

**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 1692.13, 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, 1994, and amended on: October 28, 2009; June 20, 2013; December 1, 2015; July 13, 2016; and November 26, 2018. These regulations were most-recently amended in a rulemaking published in the *Federal Register* at 85 FR 6064 on February 4, 2020. 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: 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 either commenced construction or reconstruction after the date of proposal. This information is being collected to assure compliance with 40 CFR Part 63, Subpart CC. This ICR incorporates ‘burden’ from the 2015 amendments published on December 1, 2015 (ICR No. 1692.10), in addition to ‘burden’ from the final rule signed on November 18, 2018 (ICR No. 1692.12).¹

The 2015 amendments added new regulations, recordkeeping, and reporting requirements for delayed coking unit vents, flares used as control devices, and fence line monitoring, as well as additional requirements for storage vessels, including revisions to the inspection, recordkeeping, and reporting requirements. In addition, electronic reporting is now required for fence line monitoring and performance testing. The NESHAP was also revised to reflect EPA policy with regards to emission requirements and associated monitoring, recordkeeping and reporting during startup, shutdown, and malfunctions (SSM). The SSM changes included new requirements for maintenance vents, for flare management, and for pressure relief management. The 2018 amendments corrected typographical errors, incorrect cross-references, clarified requirements, and made minor revisions to requirements for work practice standards, recordkeeping, and reporting, including one technical amendment that impacts the recordkeeping requirements for maintenance vents associated with equipment containing less than 72 lbs of VOC. The 2020 amendments clarified compliance issues raised by stakeholders, corrected referencing errors, and corrected publication errors.

¹ The revisions adopted in the July 13, 2016 and February 4, 2020 final rules included revisions to compliance dates, clarifications, and technical corrections that do not affect the estimated burden of the existing rule, and there is no burden associated with these revisions.

In general, all NESHAP standards require initial notifications, 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 containing these documents and retain the file for at least five years following the generation date of such maintenance reports and records. All reports are sent to the delegated state or local authority. If there is no such delegated authority, the reports are sent directly to the U.S. Environmental Protection Agency (EPA) regional office.

The “Affected Public” are petroleum refineries that are major sources of HAP. 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. We assume that they will all respond to EPA inquiries. 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 at the end of this document 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: 12 Group 1 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).

Over the next three years, approximately 142 respondents per year will be subject to these standards, and no additional respondents per year will become subject to these same standards. 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 data collected per the Agency’s industry analysis in its recent 2018 and 2020 rulemakings. The Agency determined the number of sources by reviewing the EPA’s Petroleum Refinery Database, as well as reviewing 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 flares, delayed cokers, relief valves, and maintenance vents).

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 standards. Continuous emission monitors are used to ensure compliance with these standards 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 either the Agency or its 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, leaks are being detected and repaired, and that these standards are being met. The performance test may also be observed.

The required quarterly and 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* (85 FR 28003) on May 12, 2020. No comments were received on the burden published in the *Federal Register* for this renewal.

3(c) Consultations

The Agency has consulted industry experts and internal data sources to project the number of refineries, 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. Approximately 142 respondents will be subject to these standards over the three-year period covered by this ICR. This estimate is based on review of the EPA's Petroleum Refinery Database as part of its recent 2018 and 2020 rulemakings, as well as on the Agency's internal data sources.

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 these same standards have been reviewed previously to determine the minimum information needed for compliance purposes. In developing this ICR, we contacted both the American Petroleum Institute (API), at 202-682-8000, and the American Fuel and Petrochemical Manufacturers (AFPM), at 202-457-0480. In a consultation for a prior ICR renewal, API and AFPM provided comments on the number of affected sources, the number of affected process units and equipment, the O&M costs of fence-line monitoring, the O&M costs for monitoring pressure relief devices, and other burdens related to recordkeeping and reporting requirements resulting

from the 2015 and 2018 amendments. The EPA has addressed these comments and incorporated additional burden where supported by available data.

It is our policy to respond after a thorough review of comments received since the last ICR renewal, as well as for 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 these 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. The 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. The EPA has found that the most flagrant violators have violations extending beyond five years. In addition, the EPA would be prevented from pursuing the violators due to 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 these standards 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 are 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:

Notifications	
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)(i)
Notification of date of actual startup	§63.9(b)(4)(v)
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)(i)-(ii)
Notification of compliance status	§63.182(c), §63.428(c)(2), §63.640(k)(2)(ii), §§63.655(f)(1)-(6)
Notification of performance test and site-specific test plan	§63.567(d), (f), §63.642(d)(2)
Results of performance test	§63.567(d), §63.655(h)(9)
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)

Notifications	
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)

Reports	
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), (h)(1)-(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 reports for storage vessels, control device bypass valves, delayed cokers, maintenance vents, relief valves, and flares	§§63.655(g)(1)-(5), §63.655(g)(6)(iii), §§63.655(g)(10)-(13)
Quarterly reports for fence line monitoring - electronic	§63.655(h)(8)

A source must keep the following records:

Recordkeeping	
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)-(3), and (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)

Recordkeeping	
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 calibration checks, adjustments and maintenance on CMS	§63.10(b)(x)
Records of information in semiannual reports.	§63.655(i)
Records for storage vessels, control device bypass valves, delayed cokers, maintenance vents, fenceline, flares, and relief devices.	§63.123, §§63.655(i)(1), (4), (7)-(9), (11), and (12)

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. As part of the 2015 amendments, all performance test reports are required to be submitted electronically. In addition, fenceline monitoring reports will be submitted to the EPA's Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). All other reports will continue to be submitted as required currently. The facility is not required to transmit these data prior to obtaining 12 months of data.

(ii) Respondent Activities

Respondent Activities
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 collecting, validating, and verifying information.
Develop, acquire, install, and utilize technology and systems for processing and maintaining information.
Develop, acquire, install, and utilize technology and systems for disclosing and providing

Respondent Activities
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

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, including performance test reports, excess emissions reports, and quarterly fence line monitoring 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.
Input, analyze, and maintain data in the Compliance and Emissions Data Reporting Interface (CEDRI).

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 standards 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 quarterly, semiannual, and annual 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. The EPA uses ICIS for tracking air pollution compliance and enforcement by local and state regulatory agencies, both EPA regional offices and headquarters. The 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

The majority of the respondents are large entities (i.e., large businesses). However, the impact on small entities (i.e., small businesses) was taken into consideration during the development of these regulations. A small entity for petroleum refineries is defined as a firm having no more than 1,500 employees. In the development of the 2015 amendments, for fence-line monitoring, the EPA included provisions to use fewer monitoring locations for refineries that have smaller plot sizes; these provisions are expected to reduce the burden for smaller refineries, regardless of whether these smaller refineries are small entities. Due to technical considerations involving the process operations and the types of control equipment employed, the recordkeeping and reporting requirements are otherwise the same for both small and large entities. The Agency considers these to be the minimum requirements 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 at the end of this document 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 neither conduct nor 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 614,000 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	\$152.73 (\$72.73 + 110%)
Technical	\$113.21 (\$53.91 + 110%)
Installation, maintenance, and repair	\$70.31 (\$33.48 + 110%)
Plant operator	\$76.63 (\$36.49 + 110%)
Clerical	\$48.72 (\$23.20 + 110%)

The rates for managerial, technical, and clerical labor are from the United States Department of Labor, Bureau of Labor Statistics, “May 2019 National Industry-Specific Occupational Employment Wage Estimates” for NAICS code 324100 - Petroleum and Coal Products Manufacturing,² 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

The type of industry costs associated with the information collection activities in these subject standards are both labor costs which are addressed elsewhere in this ICR and the costs associated with continuous monitoring. The capital/startup costs are one-time costs when a facility becomes subject to these regulations. The annual operation and maintenance costs are the ongoing costs to maintain the monitors and other costs such as photocopying and postage.

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

Capital/Startup vs. Operation and Maintenance (O&M) Costs for Heat Exchange Systems						
(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 <small>a, b</small>	\$116,870	0	\$0	\$1,093	142	\$155,226
Totals ^c			\$0			\$155,000

^a 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, 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. For each refinery, we estimate the total capital 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.

^b 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 \$121.46 per hour, 12 sampling events per heat exchange system per

² http://www.bls.gov/oes/current/naics4_324100.htm

year, and 3 heat exchange systems per refinery.

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

Capital vs. Operation and Maintenance (O&M) Costs for Fenceline Monitoring						
(A) Facility Fenceline Size ^a	(B) Capital Cost for One Affected Facility	(C) Number of Affected Facilities ^a	(D) Total Capital Cost (B × C)	(E) Annual O&M Costs for One Affected Facility ^b	(F) Number of Respondents with O&M	(G) Total Annual O&M Cost (E × F)
Small	\$86,650	0	\$0	\$8,665	84	\$727,860
Medium	\$89,270	0	\$0	\$8,927	27	\$241,029
Large	\$90,880	0	\$0	\$9,088	31	\$281,728
TOTAL ^c		0	\$0		142	\$1,250,000

^a For fenceline monitoring, costs vary depending on the physical size (not capacity) of the refinery where a small refinery is less than 750 acres, a medium refinery is between 750 acres and 1,500 acres, and a large refinery is greater than 1,500 acres. There are 84 small refineries, 27 medium refineries and 31 large refineries, for a total of 142 refineries. There are no affected facilities with capital costs, as all fenceline monitoring equipment required by the 2015 amendment has been installed.

^b Assumed to be 10 percent of capital cost. EPA assumes that all refineries will use in-house labor to collect samples and would conduct sample analysis in-house.

^c Note: Totals have been rounded to three significant figures.

Capital vs. Operation and Maintenance (O&M) Costs for Flare Monitoring						
(A) Monitoring Equipment or Material	(B) Capital Cost for One Affected Flare	(C) Number of Affected Flares ^a	(D) Total Capital Cost (B × C)	(E) Annual O&M Costs for One Affected Flare	(F) Number of Respondents with O&M ^a	(G) Total Annual O&M Cost (E × F)
Calorimeter	\$105,000	0	\$0	\$20,100	85	\$1,708,500
H2 Analyzer	\$36,000	0	\$0	\$20,000	243	\$4,860,000
Steam Controls/Flow Monitor	\$684,000	0	\$0	\$59,730	190	\$11,348,700
Air Controls/ Flow Monitor	\$164,000	0	\$0	\$36,520	37	\$1,351,240
Average Natural Gas (NG) Costs per Flare to Meet NHVcz Targets	\$0	0	\$0	\$100,030	190	\$19,005,700
Steam Costs (Savings) per Flare for Steam Controls to Meet NHVcz Targets	\$0	0	\$0	(\$56,470)	190	(\$10,729,300)
Engineering Calculation Costs	\$7,000	0	\$0	\$12,500	267	\$3,337,500
TOTAL ^b		0	\$0		510	\$30,900,000

^a There are 510 flares that would be subject to the flare monitoring requirements at the 142 major source refineries. There are no affected facilities with capital costs, as all flare monitoring equipment required by the 2015 amendment has been installed. If a source reconstructs or modifies a flare, EPA assumes the equipment will be re-used.

^b Note: Totals have been rounded to three significant figures.

Capital vs. Operation and Maintenance (O&M) Costs for Pressure Relief Valves						
(A) Equipment or Material	(B) Capital Cost for One Affected Valve ^a	(C) Number of Affected Valves	(D) Total Capital Cost (B x C)	(E) Annual O&M Costs for One Affected Valve ^b	(F) Number of Affected Valves	(G) Total Annual O&M Cost (D x B)
Install Monitor on Relief Valves	\$809	0	\$0	\$81	1,600	\$129,429
Relief Valves Requiring Additional Prevention Measures	\$1,208	0	\$0	\$121	1,600	\$193,333
TOTAL		0	\$0	\$0	3,200	\$323,000

^a Capital costs are based on the 2015 final rule ICR, which assumed the total capital cost to install a monitor on each relief valve is \$3,882,880 for an estimated 4,800 relief valves over the next 3 years (\$3,882,880/4800 valves = \$809/valve). Additionally, it was estimated that the cost for relief valves requiring additional prevention measures would be \$5,800,000 (\$1,208/valve). This ICR assumes no capital costs, as all monitoring equipment required by the 2015 amendment have been installed and there are no new petroleum refineries.

^b Assumed to be 10 percent of capital costs.

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

The total operation and maintenance (O&M) costs for this ICR are \$32,600,000. This is the total of column G in the above tables.

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 \$32,600,000. 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 such activities 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 \$373,000.

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

Managerial	\$68.37 (GS-13, Step 5, \$42.73 + 60%)
Technical	\$50.72 (GS-12, Step 1, \$31.70 + 60%)
Clerical	\$27.46 (GS-6, Step 3, \$17.16 + 60%)

These rates are from the Office of Personnel Management (OPM), 2020 General

Schedule, which excludes locality rates of pay. The rates have been increased by 60 percent to account for the benefit packages available to Federal government employees. Details upon which this estimate is based appear at the end of this document 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 these standards. It is estimated that no additional respondents per year will become subject to these same standards. 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 ¹	(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

¹ New respondents include sources with constructed, reconstructed and modified affected facilities. In this standard, existing respondents who construct new facilities or modify existing facilities submit initial notifications.

To avoid double-counting respondents, column D is subtracted. 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:

Total Annual Responses				
(A)	(B)	(C)	(D)	(E)

Information Collection Activity	Number of Respondents	Number of Responses	Number of Existing Respondents That Keep Records But Do Not Submit Reports	Total Annual Responses E=(BxC)+D
Initial Notifications ^a :				
Notification of reconstruction process vents ^b	14.2	4	0	56.8
Notification of compliance status – storage vessels	14.2	12	0	170.4
Notification of compliance status – equipment leaks	14.2	11	0	156
Notification of compliance status – process vents	14.2	9	0	128
Notification of compliance status – heat exchange systems	14.2	3	0	43
Notification of performance test – process vent control devices ^b	14.2	4	0	57
Notification of storage vessel inspections	14.2	12	0	170
Notification of compliance status – Storage vessels, delayed cokers	0	2	0	0
Notification of compliance status – Relief valves, flares	0	2	0	0
Request for alternative monitoring for fenceline requirements	0	1	0	0
Flare management plan review	47	1	0	47
Periodic Reports:				
Semiannual parameter exceedance reports	142	2	0	284
Semiannual compliance reports - Storage tank seal gap failure	142	2	0	284
Semiannual compliance reports – LDAR	142	2	0	284
Semiannual compliance reports – process vents	142	2	0	284
Semiannual compliance reports – heat exchange system	142	2	0	284
Semiannual reports – Storage ^d	142	0.5	0	71
Semiannual reports – Relief valves ^d	142	2	0	284
Semiannual reports – Bypass lines ^d	142	0.5	0	71
Semiannual reports – Delayed cokers ^d	142	0.5	0	71
Semiannual reports – Flares ^d	142	4	0	568
Semiannual reports - Maintenance Vents ^{d,e}	14.2	0.5	0	7
Quarterly report for fenceline monitoring	142	4	0	568
Maintenance vents <72lb/day ^f	36	1	0	36
TOTAL (rounded)				3,924

^a Only new respondents or respondents with reconstructed units must comply 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. We estimate that existing refineries will reconstruct 10 percent of their existing units.

^b We assume that 4 process vents per refinery are routed to control devices, and that existing refineries will reconstruct 10 percent of these vents.

^c Assume that one-third of refineries revise their flare management plan each year and submit the revised version to EPA for review.

^d These additional semiannual reports were added in the 2015 amendments.

^e Semiannual reports for maintenance vents are expected for 10% of the reporters during each year.

^f Assumes that 25% of the respondents will be audited over the 3-year period of the ICR. This requirement is a result of the 2018 amendments and is documented in Table 1 of the Supporting Statement for ICR 1692.12.

The number of Total Annual Responses is 3,924.

The total annual labor costs are \$65,600,000. Details regarding these estimates may be found at the end of this document 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 at the end of this document, respectively, and summarized below.

(i) Respondent Tally

The total annual labor hours are 614,000 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 156 hours per response.

The total annual capital/startup and O&M costs to the regulated entity are \$32,600,000. 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 9,890 labor hours at a cost of \$373,000; 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

The increase in burden from the most-recently approved ICR (ICR 1692.10) is due to several adjustments. This increase is not due to any program changes. This ICR incorporates the burden from both ICR 1692.10 and ICR 1692.12, which detail the additional burden to petroleum refineries from the December 1, 2015 (80 FR 75178) and November 18, 2018 (83 FR 60696) amendments to the rule, respectively. The 2015 rule amendments added new recordkeeping and reporting requirements for delayed coking unit vents, flares used as control devices, and fence line monitoring, as well as additional requirements for storage vessels. The 2018 rule amendments revised the recordkeeping requirements for maintenance vents associated with equipment containing less than 72 lbs of VOC. This ICR accounts for the full burden of the current rule and reflects an increase in both burden hours and responses.

This ICR, by in large, reflects the on-going burden and costs for existing facilities, with the exception of a small number of facilities with reconstructed units that must meet initial compliance requirements. The burden in this ICR accounts for implementation of the 2015 amendments, which have been in effect for more than three years. The previous ICR (ICR 1692.10) reflected those burdens and costs associated with the initial activities for subject facilities, such as purchasing monitoring equipment and establishing recordkeeping systems. As such, the capital/startup costs as calculated in section 6(b)(iii) in this ICR have decreased compared with the costs in the previous ICRs ((ICR 1692.10 and ICR 1692.12). In the next three years, the ongoing O&M costs for affected existing facilities at refineries from the 2015 amendments have been adjusted to include the O&M costs for pressure relief valves to address API/APEM comments.

In addition, this ICR also adjusts the estimated number of Group 1 storage vessels subject to requirements from 9 to 12 for each facility, per consideration of comments by API/APFM in a letter dated February 14, 2019 and confirmed through Agency analysis.

6(g) Burden Statement

The annual public reporting and recordkeeping burden for this collection of information is estimated to average 156 hours per response. ‘Burden’ means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information either 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 neither conduct nor 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.

Table 1: Annual Respondent Burden and Cost – NESHAP for Petroleum Refineries (40 CFR Part 63, Subpart CC) (Renewal)

Burden Item	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
	Person-hours per occurrence	No. of occurrences per respondent per year	Person-hours per respondent per year (C=AxB)	Respondents per year ^a	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 ^b \$
1. Applications	N/A									
2. Survey and studies	N/A									
Process units -LDAR Evaluation of prevention measures ^c	8	13	104	0	0	N/A	N/A	0	0	\$0
Initial Flare Management Plan ^d	75	4	270	0	0	N/A	N/A	0	0	\$0
Update the Flare Management Plan ^e	2	1	2.0	47	94	N/A	N/A	4.7	9.4	\$11,817.65
3. Acquisition, installation, and utilization of technology and systems ^f										
Technical	32	1	32	0	0	N/A	N/A	0	0	\$0
Management	2	1	2	0	0	N/A	N/A	0	0	\$0
4. Reporting requirements										
A. Familiarization with rule requirements ^h										
<u>Initial:</u> ⁱ										
i. General/applicability	20	1	20	14.2	284	N/A	N/A	14	28	\$35,704.38
ii. Storage vessels	20	12	240	14.2	3,408	N/A	N/A	170	341	\$428,452.57
iii. Process units – LDAR	20	11	220	14.2	3,124	N/A	N/A	156	312	\$392,748.19
iv. Process vents	20	9	180	14.2	2,556	N/A	N/A	128	256	\$321,339.43
<u>Periodic:</u> ^j										
i. General/applicability	4	1	4	142	568	N/A	N/A	28	57	\$71,408.76

ii. Storage vessels	2	12	24	142	3,408	N/A	N/A	170	341	\$428,452.57
iii. Process units – LDAR	2	11	22	142	3,124	N/A	N/A	156	312	\$392,748.19
iv. Process vents	2	9	18	142	2,556	N/A	N/A	128	256	\$321,339.43
v. Heat exchange systems	2	3	6	142	852	N/A	N/A	43	85	\$107,113.14
vi. Relief valves, bypass lines, delayed cokers, flares ^k	8	1	8	142	1,136	N/A	N/A	57	114	\$142,817.52
B. Required activities ^{g, h}										
<u>Initial:</u>										
i. General/applicability	10	1	10	14.2	142	N/A	N/A	7.1	14	\$17,852.19
ii. Storage vessels	88	12	1056	14.2	14,995	N/A	N/A	750	1500	\$1,885,191.30
iii. Process units – LDAR	8	11	88	14.2	1,250	N/A	N/A	62	125	\$157,099.27
iv. Process vents – initial performance test ^l	11	4	44	14.2	625	N/A	N/A	31	62	\$78,549.64
v. Process vents – repeat performance test ^l	11	4	44	0.71	31	N/A	N/A	1.6	3.1	\$3,927.48
<u>Periodic:</u>										
i. General/applicability	3	1	3	142	426	N/A	N/A	21	43	\$53,556.57
ii. Storage vessels	4	12	48	142	6,816	N/A	N/A	341	682	\$856,905.13
iii. Process units – LDAR	1	11	11	142	1,562	N/A	N/A	78	156	\$196,374.09
iv. Process vents	2	9	18	142	2,556	N/A	N/A	128	256	\$321,339.43
v. Heat exchange systems – sampling analysis ^m										
Technical	1	36	36	142	5,112	N/A	N/A	N/A	N/A	\$578,734.63
Plant operator	3	36	108	142	N/A	N/A	15,336	N/A	N/A	\$1,175,182.34
vi. Heat exchange systems – triggered monitoring of leak ⁿ										
Technical	1	2	2	142	284	N/A	N/A	N/A	N/A	\$32,151.92
Plant operator	3	2	6	142	N/A	N/A	852	N/A	N/A	\$65,287.91
vii. Heat exchange systems – leak repair ^o	40	2	80	142	N/A	11,360	N/A	N/A	N/A	\$798,698.88

Required Activities: ^p										
i. Fenceline monitoring - small facility ^q	7.4	26	192	84	16,162	N/A	N/A	808	1,616	\$2,031,830.70
ii. Fenceline monitoring - medium facility ^q	9.8	26	255	27	6,880	N/A	N/A	344	688	\$864,900.90
iii. Fenceline monitoring - large facility ^q	11.6	26	302	31	9,350	N/A	N/A	467	935	\$1,175,428.44
iv. Develop alternative monitoring plan for fenceline monitoring ^r	40	1	40	0	0	N/A	N/A	0	0	\$0
v. Storage vessel inspections ^s	variable	variable	2.66	142	378	N/A	N/A	19	38	\$47,486.83
vi. Flares ^s	0.4	365	146	142	20,732	N/A	N/A	1,037	2,073	\$2,606,419.78
C. Create information	See 4B									
D. Gather existing information	See 4B									
E. Write report ^{g, h}										
Notification of compliance status ^t										
i. Storage vessels	1	12	12	14.2	170	N/A	N/A	8.5	17	\$21,422.63
ii. Process units – LDAR	4	11	44	14.2	625	N/A	N/A	31	62	\$78,549.64
iii. Process vents	1	9	9	14.2	128	N/A	N/A	6.4	13	\$16,066.97
iv. Heat exchange systems	1	3	3	14.2	43	N/A	N/A	2.1	4.3	\$5,355.66
Notification of storage vessel inspections	1	12	12	14.2	170	N/A	N/A	8.5	17	\$21,422.63
Notification of reconstruction – process vent control devices ^l	4	4	16	14.2	227	N/A	N/A	11	23	\$28,563.50
Notification of performance tests ^{g, h}	See 4B									
Notification of compliance status ^u										
Storage vessels, delayed cokers	1	2.67	2.67	0	0	N/A	N/A	0	0	\$0
Relief valves, flares	1	2	2	0	0	N/A	N/A	0	0	\$0
Notification of storage vessel inspection	0.5	1	0.5	0	0	N/A	N/A	0	0	\$0

Semiannual compliance reports ^{v, w}										
i. General/applicability ^x	18	2	36	142	5,112	N/A	N/A	256	511	\$642,678.85
ii. Storage vessels ^y	1	18	18	142	2,556	N/A	N/A	128	256	\$321,339.43
iii. Storage vessels – seal gap failure ^z	3	2	6	142	852	N/A	N/A	43	85	\$107,113.14
iv. Process units – LDAR ^{aa}	3	22	66	142	9,372	N/A	N/A	469	937	\$1,178,244.56
v. Process vents ^{bb}	1.5	8	12	142	1,704	N/A	N/A	85	170	\$214,226.28
vi. Heat exchange systems ^{cc}	2	6	12	142	1,704	N/A	N/A	85	170	\$214,226.28
vii. Storage vessels ^{dd}	0.00511	2	0.01022	142	1	N/A	N/A	0.07	0.15	\$182.45
viii. Relief valves ^{dd}	0.5	2	1	142	142	N/A	N/A	7	14	\$17,852.19
ix. Bypass lines ^{dd}	0.075	2	0.15	142	21	N/A	N/A	1	2	\$2,677.83
x. Delayed cokers ^{dd}	0.25	0.167	0.04175	142	6	N/A	N/A	0.3	1	\$745.33
xi. Flares ^{dd}	1.5	2	3	142	426	N/A	N/A	21	43	\$53,556.57
xii. Maintenance Vents ^{dd}	1	1	1	14.2	14	N/A	N/A	0.7	1	\$1,785.22
Quarterly fenceline monitoring report ^{ee}	2	4	8	142	1,136	N/A	N/A	57	114	\$142,817.52
Subtotal for Reporting Requirements								179,481		\$18,669,686
5. Recordkeeping requirements										
A. Read and understand rule requirements	See 4A									
B. Plan activities ^{g, h}	See 4A									
C. Implement activities ^{g, h}	See 4B									
D. Develop record system ^{ff}										
<u>Initial:</u>										
i. Storage vessels	2	12	24	14.2	341	N/A	N/A	17	34	\$42,845.26
ii. Process units – LDAR	75	11	825	14.2	11,715	N/A	N/A	586	1,172	\$1,472,805.70
iii. Process vents	2	9	18	14.2	256	N/A	N/A	13	26	\$32,133.94
<u>Periodic:</u>										
i. Storage vessels	2	12	24	142	3,408	N/A	N/A	170	341	\$428,452.57

ii. Process units – LDAR	75	11	825	142	117,150	N/A	N/A	5,858	11,715	\$14,728,057.00
iii. Process vents	2	9	18	142	2,556	N/A	N/A	128	256	\$321,339.43
iv. Heat exchange systems ^{gg}										
Technical	12	12	144	142	20,448	N/A	N/A	N/A	N/A	\$2,314,938.53
Plant operator	12	12	144	142	N/A	N/A	20,448	N/A	N/A	\$1,566,909.79
E. Time to enter and transmit information										
<u>Initial:</u> ^h										
i. Storage vessels	6	12	72	14.2	1,022	N/A	N/A	51	102	\$128,535.77
ii. Process units – LDAR	99	11	1089	14.2	15,464	N/A	N/A	773	1,546	\$1,944,103.52
iii. Process vents ^l	12	4	48	14.2	682	N/A	N/A	34	68	\$85,690.51
<u>Periodic:</u> ^{hh}										
i. Storage vessels	3.5	12	42	142	5,964	N/A	N/A	298	596	\$749,791.99
ii. Process units – LDAR	99	11	1089	142	154,638	N/A	N/A	7,732	15,464	\$19,441,035.24
iii. Process vents	29	4	116	142	16,472	N/A	N/A	824	1,647	\$2,070,854.07
iv. Heat exchange systems	1	3	3	142	426	N/A	N/A	21	43	\$53,556.57
Time to enter information ⁱⁱ										
Storage vessels	variable	variable	4.09	142	581	N/A	N/A	29	58	\$73,015.46
Relief valves	0.5	3.2	2	142	227	N/A	N/A	11	23	\$28,563.50
Bypass lines	0.355	0.211	0.075	142	11	N/A	N/A	0.5	1.1	\$1,337.22
Fenceline monitoring	0.5	26	13	142	1,846	N/A	N/A	92	185	\$232,078.47
Delayed cokers	0.0167	501	8.4	142	1,188	N/A	N/A	59	119	\$149,363.92
Flares	0.05	365	18.3	142	2,592	N/A	N/A	130	259	\$325,802.47
Maintenance Vents	1	1	1	14.2	14	N/A	N/A	0.7	1.4	\$1,785.22
Maintenance Vents - <72 lb/day	0.1	1	0.1	142	14	N/A	N/A	0.7	1.4	\$1,785.22
F. Time to train personnel ^{jj}										
<u>Initial:</u>										
i. Storage vessels	1	12	12	14.2	170	N/A	N/A	8.5	17	\$21,422.63

ii. Process units – LDAR	1	11	11	14.2	156	N/A	N/A	7.8	16	\$19,637.41
iii. Process vents	1	4	4	14.2	57	N/A	N/A	2.8	5.7	\$7,140.88
<u>Periodic:</u>										
i. Storage vessels	N/A									
ii. Process units – LDAR	0.5	11	5.5	142	781	N/A	N/A	39	78	\$98,187.05
iii. Process vents	1	4	4	142	568	N/A	N/A	28	57	\$71,408.76
iv. Heat exchange systems ^{kk}	2	10	20	142	2,840	N/A	N/A	142	284	\$357,043.81
v. Training ^{ll}	8.5	1	8.5	142	1,207	N/A	N/A	60	121	\$151,743.62
<i>Subtotal for Recordkeeping Requirements</i>								434,593		\$46,921,366
Total Labor Burden and Cost (rounded)^{mmm}								614,000		\$65,600,000
Total Capital and O&M Cost (rounded)^{mmm}										\$32,600,000
Grand TOTAL (rounded)^{mmm}										\$98,000,000

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: 12 Group 1 storage vessels subject to regulation; 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: \$152.73 per hour for Executive, Administrative, and Managerial labor; \$113.21 per hour for Technical labor, \$76.63 per hour for plant operators; \$70.31 per hour for installation, maintenance, and repair; and \$48.72 per hour for Clerical labor. The labor rates are from the United States Department of Labor, Bureau of Labor Statistics, "May 2019 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 2015 amendments included a one-time requirement for respondents to evaluate the prevention measures for affected pressure relief devices. The total burden of 13 hrs for this requirement is based on the calculations from the ICR for the 2015 amendment (ICR 1692.10).

d. New refineries are required to develop a Flare Management Plan, and existing refineries were required to submit a Flare Management Plan by January 30, 2019.

e. The 2015 amendment added this requirement. We assume all respondents have submitted the Flare Management Plan by January 30, 2019. Assume one-third of all respondents (142/3 = 47) make periodic updates to the Plan each year, and that the update takes 2 hours.

f. 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.

- g. 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.
- h. Only new respondents or respondents that reconstruct units must comply 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. We estimate that existing refineries will reconstruct 10 percent of their existing units (i.e., 12 storage vessels, 11 process units, 9 process vents, 3 heat exchange systems, or 3.8 flares per refinery).
- i. Respondents having new, modified, or reconstructed units must comply with initial requirements. The occurrence estimates are based on reading and understanding the rule requirements for each process unit/equipment that is modified.
- j. We assume that each respondent will re-read the entire rule twice each year to re-familiarize with the applicability, monitoring, testing reporting and recordkeeping requirements for the equipment and process units.
- k. These requirements were added in the 2015 amendments. We have assumed 8 hours per year for respondents to refamiliarize with these requirements.
- l. We assume that 4 process vents per refinery are routed to control devices, and of which existing refineries will reconstruct 10 percent. We assume that 5 percent of respondents will have to repeat performance tests.
- m. 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.
- n. 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.
- o. We assume 2 events per year at each refinery and estimate the labor burden to be 40 hours per repair.
- p. These requirements are based on burden assumptions from the ICR for the 2015 amendment (ICR 1692.10).
- q. These values are consistent with the *Fenceline Monitoring Technical Support Document*, located in Docket ID No. EPA-HQ-OAR-2010-0682.
- r. This is a one-time requirement from the 2015 amendments.
- s. These requirements for flare reporting are based on burden assumptions from the ICR for the 2015 amendment (ICR 1692.10).
- t. New and existing refineries must submit notifications of compliance status for new or reconstructed units affected by the standard.
- u. Notification of compliance status is a one-time response required by the 2015 amendment.
- v. 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.
- w. 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.
- x. We assume 18 labor hours per occurrence, and that there will be 2 occurrences per refinery per year.

- y. We assume 1 labor hour per occurrence, and that there will be 24 occurrences per respondent per year (12 Group 1 storage vessels/refinery x 2 occurrences/storage vessel/year).
 - z. We assume 3 labor hours per occurrence, and that there will be 2 occurrences per refinery per year.
 - aa. 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).
 - bb. 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).
 - cc. 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).
 - dd. These additional semiannual compliance reporting costs are for affected facilities with new requirements added in the 2015 amendments to subpart CC.
 - ee. The fence line monitoring reports are submitted quarterly.
 - ff. We assume sources already have record systems in place to monitor existing operations. The burden shown below reflects reconstructed units affected by the standard.
 - gg. 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.
 - hh. 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 12 Group 1 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.
 - ii. These additional recordkeeping costs are for affected facilities with new requirements added in the 2015 amendments.
 - jj. We assume existing sources will provide initial training to employees associated with new affected facilities, and that there will be periodic refresher trainings. For 'Maintenance Vents - <72 lb/day', this requirement is a result of the 2018 amendment.
 - kk. We assume annual training for heat exchange system requirements will require 2 labor hours per operator, and assume there are 10 operators per facility.
 - ll. These additional training costs are for affected facilities with new requirements added in the 2015 amendments.
 - mm. Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.
- N/A – Not Applicable

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 ^a	Technical person-hours per year (E=CxD)	Management person-hours per year (Ex0.05)	Clerical person-hours per year (Ex0.1)	Cost ^b \$
1. Initial notifications ^c								
Notification of reconstruction – process vents ^d	1	4	4	14.2	57	3	6	\$3,231.04
Notification of compliance status – storage vessels ^e	1	12	12	14.2	170	9	17	\$9,693.12
Notification of compliance status – equipment leaks ^e	1	11	11	14.2	156	8	16	\$8,885.36
Notification of compliance status – process vents ^e	1	9	9	14.2	128	6	13	\$7,269.84
Notification of compliance status – heat exchange systems	2	3	6	14.2	85	4	9	\$4,846.56
Notification of performance test – process vent control devices ^e	1	4	4	14.2	57	3	6	\$3,231.04
Notification of storage vessel inspections	1	12	12	14.2	170	9	17	\$9,693.12
Notification of compliance status – Storage vessels, delayed cokers ^f	1	2	2	0	0	0	0	\$0
Notification of compliance status – Relief valves, flares ^f	1	2	2	0	0	0	0	\$0
Request for alternative monitoring for fence line requirements ^f	1	1	1	0	0	0	0	\$0
Flare management plan review ^g	1	1	1	47	47	2	5	\$2,673.57
2. Periodic reports ^h								
Semiannual parameter exceedance reports	4	2	8	142	1136	57	114	\$64,620.79
Semiannual compliance - Storage tank seal gap failure reports	4	2	8	142	1136	57	114	\$64,620.79

Semiannual compliance – LDAR reports	10	2	20	142	2840	142	284	\$161,551.98
Semiannual compliance – Process vents	1	2	2	142	284	14	28	\$16,155.20
Semiannual compliance – Heat exchange systems	1	2	2	142	284	14	28	\$16,155.20
Semiannual reports – Storage	0.25	0.5	0.125	142	18	1	2	\$1,009.70
Semiannual reports – Relief valves	1	2	2	142	284	14	28	\$16,155.20
Semiannual reports – Bypass lines	0.25	0.5	0.125	142	18	1	2	\$1,009.70
Semiannual reports – Delayed cokers	0.25	0.5	0.125	142	18	1	2	\$1,009.70
Semiannual reports – Flares	2	4	8	142	1136	57	114	\$64,620.79
Semiannual reports - Maintenance Vents	0.25	0.5	0.125	14.2	2	0	0	\$100.97
Quarterly report for fenceline monitoring	1	4	4	142	568	28	57	\$32,310.40
Audit Record Review								
Maintenance Vents - <72 lb/day ⁱ	0.2	1	0.2	36	7.1	0.4	0.7	\$403.88
TOTAL (rounded)^j						9,890		\$373,000

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: 12 Group 1 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. This ICR uses the following labor rates: \$68.37 for managerial, \$50.72 for technical, and \$27.46 for clerical labor. These rates are from the Office of Personnel Management (OPM), 2020 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.
- c. Only new respondents or respondents that reconstruct units must comply 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. We estimate that existing refineries will reconstruct 10 percent of their existing units.
- 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. Notification of compliance status is a one-time response required by the 2015 amendment.

g. The 2015 amendments included the requirement to create a flare management plan for all existing flares. We assume one-third of all respondents ($142/3 = 47$) make periodic updates to the Flare Management Plan each year.

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

i. Assumes that 25% of the respondents will be audited over the 3-year period of the ICR.

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

N/A – Not Applicable