,670	
b. PRDs	7	5	35	2	4	40	$1,869	
2. Review compliance reports								
a. Flares	20	2	40	2	4	46	$2,136	
b. PRDs	14	2	28	1	3	32	$1,495	
c. Decoking Operations	18	2	36	2	4	41	$1,922	
d. Maintenance Vents	20	2	40	2	4	46	$2,136	
e. HEX El Paso Method	20	2	40	2	4	46	$2,136	
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	
TOTAL			279	14	28	321	$14,899	

Footnotes:

a Number of occurrences is the number of states and EPA Regions with affected sources (6 states + 5 EPA regions = 11 respondents).

Table 7 - Annual Agency Burden and Cost of Recordkeeping and Reporting Requirements for the Ethylene Production 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	70	0	0	0	0	$0	a
3. Required Activities								
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								
1. Review notification of compliance status								
a. Flares	31	5	155	8	16	178	$8,277	
b. PRDs	21	5	105	5	11	121	$5,607	
2. Review compliance reports								
a. Flares	62	2	124	6	12	143	$6,622	
b. PRDs	42	2	84	4	8	97	$4,486	
c. Decoking Operations	52	2	104	5	10	120	$5,554	
d. Maintenance Vents	62	2	124	6	12	143	$6,622	
e. HEX El Paso Method	62	2	124	6	12	143	$6,622	
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	
TOTAL			830	42	83	955	$44,322	

Footnotes:

a Number of occurrences is the number of states and EPA Regions with affected sources (6 states + 5 EPA regions = 11 respondents).

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

Year	Technical Hours	Management Hours	Clerical Hours	Total Hours	Labor Costs	Non-Labor Costs	Total Costs
1	935	47	94	1,075	$49,929	$0	$49,929
2	279	14	28	321	$14,899	$0	$14,899
3	830	42	83	955	$44,322	$0	$44,322
Total	2,044	102	204	2,351	$109,150	$0	$109,150
Average	681	34	68	784	$36,383	$0	$36,383