

**SUPPORTING STATEMENT  
ENVIRONMENTAL PROTECTION AGENCY**

**NESHAP for Petroleum Refineries (40 CFR Part 63, Subpart CC) (Renewal)**

**1. Identification of the Information Collection**

**1(a) Title of the Information Collection**

NESHAP for Petroleum Refineries (40 CFR Part 63, Subpart CC) (Renewal),  
EPA ICR Number 1692.09, OMB Control Number 2060-0340.

**1(b) Short Characterization/Abstract**

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Petroleum Refineries (40 CFR Part 63, Subpart CC) were proposed on July 15, 1994, promulgated on August 18, 1995, and most-recently amended on October 28, 2009, June 20, 2013 and September 29, 2015 (the latter date is signed, but not yet published in the [Federal Register](#)). These regulations apply to the following existing and new petroleum refining process units and emission points located at refineries that are major sources of hazardous air pollutants (HAP) emissions, including: miscellaneous process vents, storage vessels, wastewater streams, equipment leaks, gasoline loading racks, and marine vessel loading operations. These regulations also apply to storage vessels and equipment leaks associated with bulk gasoline terminals or pipeline breakout stations that are related to an affected petroleum refinery. New facilities include those that commenced construction or reconstruction after the date of proposal. This information is being collected to assure compliance with 40 CFR Part 63, Subpart CC existing requirements. It does not include the burden for new requirements established under the recent Subpart CC amendment resulting from the Agency Risk and Technology Review (RTR), which is being addressed under ICR 1692.08.

The 2013 rule amendment added provisions to revise the definition of “heat exchange system”, clarifications and revisions to the sampling requirements for once-through heat exchange systems, an alternative monitoring frequency for heat exchange systems, clarification to the water flow rate determination method, clarifications to the applicability dates for heat exchange systems at new sources, and clarification on how delay of repair emissions are to be calculated. The 2013 rule amendment provisions do not impact the estimated burden in this ICR.

In general, all NESHAP standards require initial notification reports, performance tests, and periodic reports by the owners/operators of the affected facilities. They are also required to maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility, or any period during which the monitoring system is inoperative. These notifications, reports, and records are essential in determining compliance, and are required of all affected facilities subject to NESHAP.

Any owner/operator subject to the provisions of this part shall maintain a file of these measurements, and retain the file for at least five years following the date of such measurements,

maintenance reports, and records. All reports are sent to the delegated state or local authority. In the event that there is no such delegated authority, the reports are sent directly to the U.S. Environmental Protection Agency (EPA) regional office.

There are approximately 142 petroleum refineries in the United States, which are owned and operated by the petroleum refinery industry. None of these facilities in the United States are owned by either state, local, tribal or the Federal government; all are privately, owned for-profit businesses. The “burden” to the “Affected Public” may be found below in Table 1: Annual Respondent Burden and Cost – NESHAP for Petroleum Refineries (40 CFR Part 63, Subpart CC) (Renewal). The “burden” to the Federal Government is attributed entirely to work performed by either Federal employees or government contractors and can be found below in Table 2: Average Annual EPA Burden and Cost – NESHAP for Petroleum Refineries (40 CFR Part 63, Subpart CC) (Renewal).

Based on our consultations with industry representatives, there is an average of: 9 storage vessels; 11 process units subject to leak detection and repair (LDAR) provisions; 9 process vents requiring monitoring, recordkeeping, and reporting; and 3 heat exchange systems, which are subject to a monthly sampling program for volatile organic compound (VOC) leak detection and repair at each source. Each plant site has only one respondent (i.e., the owner/operator of the plant site).

Approximately 142 sources are currently subject to these regulations, and it is estimated that no additional sources will become subject to these same regulations in the next three years. It is assumed that, on average, a refinery will reconstruct 10 percent of the existing storage vessels, process units subject to equipment leak provisions, process vents, and heat exchange systems subject to a monthly sampling program. The estimated number of sources is based on the Agency’s industry analysis conducted for the recent RTR rule amendment, which is to be documented in EPA ICR Number 1692.08. The Agency determined the number of sources by reviewing the EPA’s Petroleum Refinery Database as well as the Agency’s internal data sources. The Petroleum Refinery Database also provided information on process unit counts and equipment counts (*e.g.*, the number of delayed cokers and number of relief valves).

The Office of Management and Budget (OMB) approved the currently active ICR without any “Terms of Clearance”.

## **2. Need for and Use of the Collection**

### **2(a) Need/Authority for the Collection**

The EPA is charged under Section 112 of the Clean Air Act, as amended, to establish standards of performance for each category or subcategory of major sources and area sources of hazardous air pollutants. These standards are applicable to new or existing sources of hazardous air pollutants and shall require the maximum degree of emission reduction. In addition, 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 petroleum refineries either cause or contribute to air pollution that may reasonably be anticipated to endanger public health and/or welfare. Therefore, the NESHAP were promulgated for this source category at 40 CFR Part 63, Subpart CC.

### **2(b) Practical Utility/Users of the Data**

The recordkeeping and reporting requirements in these standards 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.

Performance tests are required in order to determine an affected facility's initial capability to comply with the emission standard. Continuous emission monitors are used to ensure compliance with the standard at all times. During the performance test a record of the operating parameters under which compliance was achieved may be recorded and used to determine compliance in place of a continuous emission monitor.

The notifications required in the standards are used to inform the Agency or delegated authority when a source becomes subject to the requirements of the regulations. The reviewing authority may then inspect the source to check if the pollution control devices are properly installed and operated, that leaks are being detected and repaired, and that the standards are being met. The performance test may also be observed.

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

### **3. Non-duplication, Consultations, and Other Collection Criteria**

The requested recordkeeping and reporting are required under 40 CFR Part 63, Subpart CC.

#### **3(a) Non-duplication**

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, duplication does not exist.

### **3(b) Public Notice Required Prior to ICR Submission to OMB**

An announcement of a public comment period for the renewal of this ICR was published in the Federal Register (80 FR 32116) on June 5, 2015. No comments were received on the burden published in the Federal Register.

### **3(c) Consultations**

The Agency has consulted industry experts and internal data sources to project the number of affected facilities and industry growth over the next three years. The primary source of information as reported by industry, in compliance with the recordkeeping and reporting provisions in the standard, is the Integrated Compliance Information System (ICIS). ICIS is EPA's database for the collection, maintenance, and retrieval of compliance data for industrial and government-owned facilities. The growth rate for the industry is based on our consultations with the Agency's internal industry experts.

Industry trade associations and other interested parties were provided an opportunity to comment on the burden associated with these standards as they were being developed and the standards have been reviewed previously to determine the minimum information needed for compliance purposes. In developing this ICR, we contacted ExxonMobil, at (972) 444-1000; and Phillips 66, at (281) 293-6600.

It is our policy to respond after a thorough review of comments received since the last ICR renewal as well as those submitted in response to the first Federal Register notice. In this case, no comments were received.

### **3(d) Effects of Less Frequent Collection**

Less-frequent information collection would decrease the margin of assurance that facilities are continuing to meet the standards. Requirements for information gathering and recordkeeping are useful techniques to ensure that good operation and maintenance practices are applied and emission limitations are met. If the information required by these standards was collected less-frequently, the proper operation and maintenance of control equipment and the possibility of detecting violations would be less likely.

### **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.

These standards require the respondents to maintain all records, including reports and notifications for at least five years. This is consistent with the General Provisions as applied to the standards. EPA believes that the five-year records retention requirement is consistent with the Part 70 permit program and the five-year statute of limitations on which the permit program is based. The retention of records for five years allows EPA to establish the compliance history of a source, any pattern of non-compliance and to determine the appropriate level of enforcement action. EPA has found that the most flagrant violators have violations extending beyond five years. In addition, EPA would be prevented from pursuing the violators due to either the destruction or nonexistence of essential records.

### **3(f) Confidentiality**

Any information submitted to the Agency for which a claim of confidentiality is made will be safeguarded according to the Agency policies set forth in Title 40, chapter 1, part 2, subpart B - Confidentiality of Business Information (CBI) (see 40 CFR 2; 41 FR 36902, September 1, 1976; amended by 43 FR 40000, September 8, 1978; 43 FR 42251, September 20, 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/SIC Codes**

The respondents to the recordkeeping and reporting requirements are petroleum refineries that are major sources of HAP emissions. The United States Standard Industrial Classification (SIC) code for the respondents affected by the standards is SIC 2911, which corresponds to the North American Industry Classification System (NAICS) code 324110 for petroleum refineries.

### **4(b) Information Requested**

#### **(i) Data Items**

In this ICR, all the data that is recorded or reported is required by the NESHAP for Petroleum Refineries (40 CFR Part 63, Subpart CC) (Renewal).

A source must make the following reports:

<b>Notifications</b>	
Notification of compliance, status report, periodic report for emissions averaging (optional)	63.653(a) & (c)
Notification of intent to construct/reconstruct	63.9(b)(4),
Notification of date of construction/reconstruction	63.9(b)(4),
Notification of date of actual startup	63.9(b)(4),
Application for approval of construction/reconstruction	63.5(d), 63.9(b)(5), 63.566(b), 63.640(k) (2)(i),
Notification of intent to construct/reconstruct a control device	63.5(b)(6), 63.5(d)(1)
Notification of compliance status	63.182(c), 63.428(c) (2), 63.640(k)(2)(ii), 63.655(f)
Notification of performance test and site-specific test plan	63.567(d), (f), 63.642(d)(2),
Results of performance test	63.567(d),
Request for extension of compliance	63.9(c)
Notification of special compliance requirements	63.9(d)
Engineering report of vapor collection system for marine tank vessel loading operations	63.567(f), 63.655(c)
Notifications for wastewater streams	61.357, 63.655(a)
Notifications of inspections of storage vessels	63.655(h)(2)
Notification of determination of applicability to flexible process units	63.655(h)(6)(i)
Notification of determination of applicability to variable storage vessel	63.655(h)(6)(ii)
Notification of determination of applicability to variable distillation units	63.655(h)(6)(iii)

<b>Reports</b>	
Submission of implementation plan for approval (optional)	63.652(b), 63.653(c) & (d)
Periodic report for emissions averaging (optional)	63.652(l)
Reports for wastewater streams	61.357, 63.655(a)
Reports for gasoline loading racks	63.428(b), (c), (g) (1), and (h)(1)

<b>Reports</b>	
	through (h)(3), 63.655(b)
Annual reports of excess emissions and continuous monitoring system performance, or summary report, for marine tank vessel loading operations	63.567(e), 63.655(c)
Reports for equipment leaks	60.487 or 63.182, 63.655(d)
Semiannual (“Periodic”) and immediate reports, including startup, shutdown, and malfunction reports	63.10(d)(5), 63.655(h)(1), 63.655(g)

A source must keep the following records:

<b>Recordkeeping</b>	
Records for implementation plan (optional)	63.653(a), (b), & (d)
Records for wastewater streams	61.356, 61.357, 63.655(a)
Records for gasoline loading racks	63.428(b)-(c),(g)(1), (h)(1)-(h)(3),(k) 63.655(b)
Records for marine tank vessel loading operations	63.567(a), 63.567(c)-(k), 63.655(c)
Records for equipment leaks	60.486 or 63.181, 63.655(d)
Records for storage vessels	63.123, 63.655(i)(1)
Records of performance test results and test reports	63.655(i)(2)
Records for monitoring of miscellaneous process vents	63.655(i)(3)
Records of heat exchange system sampling results, leak detection, and repair	63.655(i)(4)
Records of startup, shutdown, and malfunction of processes	63.10(b)(2)(i)
Records of malfunction of control equipment	63.10(b)(2)(ii)
Records of corrective actions taken during periods of startup shutdown, and malfunction	63.10(b)(2)(iv)
Records to demonstrate conformance with startup, shutdown, and malfunction plan.	63.10(b)(2)(v)

<b>Recordkeeping</b>	
Records of calibration checks, adjustments and maintenance on CMS	63.10(b)(x), (xi)

### 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.

### **(ii) Respondent Activities**

<b>Respondent Activities</b>
Familiarization with the regulatory requirements.
Install, calibrate, maintain, and operate continuous temperature monitors or other monitoring devices for HAP control devices.
Perform initial performance test and repeat performance tests if necessary.
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.
Train personnel to be able to respond to a collection of information.
Transmit, or otherwise disclose the information.

## **5. The Information Collected: Agency Activities, Collection Methodology, and Information Management**

### **5(a) Agency Activities**

EPA conducts the following activities in connection with the acquisition, analysis,

storage, and distribution of the required information:

<b>Agency Activities</b>
Review notifications and reports, including performance test reports, and excess emissions reports, required to be submitted by industry.
Audit facility records.
Input, analyze, and maintain data in the Enforcement and Compliance History Online (ECHO) and ICIS.

### **5(b) Collection Methodology and Management**

Following notification of startup, the reviewing authority could inspect the source to determine whether the pollution control devices are properly installed and operated. Performance test reports are used by the Agency to discern a source's initial capability to comply with the emission standard and to note the operating conditions under which compliance was achieved. 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**

A majority of the affected facilities are large entities (e.g., large businesses). However, the impact on small businesses was taken into consideration during the development of the regulation. Due to technical considerations, involving the process operations and the types of control equipment employed, the recordkeeping and reporting requirements are the same for both small and large entities. The Agency considers the requirements the minimum needed to ensure compliance and, therefore, cannot reduce them further for small entities. To the extent that larger businesses can use economies of scale to reduce their burden, the overall burden will be reduced.

### **5(d) Collection Schedule**

The specific frequency for each information collection activity within this request is shown below in Table 1: Annual Respondent Burden and Cost – NESHAP for Petroleum Refineries (40 CFR Part 63, Subpart CC) (Renewal).

## **6. Estimating the Burden and Cost of the Collection**

Table 1 documents the computation of individual burdens for the recordkeeping and reporting requirements applicable to the industry for the subpart included in this ICR. 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 528,000 hours (Total Labor Hours from Table 1 below). These hours are based on Agency studies and background documents from the development of the regulation, Agency knowledge and experience with the NESHAP program, the previously approved ICR, and any comments received.

### **6(b) Estimating Respondent Costs**

#### **(i) Estimating Labor Costs**

This ICR uses the following labor rates:

Managerial	\$139.63 (\$66.49+ 110%)
Technical	\$112.01 (\$53.34 + 110%)
Installation, maintenance, and repair	\$64.74 (\$30.83 + 110%)
Plant operator	\$66.49 (\$31.66 + 110%)
Clerical	\$43.47 (\$20.70 + 110%)

These rates are from the United States Department of Labor, Bureau of Labor Statistics, “May 2014 National Industry-Specific Occupational Employment Wage Estimates” for NAICS code 324100 - Petroleum and Coal Products Manufacturing<sup>1</sup>, for the following occupation codes: Managerial: 11-1021; Technical: 17-0000; Installation, maintenance, and repair: 49-0000; Plant operator: 51-8000; Clerical: 43-0000. The rates have been increased by 110 percent to account for the benefit packages available to those employed by private industry.

#### **(ii) Estimating Capital/Startup and Operation and Maintenance Costs**

<sup>1</sup> [http://www.bls.gov/oes/current/naics4\\_324100.htm](http://www.bls.gov/oes/current/naics4_324100.htm)

The type of industry costs associated with the information collection activities in the subject standard are both labor costs which are addressed elsewhere in this ICR and the costs associated with purchasing equipment. The leak detection and repair program for heat exchange systems will require the purchase and installation of an air stripping column apparatus for sample collection and an FID analyzer to determine the concentration of air stripped compounds although samples may also be collected in canisters for shipment to analytical laboratories. The air-stripping column is portable and may be used for multiple heat exchange systems. The capital/startup costs are one-time costs when a facility becomes subject to the regulation. The annual operation and maintenance costs are the ongoing costs to maintain the monitor and other costs such as photocopying and postage.

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

<b>Capital/Startup vs. Operation and Maintenance (O&amp;M) Costs</b>						
(A) Continuous Monitoring Device	(B) Capital/Startup Cost for One Respondent	(C) Number of New Respondents	(D) Total Capital/Startup Cost, (B X C)	(E) Annual O&M Costs for One Respondent	(F) Number of Respondents with O&M	(G) Total O&M, (E X F)
Air stripping column and FID analyzer	\$116,870	0	\$0	\$1,008.09 <sup>a</sup>	142	\$143,000 <sup>b</sup>

<sup>a</sup> Assumes one mid-point calibration of sampling equipment prior to each sampling event, 0.25 technical labor hours per sampling event, a technical labor rate of \$112.01 per hour, 12 sampling events per heat exchange system per year, and 3 heat exchange systems per refinery.

<sup>b</sup> Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.

The total capital/startup costs for this ICR are \$0. This is the total of column D in the above table.

The total operation and maintenance (O&M) costs for this ICR are \$143,000. This is the total of column G.

The average annual cost for capital/startup and operation and maintenance costs to industry over the next three years of the ICR is estimated to be \$143,000. These are the recordkeeping costs.

### 6(c) Estimating Agency Burden and Cost

The only costs to the Agency are those costs associated with analysis of the reported information. EPA'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 both the publication and distribution of collected information.

The average annual Agency cost during the three years of the ICR is estimated to be \$291,000.

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

Managerial	\$62.90 (GS-13, Step 5, \$39.31 + 60%)
Technical	\$46.67 (GS-12, Step 1, \$29.17 + 60%)
Clerical	\$25.25 (GS-6, Step 3, \$15.78 + 60%)

These rates are from the Office of Personnel Management (OPM), 2014 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 upon which this estimate is based appear below in Table 2: Average Annual EPA Burden and Cost – NESHAP for Petroleum Refineries (40 CFR Part 63, Subpart CC) (Renewal).

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

Based on our research for this ICR, on average over the next three years, approximately 142 existing respondents will be subject to the standard. It is estimated that no additional respondents per year will become subject. The overall average number of respondents, as shown in the table below, is 142 per year.

The number of respondents is calculated using the following table that addresses the three years covered by this ICR:

Number of Respondents					
	Respondents That Submit Reports		Respondents That Do Not Submit Any Reports		
Year	(A) Number of New Respondents <sup>1</sup>	(B) Number of Existing Respondents	(C) Number of Existing Respondents that keep records but do not submit reports	(D) Number of Existing Respondents That Are Also New Respondents	(E) Number of Respondents (E=A+B+C-D)
1	14.2	142	0	14.2	142
2	14.2	142	0	14.2	142
3	14.2	142	0	14.2	142
Average	14.2	142	0	14.2	142

<sup>1</sup> New respondents include sources with constructed, reconstructed and modified affected facilities. In this standard existing respondents submit initial notifications. It is assumed that, on average, a refinery will reconstruct 10 percent of the existing storage vessels, process units subject to equipment leak provisions, process vents, and heat exchange systems.

Column D is subtracted to avoid double-counting respondents. As shown above, the

average Number of Respondents over the three year period of this ICR is 142.

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

<b>Total Annual Responses</b>				
(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
Initial Notifications <sup>a</sup> :				
Notification of reconstruction process vents <sup>b</sup>	142	0.4	0	56.8
Notification of compliance status – storage vessels	142	0.9	0	127.8
Notification of compliance status – equipment leaks	142	1.1	0	156.2
Notification of compliance status – process vents	142	0.9	0	127.8
Notification of compliance status – heat exchange systems	142	0.3	0	42.6
Notification of performance test – process vent control devices <sup>b</sup>	142	0.4	0	56.8
Notification of storage vessel inspections	142	0.9	0	127.8
Periodic Reports:				
Startup, shutdown, malfunction reports	142	0	0	0
Semiannual parameter exceedance reports	142	2	0	284
Annual tank inspection failure reports	142	1	0	142
Semiannual compliance – LDAR reports	142	2	0	284
Semiannual compliance – heat exchange system reports	142	2	0	142
<b>TOTAL</b>				<b>1,547.8</b>

<sup>a</sup> We assume that all existing respondents have complied with initial monitoring, recordkeeping, and reporting requirements for existing units, including initial notifications; design analysis and establishment of operating parameters for storage vessels; LDAR initial requirements; initial performance testing for process vents routed to a control device; heat exchanger requirements; and development of startup and malfunction plans and record systems for each unit. Respondents having reconstructed units, however, must comply with initial requirements. We estimate that existing refineries will reconstruct 10 percent of their existing units (i.e., 0.9 storage vessels, 1.1 process units, 0.9 process vents, and 0.3 heat exchange systems per refinery).

<sup>b</sup>We assume that 4 process vents per refinery are routed to control devices, and of which existing refineries will reconstruct 10 percent. Also, we assume that 50 percent of respondents will repeat performance tests.

The number of Total Annual Responses is 1,548 (rounded).

The total annual labor costs are \$54,700,000 (rounded). Details regarding these estimates may be found below in Table 1: Annual Respondent Burden and Cost – NESHAP for Petroleum Refineries (40 CFR Part 63, Subpart CC) (Renewal).

### **6(e) Bottom Line Burden Hours and Cost Tables**

The detailed bottom line burden hours and cost calculations for the respondents and the Agency are shown in Tables 1 and 2 below, respectively, and summarized below.

#### **(i) Respondent Tally**

The total annual labor hours are 528,000 hours. Details regarding these estimates may be found below in Table 1: Annual Respondent Burden and Cost – NESHAP for Petroleum Refineries (40 CFR Part 63, Subpart CC) (Renewal).

We assume that burdens for managerial tasks take 5% of the time required for technical tasks because the typical tasks for managers are to review and approve reports. Clerical burdens are assumed to take 10% of the time required for technical tasks because the typical duties of clerical staff are to proofread the reports, make copies and maintain records.

Furthermore, the annual public reporting and recordkeeping burden for this collection of information is estimated to average 341 hours per response.

The total annual capital/startup and O&M costs to the regulated entity are \$143,000. The cost calculations are detailed in Section 6(b)(iii), Capital/Startup vs. Operation and Maintenance (O&M) Costs.

#### **(ii) The Agency Tally**

The average annual Agency burden and cost over next three years is estimated to be 6,400 labor hours at a cost of \$291,000. See below in Table 2: Average Annual EPA Burden and Cost – NESHAP for Petroleum Refineries (40 CFR Part 63, Subpart CC) (Renewal).

We assume that burdens for managerial tasks take 5% of the time required for technical tasks because the typical tasks for managers are to review and approve reports. Clerical burdens are assumed to take 10% of the time required for technical tasks because the typical duties of clerical staff are to proofread the reports, make copies and maintain records.

### **6(f) Reasons for Change in Burden**

There is a decrease in respondent labor hours and the total O&M costs from the most recently approved ICR. The decrease in burden is due to adjusting the number of respondents from 148 to 142. The updated number of respondents is based on the Agency's industry analysis conducted for the recent RTR rule amendment, documented in EPA ICR Number 1692.08. This estimate is based on information from EPA's Petroleum Refinery Database (contains data provided by each individual refinery in response to an EPA survey of the petroleum refinery industry in 2011) and the Agency's internal data sources. However, there is a small adjustment increase in the number of responses due to a correction. The previous ICR did not account for semiannual heat exchanger system reports in calculating the number of responses. This ICR renewal includes this item to be consistent with the Table 1 and Table 2 burden calculations.

### **6(g) Burden Statement**

The annual public reporting and recordkeeping burden for this collection of information is estimated to average 341 hours per response. "Burden" means the 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 valid OMB Control Number. The OMB Control Numbers for EPA regulations are listed at 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, EPA has established a public docket for this ICR under Docket ID Number EPA-HQ-OECA-2011-0234. 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), WJC 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) 566-1752. 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-OECA-2011-0234 and OMB Control Number 2060-0340 in any

correspondence.

**Part B of the Supporting Statement**

This part is not applicable because no statistical methods were used in collecting this information.







Burden item	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
	Person-hours per occurrence	No. of occurrence per respondent per year	Person-hours per respondent per year (C=AxB)	Respondent per year <sup>a</sup>	Technical person-hours per year (E=CxD)	Installation, maintenance, and repair person-hours per year (F=CxD)	Plant operator person-hours per year (G=CxD)	Management person-hours per year (Ex0.05)	Clerical person hours per year (Ex0.1)	Cost <sup>b</sup> \$
A. Read and understand rule requirements	See 4A									
B. Plan activities <sup>d,e</sup>	See 4A									
C. Implement activities <sup>d,e</sup>	See 4B									
D. Develop record system <sup>s</sup>										
<u>Initial:</u>										
i. Storage vessels	2	0.9	1.8	142	255.6	N/A	N/A	12.78	25.56	\$31,525.32
ii. Process units – LDAR	75	1.1	82.5	142	11,715	N/A	N/A	585.75	1171.5	\$1,444,910.53
iii. Process vents	2	0.9	1.8	142	255.6	N/A	N/A	12.78	25.56	\$31,525.32
<u>Periodic:</u>										
i. Storage vessels	2	9	18	142	2556	N/A	N/A	127.8	255.6	\$315,253.21
ii. Process units – LDAR	75	11	825	142	117,150	N/A	N/A	5857.5	11715	\$14,449,105.28
iii. Process vents	2	9	18	142	2556	N/A	N/A	127.8	255.6	\$315,253.21
iv. Heat exchange systems <sup>t</sup>										
Technical	12	12	144	142	20,448	N/A	N/A	N/A	N/A	\$2,290,380.48
Plant operator	12	12	144	142	N/A	N/A	20448	N/A	N/A	\$1,359,587.52
E. Time to enter and transmit information										
<u>Initial:</u>										
i. Storage vessels	6	0.9	5.4	142	766.8	N/A	N/A	38.34	76.68	\$94,575.96
ii. Process units – LDAR	99	1.1	108.9	142	15,463.8	N/A	N/A	773.19	1546.38	\$1,907,281.90
iii. Process vents	12	0.4	4.8	142	681.6	N/A	N/A	34.08	68.16	\$84,067.52
<u>Periodic:</u> <sup>u</sup>										
i. Storage vessels	3.5	9	31.5	142	4473	N/A	N/A	223.65	447.3	\$551,693.11

Burden item	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
	Person-hours per occurrence	No. of occurrence per respondent per year	Person-hours per respondent per year (C=AxB)	Respondent per year <sup>a</sup>	Technical person-hours per year (E=CxD)	Installation, maintenance, and repair person-hours per year (F=CxD)	Plant operator person-hours per year (G=CxD)	Management person-hours per year (Ex0.05)	Clerical person hours per year (Ex0.1)	Cost <sup>b</sup> \$
ii. Process units – LDAR	99	11	1089	142	154,638	N/A	N/A	7731.9	15463.8	\$19,072,818.96
iii. Process vents	29	4	116	142	16,472	N/A	N/A	823.6	1647.2	\$2,031,631.77
iv. Heat exchange systems	1	3	3	142	426	N/A	N/A	21.3	42.6	\$52,542.20
F. Time to train personnel <sup>v</sup>										
<u>Initial:</u>										
i. Storage vessels	1	0.9	0.9	142	127.8	N/A	N/A	6.39	12.78	\$15,762.66
ii. Process units – LDAR	1	1.1	1.1	142	156.2	N/A	N/A	7.81	15.62	\$19,265.47
iii. Process vents	1	0.4	0.4	142	56.8	N/A	N/A	2.84	5.68	\$7,005.63
<u>Periodic:</u>										
i. Storage vessels	N/A									
ii. Process units – LDAR	0.5	11	5.5	142	781	N/A	N/A	39.05	78.1	\$96,327.37
iii. Process vents	1	4	4	142	568	N/A	N/A	28.4	56.8	\$70,056.27
iv. Heat exchange systems <sup>w</sup>	2	10	20	142	2,840	N/A	N/A	142	284	\$350,281.34
<b>Recordkeeping subtotal</b>								<b>422,626</b>		<b>\$44,590,851</b>
<b>TOTAL LABOR BURDEN AND COST (Rounded)*</b>								<b>528,000</b>		<b>\$54,700,000</b>
Annualized cost of capital <sup>y</sup>										\$0
Operation and maintenance (O&M) <sup>x,z</sup>										\$143,000
<b>TOTAL ANNUAL COST (Labor, Annualized Capital, O&amp;M) x</b>										<b>\$54,800,000</b>

**Assumptions:**

a. We estimate there are 142 existing petroleum refineries in the U.S. subject to NESHAP subpart CC, based on recent Agency data gathered through an ICR collection request under Section 114 of the CAA. We assume that no new refineries will become subject to this regulation. Furthermore, we estimate that a refinery has the following affected units: 9 storage vessels; 11 process units subject to LDAR provisions; 9 process vents requiring monitoring, recordkeeping,

and reporting; and 3 heat exchange systems subject to a monthly sampling program for VOC leak detection and repair, as well as recordkeeping and reporting requirements to ensure compliance with the program.

b. This ICR uses the following labor rates: \$112.01 per hour for technical labor; \$64.74 per hour for installation, maintenance, and repair; \$66.49 per hour for plant operators; \$139.63 per hour for executive, administrative, and managerial labor; and \$43.47 per hour for clerical labor. These rates are from the United States Department of Labor, Bureau of Labor Statistics, "May 2014 National Industry-Specific Occupational Employment Wage Estimates" for NAICS code 324100 - Petroleum and Coal Products Manufacturing. The rates have been increased by 110 percent to account for the benefit packages available to those employed by private industry.

c. The labor estimates are based on an EPA Maximum Achievable Control Technology (MACT) floor cost analysis, which estimates the planning burden for a single heat exchange system to be 32 hours for technical labor and 2 labor hours for management.

d. We assume that initial notifications and periodic reporting requirements for existing sources are accounted for in other existing NSPS and NESHAP regulations for equipment leaks, wastewater, storage tanks, and heat exchangers. This ICR only addresses the additional industry burden associated with rule requirements for the compliance reports.

e. We assume that all existing respondents have complied with initial monitoring, recordkeeping, and reporting requirements for existing units, including initial notifications; design analysis and establishment of operating parameters for storage vessels; LDAR initial requirements; initial performance testing for process vents routed to a control device; heat exchanger requirements; and development of startup and malfunction plans and record systems for each unit. Respondents having reconstructed units, however, must comply with initial requirements. We estimate that existing refineries will reconstruct 10 percent of their existing units (i.e., 0.9 storage vessels, 1.1 process units, 0.9 process vents, and 0.3 heat exchange systems per refinery).

f. We assume that 4 process vents per refinery are routed to control devices, and of which existing refineries will reconstruct 10 percent. Also, we assume that 50 percent of respondents will repeat performance tests.

g. We assume all heat exchange systems at existing refineries are in compliance with the heat exchange system monitoring requirements promulgated in the 2009 rule amendment, but would need to meet the periodic requirements. We estimate the labor burden for setup of portable air stripping column and sampling/analysis for one heat exchange system to be 1 hour for technical labor and 3 labor hours for an operator. We assume there are 3 heat exchange systems per refinery, and that the event occurs 12 times per system per year, for a total of 36 occurrences per refinery per year.

h. We assume 2 events per year at each refinery, and estimate the labor burden for additional sampling and analysis triggered by leak monitoring to be 1 hour for technical labor and 3 labor hours for an operator.

i. We assume 2 events per year at each refinery, and estimate the labor burden to be 40 hours per repair.

j. New and existing refineries must submit notifications of compliance status for new or reconstructed units affected by the standard.

k. The rule requires that sources meet specific periodic requirements including: monitoring of storage vessels annually, LDAR monitoring of process units daily, monthly monitoring of process vents, recording of process parameters and monitoring results, and submittal of periodic semiannual compliance reports addressing each affected facility and performance test result.

l. Notifications related to construction/reconstruction and to periodic reporting for existing sources are accounted for in other existing NSPS and NESHAP regulations for equipment leaks, wastewater, storage tanks, and heat exchangers.

m. We assume 18 labor hours per occurrence, and that there will be 2 occurrences per refinery per year.

n. We assume 1 labor hour per occurrence, and that there will be 18 occurrences per respondent per year (9 storage vessels/refinery x 2 occurrences/storage vessel/year).

- o. We assume 3 labor hours per occurrence, and that there will be 2 occurrences per refinery per year.
- p. We assume 3 labor hours per occurrence, and that there will be 22 occurrences per respondent per year (11 process units/refinery x 2 occurrences/process unit/year).
- q. We assume 1.5 labor hours per occurrence, and that there will be 8 occurrences per respondent per year (4 process vents routed to control devices/refinery x 2 occurrences/process vent/year).
- r. We assume 2 labor hours per occurrence, and that there will be 6 occurrences per respondent per year (3 heat exchange systems/refinery x 2 occurrences/heat exchange system/year).
- s. We assume sources already have record systems in place to monitor existing operations. The burden shown below reflects reconstructed units affected by the standard.
- t. We assume 12 occurrences per respondent per year and 24 labor hours per occurrence for recordkeeping requirements associated with heat exchange systems. The labor hours are divided equally between technical and plant operators.
- u. We have included the labor associated with recording and transmitting data to develop initial and semiannual reports. We assume it takes respondents approximately 3.5 hours at each of the 9 storage vessels, 99 hours for equipment leaks at each of the 11 process units, 29 hours at each of the 4 process vents routed to control devices, and 1 hour at each of the 3 heat exchange systems.
- v. We assume existing sources will provide initial training to employees associated with new affected facilities, and that there will be periodic refresher trainings.
- w. We assume annual training for heat exchange system requirements will require 2 labor hours per operator, and assume there are 10 operators per facility.
- x. Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.
- y. We assume that no new refineries will become subject to this regulation. New refineries will need to purchase and install LDAR equipment for heat exchange systems, including an FID analyzer and a portable air stripping column apparatus, for sample collection. For each refinery, we estimate the total cost to be \$116,870, assuming a capital discount rate of 7 percent, annual interest over 10 years, and that there will be no other capital costs associated with other affected units.
- z. The O&M cost assumes one mid-point calibration of sampling equipment prior to each sampling event. For each refinery, we assume 0.25 technical labor hours per sampling event, 12 sampling events per refinery per year, and 3 heat exchange systems per refinery.

**Table 2: Average Annual EPA Burden and Cost – NESHAP for Petroleum Refineries (40 CFR Part 63, Subpart CC) (Renewal)**

Activity	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
	EPA person-hours per occurrence	No. of occurrences per plant per year	EPA person-hours per plant per year (C=AxB)	Plants per year <sup>a</sup>	Technical person-hours per year (E=CxD)	Management person-hours per year (Ex0.05)	Clerical person-hours per year (Ex0.1)	Cost <sup>b</sup> \$
<b>1. Initial notifications <sup>c</sup></b>								
Notification of reconstruction – process vents <sup>d</sup>	1	0.4	0.4	142	56.8	2.84	5.68	\$2,972.91
Notification of compliance status – storage vessels <sup>e</sup>	1	0.9	0.9	142	127.8	6.39	12.78	\$6,689.05
Notification of compliance status – equipment leaks <sup>e</sup>	1	1.1	1.1	142	156.2	7.81	15.62	\$8,175.51
Notification of compliance status – process vents <sup>e</sup>	1	0.9	0.9	142	127.8	6.39	12.78	\$6,689.05
Notification of compliance status – heat exchange systems	2	0.3	0.6	142	85.2	4.26	8.52	\$4,459.37
Notification of performance test – process vent control devices <sup>e</sup>	1	0.4	0.4	142	56.8	2.84	5.68	\$2,972.91
Notification of storage vessel inspections	1	0.9	0.9	142	127.8	6.39	12.78	\$6,689.05
<b>2. Periodic reports <sup>f</sup></b>								
Review of startup, shutdown, malfunction reports	N/A							
Semiannual parameter exceedance reports	4	2	8	142	1136	56.8	113.6	\$59,458.24
Annual tank inspection failure reports	4	1	4	142	568	28.4	56.8	\$29,729.12
Semiannual compliance – LDAR reports	10	2	20	142	2840	142	284	\$148,645.60
Semiannual compliance – heat exchange system reports	1	2	2	142	284	14.2	28.4	\$14,864.56

Activity	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
	EPA person-hours per occurrence	No. of occurrences per plant per year	EPA person-hours per plant per year (C=AxB)	Plants per year <sup>a</sup>	Technical person-hours per year (E=CxD)	Management person-hours per year (Ex0.05)	Clerical person-hours per year (Ex0.1)	Cost <sup>b</sup> \$
<b>TOTAL LABOR BURDEN AND COST (Rounded)<sup>g</sup></b>					<b>6,400</b>			<b>\$291,000</b>

**Assumptions:**

a. We estimate there are 142 existing petroleum refineries, and that no new refineries will become subject to the rule over the 3-year period of this ICR. We have further assumed that a refinery has the following affected units: 9 storage vessels; 11 process units subject to LDAR provisions; 9 process vents for requiring monitoring, recordkeeping, and reporting; and 3 heat exchange systems subject to a monthly sampling program for VOC leak detection and repair, as well as recordkeeping and reporting requirements to ensure compliance with the program.

b. Costs are based on the following labor rates: managerial rate of \$62.90 (GS-13, Step 5, \$39.31 + 60%), technical rate of \$46.67 (GS-12, Step 1, \$29.17 + 60%), and clerical rate of \$25.25 (GS-6, Step 3, \$15.78 + 60%). These rates are from the Office of Personnel Management (OPM) "2014 General Schedule," which excludes locality rates of pay.

c. We assume that all existing respondents have complied with initial monitoring, recordkeeping and reporting requirements for existing units, including: initial notifications; the design analysis and establishment of operating parameters for storage vessels, LDAR initial requirements, initial performance testing for process vents routed to a control device; heat exchanger requirements, and development of startup and malfunction plans and record systems for each unit. Respondents having reconstructed units, however, must comply with initial requirements. We estimate that existing refineries will reconstruct 10 percent of their existing units (i.e., 0.9 storage vessels, 1.1 process units, 0.9 process vents, and 0.3 heat exchange systems per refinery).

d. The notification of reconstruction is only required for process vents routed to control devices. We assume that 4 process vents per refinery are routed to control devices, and of which existing refineries will reconstruct 10 percent.

e. The notification of compliance status includes performance test results, as required by the general provisions.

f. The rule requires that respondents submit semiannual compliance reports addressing each affected unit subject to the rule.

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