

**SUPPORTING STATEMENT
ENVIRONMENTAL PROTECTION AGENCY**

NESHAP for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (40 CFR Part 63, Subpart UUU) (Renewal)

1. Identification of the Information Collection

1(a) Title of the Information Collection

NESHAP for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (40 CFR Part 63, Subpart UUU) (Renewal), EPA ICR Number 1844.11, OMB Control Number 2060-0554.

1(b) Short Characterization/Abstract

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units were proposed on September 11, 1998; promulgated on April 11, 2002; and amended on: February 9, 2005; April 20, 2006; December 1, 2015; July 13, 2016; and November 26, 2018. The EPA issued amendments on July 13, 2016 to respond to a January 19, 2016, petition for reconsideration, which included revisions to compliance dates, clarifications, and technical corrections. The EPA most-recently issued amendments and the November 26, 2018 amendment, to respond to a February 1, 2016 petition for reconsideration, includes: (1) removal of a restriction to the use of a monitoring alternative when determining the outlet flow rate to the regenerator for the purposes of demonstrating compliance with the alternate PM standard; (2) revisions to the due dates for initial performance tests and edits to the extensions to electronic reporting provisions in section 63.1575(l); and (3) other minor technical corrections and clarifications. These finalized amendments include clarification to recordkeeping and reporting provisions, but do not affect the estimated ‘burden’ of the existing subpart UUU. This ICR reflects the burden following implementation of the December 1, 2015 final rule and completion of the one-time rule requirements. These regulations apply to three types of affected units at major source petroleum refineries: fluid catalytic cracking units (FCCU) for catalyst regeneration, catalytic reforming units (CRU), and sulfur recovery units (SRU). The rule also includes requirements for by-pass lines associated with the three affected units. 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 UUU.

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's (EPA) regional offices.

The "Affected Public" are owners or operators of petroleum refineries that operate catalytic cracking units, catalytic reforming units, and sulfur recovery units. The "burden" to the Affected Public may be found at the end of this document in Table 1: Annual Respondent Burden and Cost – NESHAP for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (40 CFR Part 63, Subpart UUU) (Renewal). There are approximately 142 petroleum refineries that operate catalytic cracking units, catalytic reforming units, and sulfur recovery units. None of the facilities in the United States are owned by state, local, tribal or the Federal government. They are all owned and operated by privately-owned, for-profit businesses. We assume that they will all respond to EPA inquiries.

Based on our consultations with industry representatives, there is an average of one affected facility at each plant site and 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.

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, metal and organic hazardous air pollutant (HAP) emissions from FCCUs; organic and inorganic HAP emissions from CRUs; and HAP emissions from SRUs and bypass lines 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 UUU.

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 same 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 these 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, leaks are being detected and repaired, and that these same 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 UUU.

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* (84 FR 19777) on May 6, 2019. 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 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.

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 Fuel & Petrochemical Manufacturers (AFPM), at (202) 457-0480; and the American Petroleum Institute (API), at (202) 682-8000.

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 these 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 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 owners or operators of major source petroleum refineries that operate catalytic cracking units, catalytic reforming units, or sulfur recovery units. The United States Standard Industrial Classification (SIC) code for the respondents affected by the standard is SIC 2911, which corresponds to the North American Industry Classification System (NAICS) code 32411 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: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (40 CFR Part 63, Subpart UUU).

A source must make the following reports:

Notifications	
Notification of intention to construct or reconstruct	§§63.9(b)(5), 63.1574(a)
Notification of commencement of construction	§§63.9(b)(4)(i), 63.1574(a)
Notification of the actual date of startup	§§63.9(b)(4)(v), 63.1574(b) and (c)
Notification of performance tests	§§63.7(a), 63.9(e), 63.1574(a)(3)
Notification of compliance status	§§63.9(h), 63.1574(a) and (d)
Operation, maintenance, and monitoring plan	§63.1574(f)
Request for compliance extension	§§63.9(c), 63.1574(e)

Reports	
Semiannual compliance reports	§§63.10(e)(3), 63.1575
Performance test reports– electronic reporting	§§63.1571(a)(5) and (6), 63.1575(f), (k), and (l)
Relative accuracy test audits for units using CEMs – electronic reporting	§63.1575(k)(2)

A source must keep the following records:

Recordkeeping	
Notification of compliance status	§§63.1576(a)(1), 63.9(h)
Maintain malfunction records	§§63.1576(a)(2), 63.10(b)(2)

Recordkeeping	
Emissions data	§§63.1576(a)(3), 63.10(d)
CEM general provisions	§§63.1576(b), 63.10(c)
CEM quality assurance plan	§§63.1576(b)(3), 63.8(d)
CMS/CEM malfunction	§§63.1576(b)(5), 63.10(c)
Operation, maintenance, and monitoring	§§63.1576(e), 63.10(b)(2)(iii)
Monitoring data	§63.1576(d)
Records are required to be retained for 5 years	§§63.10(c), 63.1576(h)

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 December 1, 2015 final rule (80 FR 75178), the EPA amended subpart UUU to require electronic reporting of performance test reports and CEMS performance evaluation data. As part of the November 26, 2018 final rule, the EPA finalized clarifications and revisions to these electronic reporting requirements (83 FR 60710). Facilities must submit performance tests or CEMS performance evaluations for data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) conducted on and after February 1, 2016.

(ii) Respondent Activities

Respondent Activities
Familiarization with the regulatory requirements.
Install, calibrate, maintain, and operate CMS for opacity, or for emission monitoring for catalytic cracking units, catalytic reforming units and sulfur recovery systems.

Respondent Activities
Perform performance test for fluid catalytic cracking unit catalyst regeneration every 5 years or more frequently, Reference Method 5, 5B or 5F (of appendix A to 40 CFR Part 60) test for PM, and repeat performance tests if necessary.
Perform performance test for catalytic cracking unit catalyst regeneration one time, Reference Method 320 (of appendix A to 40 CFR Part 63) test for HCN.
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 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:

Agency Activities
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 these emission standards. 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

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 the regulation. A small entity for petroleum refineries is defined as a firm having no more than 1,500 corporate employees. Numerous compliance and monitoring alternatives are provided in the rule to give small entities a maximum degree of operational flexibility. The rule requirements are considered to be the minimum necessary to demonstrate compliance.

Under section 112(i) of the Clean Air Act, the Administrator or applicable permitting authority also may grant one (1) additional year if more time is needed to install controls for a source. This additional time will ease any capital availability problems for plants in marginal economic condition. The Agency expected three affected units to qualify for the compliance extension.

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: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (40 CFR Part 63, Subpart UUU) (Renewal).

6. Estimating the Burden and Cost of the Collection

Table 1, below, 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 17,500 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	\$141.06 (\$67.17+ 110%)
Technical	\$120.27 (\$57.27 + 110%)
Clerical	\$58.67 (\$27.94 + 110%)

These rates are from the United States Department of Labor, Bureau of Labor Statistics, June 2019, “Table 2. Civilian Workers, by occupational and industry group.” The rates are from column 1, “Total compensation.” 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 the 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 the regulation. The annual operation and maintenance costs are the ongoing costs to maintain the monitor(s) 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
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Capital/Startup vs. Operation and Maintenance (O&M) Costs						
(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)
COMS ^a (FCCUs)	\$95,700	0	\$0	\$28,600	25	\$715,000
CPMS ^b (FCCUs)	\$18,900	0	\$0	\$25,350	76	\$1,926,600
CPMS (CRUs)	\$0	0	\$0	\$17,940 ^c	151 ^c	\$2,708,940
CPMS (SRUs)	\$74,000	0	\$0	\$26,000	78	\$2,028,000
CEMS ^d (SRUs)	\$150,000	0	\$0	\$34,840	27	\$940,680
PM Performance Test (outsourced) ^e	\$0	0	\$0	\$9,200	50.3	\$462,760
HCN Performance Test (outsourced) ^f	\$0	0	\$0	\$10,000	0	\$0
TOTAL ^g			\$0			\$8,780,000

Note: We estimate that there are 142 refineries (major sources) with 520 units. This includes 101 sources with 116 FCCU units, 114 sources with 151 CRU units, and 105 sources with 253 SRU units.

^a COMS – continuous opacity monitoring system

^b CPMS – continuous parametric monitoring system

^c We estimate that there are 151 CRUs using CPMS for monitoring, with an O&M cost of \$17,940 per CPMS.

^d CEMS – continuous emission monitoring system. We assume 27 sources with SRU units are using CEMS on 65 units.

^e The 2015 final rule amendments required facilities with FCCU to conduct EPA Reference Method (M5) PM testing every 5 years, unless the “NSPS J” compliance option is used (i.e., the fixed 20 percent opacity operating limit compliance alternative), and the PM emissions rate during the most recent test is greater than 0.8 g PM/kg coke burn-off, in which case the testing frequency will be annually. It was assumed that approximately 10% of sources will require annual testing. In the upcoming 3-year ICR period, we assume that a total of 50.3 units per year will need to have a PM performance test (116 units/3 years + 116 × 0.1 = 50.3). We assume it costs \$9,200 per unit to conduct a EPA Method 5 performance test.

^f The 2015 final rule amendments required a one-time performance test for HCN for catalytic cracking unit catalyst regeneration by August 1, 2017, or within 150 days of startup of a new unit. Therefore, it is assumed that this activity applies only to new units. We assume it costs \$10,000 per unit to conduct a EPA Method 320 performance test.

^g 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 \$8,780,000. 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 \$8,780,000. 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 \$65,900.

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

Managerial	\$66.62 (GS-13, Step 5, \$41.64 + 60%)
Technical	\$49.44 (GS-12, Step 1, \$30.90 + 60%)
Clerical	\$26.75 (GS-6, Step 3, \$16.72 + 60%)

These rates are from the Office of Personnel Management (OPM), 2019 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 at the end of this document in Table 2: Average Annual EPA Burden and Cost – NESHAP for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (40 CFR Part 63, Subpart UUU) (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. However, it is estimated that one affected facility (0.33 per year) will conduct a performance test due to either a process or operation change. 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	0	142	0	0	142
2	0	142	0	0	142
3	0	142	0	0	142
Average	0	142	0	0	142

¹ New respondents include sources with constructed, reconstructed and modified affected facilities.

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:

Total Annual Responses				
(A) Information Collection Activity	(B) Number of Respondents	(C) Number of Responses	(D) Number of Existing Respondents That Keep Records But Do Not Submit Reports	(E) Total Annual Responses E=(BxC)+D
Notification of particulate matter performance test	50.3 ^a	1.15 ^c	0	57.85
Notification of HCN performance test	0 ^b	1.15 ^c	0	0
Operation, maintenance, and monitoring plan	0 ^d	1	0	0
Particulate matter performance test reports	50.3 ^a	1.15 ^c	0	57.85
HCN performance test reports	0 ^b	1.15 ^c	0	0
Engineering assessment for evaluation of catalytic reforming unit operational requirements	0 ^e	1	0	0
Notification of performance test ^f	0	1	0	0
Semiannual compliance report	2	142	0	284

Total Annual Responses				
Relative accuracy test audits for units using CEMs	27	2.41 ^g	0	65
			Total	465

- ^a The 2015 final rule requires catalytic cracking unit catalyst regeneration to conduct EPA Reference Method (M5) PM testing every 5 years, unless the unit is subject to the “NSPS J” compliance option and the PM emissions rate during the most recent test is greater than 0.8 g PM/kg coke burn-off. For units in excess of that rate, testing is required annually. It was assumed that 10 percent of sources will require annual testing. There are 116 FCCUs that will test over the 3 years after promulgation, so each year, approximately 50.3 performance tests will be conducted ($116 \text{ units} / 3 \text{ years} + 116 \times 0.1 = 50.3 \text{ tests/year}$).
- ^b The 2015 final rule required each catalytic cracking unit to conduct a one-time EPA Reference Method 320 test for HCN by August 1, 2017, or within 150 days of startup of a new unit. Therefore, it is assumed that this activity applies only to new units.
- ^c There are approximately 116 catalytic cracking units at 101 facilities, so each facility would report 1.15 responses per year, *i.e.*, $116 \text{ units} / 101 \text{ facilities} = 1.15 \text{ responses/facility}$.
- ^d The 2015 final rule assumed approximately 101 facilities must revise the OMM Plan due to monitoring requirement changes for catalytic cracking unit catalyst regeneration; assumed 20 hr to revise the OMM Plan as a one-time activity.
- ^e Reflects the one-time engineering evaluation and personnel training costs relative to the catalytic reforming unit catalyst regeneration operational changes made in the 2015 final rule. The rule requirements are subject only to units using active purge, and we expect this to be approximately 10 percent of the 151 total units at all refineries (*i.e.*, $15.1 \text{ units} / 3 \text{ years} = 5.0 \text{ respondents/year}$).
- ^f We have assumed that this activity is a one-time activity that applies only to new sources.
- ^g There are approximately 253 SRU at 105 facilities, so each facility would report 2.41 responses per year, *i.e.*, $253 \text{ units} / 105 \text{ facilities} = 2.41 \text{ responses/facility}$. We assume 27 sources with SRU units are using CEMS.

The number of Total Annual Responses is 465 (rounded).

The total annual labor costs are \$2,030,000. 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: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (40 CFR Part 63, Subpart UUU) (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 17,500 hours (rounded). Details regarding these estimates may be found below in Table 1: Annual Respondent Burden and Cost – NESHAP for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery

Units (40 CFR Part 63, Subpart UUU) (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 38 hours per response.

The total annual capital/startup and O&M costs to the regulated entity are \$8,780,000. 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 1,370 labor hours at a cost of \$65,900; see below in Table 2: Average Annual EPA Burden and Cost – NESHAP for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (40 CFR Part 63, Subpart UUU) (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 moderate decrease in burden in this ICR compared to the previous ICR. This ICR reflects the burden following implementation of the December 1, 2015 final Subpart UUU rule amendments. The decrease in the burden and cost estimates in this ICR occurred because refineries are assumed to have implemented the initial 2015 rule compliance activities since these standards have been in effect for more than three years. The previous ICR reflected those burdens and costs associated with the initial activities for subject facilities. This includes conducting performance test(s) and establishing or revising recordkeeping systems. This ICR, by in large, reflects the on-going burden and costs for existing facilities. Activities for existing sources include 5-year performance tests, continuous monitoring of pollutants, and the submission of semiannual reports. This ICR also corrects the Agency burden from the prior ICR to account for burden due to the review of submitted RATA for units using CEMS.

6(g) Burden Statement

The annual public reporting and recordkeeping burden for this collection of information

is estimated to average 38 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-2012-0679. 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-2012-0679 and OMB Control Number 2060-0554 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: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (40 CFR Part 63, Subpart UUU) (Renewal)

Burden item	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
	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)	Management person-hours per year (Ex0.05)	Clerical person-hours per year (Ex0.1)	Total Cost per Year \$ ^b
1. Applications	N/A							
2. Survey and Studies	N/A							
3. Reporting Requirements								
A. Familiarize with rule requirements ^c	2	1	2	142	284	14.20	28.40	\$37,826
B. Required activities								
Initial Performance test ^{d,e}	40	1	40	0	0	0	0	\$0
Startup, shutdown, malfunction plan ^f	N/A							
PM Performance Test (internal) ^g	40	1	40	50.3	2010.67	100.53	201.07	\$267,801
HCN Performance Test (internal) ^{d,e,h}	40	1	40	0	0.0	0.0	0.0	\$0
Operating, maintenance, and monitoring plan ^d	40	1	40	0	0	0	0	\$0
Revise operating, maintenance and monitoring plan ⁱ	20	1	20	0	0	0	0	\$0
RATA for units using CEMs ^j	40	1	40	65	2600	130	260	\$346,294
C. Create information	See 3B							
D. Gather existing information	See 3B							
E. Write report								

Notification of construction/ reconstruction	2	1	2	0	0	0	0	\$0
Notification of actual startup	2	1	2	0	0	0	0	\$0
Notification of special compliance requirements	N/A							
Notification of performance test ^{d,e}	2	1	2	0	0	0.00	0.00	\$0
Notification of PM performance test ^g	2	1	2	50.3	101	5	10	\$13,390
Notification of HCN performance test ^h	2	1	2	0	0	0	0	\$0
Notification of compliance status ^d	4	1	4	0	0	0	0	\$0
Extended compliance request	N/A							
Report of performance test ^d	See 3B							
Semiannual compliance reports ^k	10	2	20	142	2840	142	284	\$378,260
Subtotal for Reporting Requirements						9,010		\$1,043,570
4. Recordkeeping Requirements								
A. Familiarize with rule requirements	See 3A							
B. Plan activities	See 3B							
C. Implement activities	See 3B							
D. Develop record system ^l	N/A							
E. Time to enter information ^{m, n}								
Records of operations ^o	1	52	52	142	7384	369.2	738.4	\$983,475
F. Time to train personnel ^{d, p}	4	1	4	0	0	0	0	\$0
G. Time to adjust existing ways to comply with previously applicable	N/A					0		

requirements								
H. Time to transmit or disclose information ^o	0.25	1	0.25	142	35.5	1.78	3.55	\$3,459
I. Time for audits	N/A							
Subtotal for Recordkeeping Requirements						8,532		\$986,934
TOTAL LABOR BURDEN AND COST (rounded)^q						17,500		\$2,030,000
Total Capital/O&M Costs (rounded)^q								\$8,780,000
Grand Total (Labor and Capital/O&M Costs)(rounded)^q								\$10,800,000

Assumptions:

^a We have determined that 142 major petroleum refineries will have one or more affected facilities subject to the standard. This includes 101 sources with 116 FCCU. No new or reconstructed facilities are expected over the next 3 years.

^b This ICR uses the following labor rates: \$141.06 per hour for Executive, Administrative, and Managerial labor; \$120.27 per hour for Technical labor, and \$58.67 per hour for Clerical labor. These rates are from the United States Department of Labor, Bureau of Labor Statistics, June 2019, "Table 2. Civilian Workers, by Occupational and Industry group." The rates are from column 1, "Total compensation." The rates have been increased by 110 percent to account for the benefit packages available to those employed by private industry.

^c Assumed 142 facilities will refamiliarize themselves with the Subpart UUU rule during the upcoming 3-year ICR period.

^d We have assumed that this activity is a one-time activity that applies only to new sources.

^e We have assumed that this activity has already occurred for existing sources.

^f As a result of the December 2015 final rule amendments, the startup, shutdown and malfunction (SSM) exemption has been eliminated. Therefore, this requirement is no longer relevant, and can be removed from future ICR supporting statements.

^g The 2015 final rule requires catalytic cracking unit catalyst regeneration to conduct EPA Reference Method (M5) PM testing every 5 years, unless the unit is subject to the "NSPS J" compliance option and the PM emissions rate during the most recent test is greater than 0.8 g PM/kg coke burn-off. For units in excess of that rate, testing is required annually. It was assumed that 10 percent of sources will require annual testing. There are 116 FCCUs that will test over the 3 years so each year, approximately 50.3 performance tests will be conducted (116 units / 3 years + 116 × 0.1 = 50.3 tests/year).

^h The 2015 final rule required each catalytic cracking unit to conduct a one-time EPA Reference Method 320 test for HCN by August 1, 2017, or within 150 days of startup of a new unit. Therefore, it is assumed that this activity applies only to new units.

ⁱ The 2015 final rule assumed approximately 101 facilities must revise the OMM Plan due to monitoring requirement changes for catalytic cracking unit catalyst regeneration; assumed 20 hrs to revise the OMM Plan as a one-time activity.

^j We assume that the burdens associated with RATA testing are roughly equal to those for a performance test (excluding the advance notice requirements). We also assume that there are 105 respondents with 253 SRU units (2.41 units/respondent). There are 27 respondents with SRUs using CEMs. Therefore, the number of SRUs using CEMs is 27 × 2.4 = 65 (rounded).

^k We have assumed that all sources would be submitting semiannual compliance reports.

¹ We have assumed that these sources will have the record system in place to monitor operations.

^m We have assumed that depending on the compliance option for the affected facility (i.e., catalytic cracking unit, sulfur recovery units, and by-pass lines) selected by the respondent and the size of the catalytic cracking unit and control device used (e.g., wet scrubber, electrostatic precipitator and thermal incinerators), sources are required to either install continuous opacity monitoring systems and/or continuous parameter monitoring, or choose an alternative option for parameter monitoring.

ⁿ We have assumed that all respondents would have to keep records of their operations according to the operation and maintenance plan.

^o We have assumed that it will take each respondent approximately one hour to record data per week (52 weeks) and 15 minutes to transmit it semiannually.

^p These costs reflect the one-time engineering evaluation and personnel training costs relative to the catalytic reforming unit catalyst regeneration operational changes made in the 2015 final rule. Therefore, it is assumed that this activity now applies only to new units.

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

Table 2: Average Annual EPA Burden and Cost – NESHAP for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (40 CFR Part 63, Subpart UUU) (Renewal)

Activity	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
	Hours per occurrence	Number of occurrence per plant-year	Hours per plant per year (C=AxB)	Plants per year	Technical person-hours per year (E=CxD)	Management person-hours per year (Ex0.05)	Clerical person-hours per year (Ex0.1)	Total Cost per Year \$ ^a
Report Review								
Notification of construction/reconstruction	N/A							
Notification of actual startup	N/A							
Notification of special compliance requirements	N/A							
Notification of performance test ^b	2	1	2	0	0	0	0	\$0
Notification of PM performance test ^c	2	1	2	50.3	100.53	5.03	10.05	\$5,574.17
Notification of HCN performance test ^d	2	1	2	0	0	0	0	\$0
Notification of compliance status	2	1	2	0	0	0	0	\$0
Review of operation, maintenance, and monitoring plan ^b	4	1	4	0	0	0	0	\$0
Review of revised operation, maintenance, and monitoring plan ^e	2	1	2	0	0	0	0	\$0
Review of repeat performance test report	8	1	8	0	0	0	0	\$0
Review of RATA for CEMS ^f	8	1	8	65	520	26	52	\$28,831.92
Review of compliance report	N/A							
Review of semiannual compliance reports ^g	2	2	4	142	568	28.4	56.8	\$31,493.33
Review of NESHAP waiver application	4	1	4	0	0	0	0	\$0

TOTAL ANNUAL BURDEN AND COST (rounded)^h					1,370	\$65,900
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Assumptions:

^a This cost is based on the following labor rates: Managerial rate of \$66.62 (GS-13, Step 5), Technical rate of \$49.44 (GS-12, Step 1), and Clerical rate of \$26.75 (GS-6, Step 3). These rates are from the Office of Personnel Management (OPM) 2019 General Schedule which excludes locality rates of pay. The rates have been increased by 60 percent to account for the benefit package available to government employees.

^b We have assumed that this activity is a one-time activity that applies only to new sources.

^c The 2015 final rule requires catalytic cracking unit catalyst regeneration to conduct EPA Reference Method (M5) PM testing every 5 years, unless the unit is subject to the “NSPS J” compliance option and the PM emissions rate during the most recent test is greater than 0.8 g PM/kg coke burn-off. For units in excess of that rate, testing is required annually. It was assumed that 10 percent of sources will require annual testing. There are 116 FCCUs that will test over the 3 years, so each year, approximately 50.3 performance tests will be conducted ($116 \text{ units} / 3 \text{ years} + 116 \times 0.1 = 50.3 \text{ tests/year}$).

^d The 2015 final rule required each catalytic cracking unit to conduct a one-time EPA Reference Method 320 test for HCN by August 1, 2017, or within 150 days of startup of a new unit. Therefore, it is assumed that this activity applies only to new units.

^e The 2015 final rule assumed approximately 101 facilities must revise the OMM Plan due to monitoring requirement changes for catalytic cracking unit catalyst regeneration; assumed 2 hrs to review the OMM Plan as a one-time activity.

^f We assume that the burdens associated with review of RATA testing are roughly equal to those for review of a performance test. We also assume that there are 105 respondents with 253 SRU units (2.41 units/respondent). There are 27 respondents with SRUs using CEMs. Therefore, the number of SRUs using CEMs is $27 \times 2.4 = 65$ (rounded).

^g We have assumed that all sources would be submitting semiannual compliance reports.

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