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 1844.08, 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, amended on: February 9, 2005; April 20, 2006; and December 1, 2015. These regulations apply to three types of affected units at major source petroleum refineries: fluid catalytic cracking units for catalyst regeneration, catalytic reforming units, and sulfur recovery units. 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.

The 2015 rule amendment revised the operating standards for fluid catalytic cracking units (FCCU) and clarified the requirements for catalytic reforming units (CRU) and sulfur recovery units (SRU). Significant changes include new testing requirements and more stringent operating limits for FCCU catalyst regeneration, revisions to requirements for catalytic reforming catalyst regeneration when using active purging, addition of an alternative emissions limit for SRUs using oxygen enriched air, revised monitoring requirements, and elimination of startup, shutdown and malfunction (SSM) exemption.

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. In the event that there is no such delegated authority, the reports are sent directly to the U.S. Environmental Protection Agency (EPA) regional office.

The respondents to this ICR are publicly-owned and -operated petroleum refineries (aka: the “Affected Public”). None of the facilities are owned by either state, local and tribal agencies or the Federal Government. The “burden” to the “Affected Public” 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). The “burden” to the Federal Government is attributed entirely to work performed by either Federal employees or government contractors and may be found 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).

Over the next three years, approximately 142 respondents per year will have one or more affected units subject to these standards. No new or reconstructed facilities are expected over the next three years. However, it is estimated that one affected facility (0.33 per year) will conduct a performance test due to a process/operating change during the three-year period of this ICR.

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 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 was 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 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 the standard is 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 (81 FR 26546) on May 3, 2016. No comments were received on the burden published in the Federal Register.

3(c) Consultations

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

Industry trade associations and other interested parties were provided an opportunity to comment on the burden associated with these standards as they were being developed and these 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 Manufactures (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. API provided comments and recommended that the ICR renewal incorporates costs and burdens associated with the many new continuous monitoring systems (CMS) quality assurance and quality control (QA/QC) requirements imposed by the 2015 rule amendment, which were not previously addressed in ICR 1844.07. Specifically, API explained that a relative accuracy test audit (RATA) is required for each continuous emissions monitoring system (CEMS) once per year, and that the burden associated with conducting a RATA is roughly equal to those for a performance test, excluding the advanced notice requirements. We have incorporated this additional RATA burden for CEMS into the ICR. Furthermore, the API explained that there are burdens associated with the monthly calibration checks and quarterly inspection requirements for continuous parameter monitoring systems (CPMS). For example, API estimates that each monthly or less frequent calibration check can take an hour to perform, and that quarterly inspections may take anywhere from two to four hours, four to eight hours of work, depending on whether or not scaffolding must be assembled to access the instrument location. However, since the number of calibration checks and inspections that must be performed for each CPMS depends on the parameter being monitored, we do not have enough information to estimate the burden for these activities.

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. 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 is 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)(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)
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)
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)
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)
Maintenance	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.

The 2015 amendment finalized electronic reporting of performance test reports and CEMS performance evaluation data. Electronic reporting is common in environmental data collection, provides standardization of data reporting formats, and reduces reporting burden for the regulated community. All data that are required to be reported electronically will be collected through the EPA's Compliance and Emissions Data Reporting Interface (CEDRI), which is part of the EPA's Central Data Exchange. The data collected via CEDRI will be more extensive than the data collected through AFS and will be visible to the public through WebFIRE.

(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.
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.
Revise the operating, maintenance, and monitoring plan.
Enter information required to be recorded above.
Submit the required reports developing, acquiring, installing, and utilizing technology and systems for the purpose of collecting, validating, and verifying information.
Develop, acquire, install, and utilize technology and systems for the purpose of processing and maintaining information.
Develop, acquire, install, and utilize technology and systems for the purpose of disclosing and providing information.

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

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 every 5 years or more frequently for catalytic cracking unit catalyst regeneration, required to be submitted by industry.
Audit facility records.
Input, analyze, and maintain data in the Enforcement and Compliance History Online (ECHO) and ICIS.

5(b) Collection Methodology and Management

Following notification of startup, the reviewing authority could inspect the source to determine whether the pollution control devices are properly installed and operated. Performance test reports are used by the Agency to discern a source’s initial capability to comply with the emission 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

A 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 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).

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 20,200 hours (Total Labor Hours from Table 1 below). These hours are based on Agency studies and background documents from the development and amendments 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	$138.43 ($65.92+ 110%)
Technical	$106.45 ($50.69 + 110%)
Clerical	$52.77 ($25.13 + 110%)

These rates are from the United States Department of Labor, Bureau of Labor Statistics, September 2015, "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 these regulation. The annual operation and maintenance costs are the ongoing costs to maintain the monitors and other costs such as photocopying and postage.

An annual operation and maintenance cost for this subpart includes performance testing. The 2015 rule amendments require an estimated 101 facilities with 116 catalytic cracking units to conduct periodic performance testing for particulate matter every 5 years for catalytic cracking unit catalyst regeneration, unless the particulate matter emissions measured during the most recent performance test are in excess of 0.8 g/kg coke burn-off when using the fixed 20 percent opacity operating limit compliance alternative, in which case the testing frequency will be annually. Additionally, a one-time performance test for HCN is required for catalytic cracking unit catalyst regeneration as part of the final amendments.

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

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

Capital/Startup vs. Operation and Maintenance (O&M) Costs						
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	38.7	$38,700
TOTAL [g]			**$0**			**$8,820,000**

[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

[e] The 2015 final rule amendments require 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. All 116 FCCU units will need to conduct an initial performance test prior to August 1, 2017. Therefore, in this 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 require a one-time performance test for HCN for catalytic cracking unit catalyst regeneration prior to August 1, 2017. There are 116 catalytic cracking units. Therefore, in the upcoming 3-year ICR period, we assume that 38.7 units per year (i.e., 116 facilities / 3 years) will need to have a HCN performance test. 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 $8,820,000. 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 $8,820,000. These are the recordkeeping costs.

6(c) Estimating Agency Burden and Cost

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

The average annual Agency cost during the three years of the ICR is estimated to be $43,500.

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

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

These rates are from the Office of Personnel Management (OPM), 2016 General Schedule, which excludes locality rates of pay. The rates have been increased by 60 percent to account for the benefit packages available to government employees. Details upon which this estimate is based appear 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).

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 [a]	(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	0.33	142	0	0.33	142
2	0.33	142	0	0.33	142

Number of Respondents					
3	0.33	142	0	0.33	142
Average	0.33	142	0	0.33	142

[a] New respondents include sources with constructed and reconstructed 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:

[a] There are 101 facilities with 116 catalytic cracking units that are required to conduct an initial PM performance test on each unit no by no later than August 1, 2017, and a periodic PM performance test once on each unit every 5 years. Therefore, we assume that over the next 3-years of this ICR, one third of all facilities with catalytic cracking units will perform the initial test each year. Additionally, it was assumed 10 percent of the respondents would be required to test annually because the particulate matter emissions measured during the most recent performance test are in excess of 0.8 g/kg coke burn-off when using the fixed 20 percent opacity operating limit compliance alternative. This means a total of 50.3 respondents annually *i.e.*, 116/ 3 years + 116 × 0.1 = 50.3 facilities/year that respond.

[b] There are 101 facilities with 116 catalytic cracking units that are required to conduct a one-time performance HCN test by August 1, 2017. In the 3 years following promulgation, 101 facilities will test all 116 catalytic cracking unit catalyst regeneration, so there are 38.7 respondents per year, *i.e.*, 116 facilities / 3 years = 38.7 facilities/year that respond.

[c] There are approximately 116 catalytic cracking units at 101 facilities, so each facility would report 1.15 responses per year, *i.e.*, 116 units / 101 facilities = 1.15 responses/facility.

[d] Assumed 101 facilities must revise the operation, maintenance, and monitoring (OMM) Plan due to monitoring requirement changes for catalytic cracking unit catalyst; we assumed that one-third of facilities comply in each of the 3 years following promulgation, so that 33.7 facilities will revise the plan each year.

[e] 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 units / 3 years = 5.0 respondents/year).

[f] We have assumed that one respondent over the next 3-years of this ICR will conduct a performance test due to significant process/operating change (1/3 = 0.33).

[g] There are approximately 253 SRU at 105 facilities, so each facility would report 2.41 responses per year, *i.e.*, 253 units / 105 facilities = 2.41 responses/facility

The number of Total Annual Responses is 593 (rounded).

The total annual labor costs are $2,090,000. 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).

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 below in Tables 1 and 2, respectively, and summarized below as well.

(i) Respondent Tally

The total annual labor hours are 20,200 hours. 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 34 hours per response.

The total annual capital/startup and O&M costs to the regulated entity are $8,820,000. 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 936 labor hours at a cost of $43,500. 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 an increase in the total estimated burden as currently identified in the OMB Inventory of Approved Burdens. The increase in burden from the most recently-approved ICR is primarily due to the December 2015 final rule amendments. The changes to 40 CFR Part 63 Subpart UUU caused by the rule amendment are summarized in section 1(b). The specific changes that impacted this ICR are (1) the elimination of the SSM exemption, (2) the requirement for FCCUs to do periodic PM performance testing and a one-time HCN performance test, and (3) revisions to requirements for catalytic reforming catalyst regeneration when using active purging. This ICR accounts for the burden previously presented in both EPA ICR Number 1844.06 (existing rule) and EPA ICR Number 1877.07 (2015 amendment).

The elimination of the SSM exemption did not lead to any changes to the time or cost burden estimates, or to the number of responses, because the previous assumption was that all existing respondents have already complied with the initial requirements to prepare and submit the SSM plan, thus the time and cost estimate was already zero. In this supporting statement, we have added a footnote in Table 1 to explain that the SSM exemption has been eliminated, and that the burden item can be removed out of future ICR supporting statements.

We have accounted for the additional labor and O&M costs to notify, perform, and prepare and submit the reports for the PM and HCN performance tests for FCCUs. We have also accounted for the additional labor for owners or operators of facilities with FCCUs to update their operating, maintenance, and monitoring plan, to account for the new requirements.

We have also accounted for the additional labor and responses associated with training personnel and performing an engineering assessment for evaluation of the new catalytic

reforming unit operational requirements.

Furthermore, we have added a new burden item for performing relative accuracy test audits on units using CEMs, based on industry comments received from API (further discussed in Section 3(c)). This contributed to an increase in the total labor burden, cost and number of annual responses.

In addition, the total number of respondents was revised from 123 to 142, which contributed to the increase in burden and cost.

6(g) Burden Statement

The annual public reporting and recordkeeping burden for this collection of information is estimated to average 34 hours per response. “Burden” means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB Control Number. The OMB Control Numbers for EPA regulations are listed at 40 CFR Part 9 and 48 CFR Chapter 15.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, EPA has established a public docket for this ICR under Docket ID Number EPA-HQ-OECA-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) Person-hours per occurrence	(B) No. of occurrences per respondent per year	(C) Person-hours per respondent per year (C=AxB)	(D) Respondents per year [a]	(E) Technical person-hours per year (E=CxD)	(F) Management person-hours per year (Ex0.05)	(G) Clerical person-hours per year (Ex0.1)	(H) 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	$33,696.17
B. Required activities [d]								
Initial Performance test [e]	40	1	40	0.33	13.2	0.66	1.32	$1,566.16
Startup, shutdown, malfunction plan [f]	N/A							
PM Performance Test (internal) [g]	40	1	40	50.27	2,010.67	100.53	201.07	$238,562.58
HCN Performance Test (internal) [h]	40	1	40	38.67	1,546.67	77.33	154.67	$183,509.68
Operating, maintenance, and monitoring plan [d]	40	1	40	0	0	0	0	$0
Revise operating, maintenance and monitoring plan [i]	20	1	20	33.67	673.33	33.67	67.33	$79,889.99
RATA for units using CEMs [j]	40	1	40	65	2600	130	260	$308,486.10
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	N/A							

Burden Item	(A) Person-hours per occurrence	(B) No. of occurrences per respondent per year	(C) Person-hours per respondent per year (C=AxB)	(D) Respondents per year [a]	(E) Technical person-hours per year (E=CxD)	(F) Management person-hours per year (Ex0.05)	(G) Clerical person-hours per year (Ex0.1)	(H) Total Cost per Year $[b]
requirements								
Notification of performance test [e]	2	1	2	0.33	0.66	0.03	0.07	$78.31
Notification of PM performance test [g]	2	1	2	50.27	100.53	5.03	10.05	$11,928.13
Notification of HCN performance test [h]	2	1	2	38.67	77.33	3.87	7.73	$9,175.48
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	$336,961.74
Subtotal for Reporting Requirements					**11,668**			**$1,203,854**
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	$876,100.52
F. Time to train personnel [p]	4	1	4	5	20	1	2	$2,373
G. Time to adjust existing ways to comply with previously applicable requirements	N/A					0		
H. Time to transmit or disclose information [o]	0.25	1	0.25	142	35.5	1.78	3.55	$3,459.07
I. Time for audits	N/A							
Subtotal for Recordkeeping Requirements					**8,555**			**$881,933**

Burden Item	(A) Person-hours per occurrence	(B) No. of occurrences per respondent per year	(C) Person-hours per respondent per year (C=AxB)	(D) Respondents per year [a]	(E) Technical person-hours per year (E=CxD)	(F) Management person-hours per year (Ex0.05)	(G) Clerical person-hours per year (Ex0.1)	(H) Total Cost per Year $[b]
TOTAL LABOR BURDEN AND COST (rounded)[q]					**20,200**			**$2,090,000**
Total Capital/O&M Costs (rounded)[q]								**$8,820,000**
Grand Total (Labor and Capital/O&M Costs)(rounded)[q]								**$10,90,000**

Assumptions:

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

[b] This ICR uses the following labor rates: $138.43 per hour for Executive, Administrative, and Managerial labor; $106.45 per hour for Technical labor, and $52.77 per hour for Clerical labor. These rates are from the United States Department of Labor, Bureau of Labor Statistics, September 2015, "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 have to read the amended UUU rule during the upcoming 3-year ICR period.

[d] We have assumed that all existing respondents (142 major source petroleum refineries) over the next 3 year s of this ICR have complied with the rule's initial requirements including the initial performance test.

[e] We have assumed that one respondent over the next 3-years of this ICR will conduct a performance test due to significant process/operating change (1/3 = 0.33).

[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 after promulgation, so each year, approximately 50.3 performance tests will be conducted (116 units / 3 years + 116 × 0.1 = 50.3 tests/year.

[h] The final rule requires each catalytic cracking unit to conduct a one-time EPA Reference Method 320 test for HCN. There are 116 units that will test over the 3 years after promulgation, so each year, approximately 38.7 performance tests will be conducted (116 units / 3 years = 38.7 tests/year).

[i] As a result of the 2015 final rule, assumed approximately 101 facilities must revise the operation, maintenance, and monitoring (OMM) Plan due to monitoring requirement changes for catalytic cracking unit catalyst regeneration; we assumed that one-third of facilities comply in each of the 3 years following promulgation, so that 33.7 facilities will revise the plan each year. Assumed 20 hrs to revise the OMM Plan.

[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 x 2.4 = 65 (rounded).

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

[l] 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 approximate 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. The rule requirements are subject only to units using active purge, and we expect this to be approximately 10-percent of the 151 total CRU units at all refineries (i.e., 15 units). We assumed one-third of the facilities conduct training for their units each year, so training takes place at 5.0 units per year (i.e., 151 × 0.1 / 3).

[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) Hours per occurrence	(B) Number of occurrence per plant-year	(C) Hours per plant per year (C=AxB)	(D) Plants per year	(E) Technical person-hours per year (E=CxD)	(F) Management person-hours per year (Ex0.05)	(G) Clerical person-hours per year (Ex0.1)	(H) 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, c]	2	1	2	0.33	0.66	0.03	0.07	$35.25
Notification of PM performance test [d]	2	1	2	50.27	100.53	5.03	10.05	$5,368.88
Notification of HCN performance test [e]	2	1	2	38.67	77.33	3.87	7.73	$4,129.91
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 [f]	2	1	2	33.67	67.33	3.37	6.73	$3,596
Review of repeat performance test report	8	1	8	0	0	0	0	$0
Review of compliance report	N/A							
Review of semiannual compliance reports [g]	2	2	4	142	568	28.4	56.8	$30,333.47
Review of NESHAP waiver application	4	1	4	0	0	0	0	$0
TOTAL ANNUAL BURDEN AND COST (rounded)[h]					**936**			**$43,500**

Assumptions:

[a] This cost is based on the following labor rates: Managerial rate of $64.16 (GS-13, Step 5), Technical rate of $47.62 (GS-12, Step 1), and Clerical rate of $25.76 (GS-6, Step 3). These rates are from the Office of Personnel Management (OPM) 2016 General Schedule which excludes locality rates of pay. The rates have been increased by 60 percent to account for the benefit package available to government employees.

[b] We have assumed that all existing respondents (142 major source petroleum refineries) over the next 3 years of this ICR have complied with the rule initial requirements including the initial performance test.

[c] We have assumed that one respondent over the next 3-years of this ICR will conduct a performance test due to significant process/operating change (1/3 = 0.33).

[d] 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 units / 3 years + 116 × 0.1 = 50.3 tests/year.

[e] The 2015 final rule requires each catalytic cracking unit to conduct a one-time EPA Reference Method 320 test for HCN. There are 116 units that will test over the 3 years after promulgation, so each year, approximately 38.7 performance tests will be conducted (116 units / 3 years = 38.7 tests/year).

[f] Assumed approximately 101 facilities must revise the OMM Plan due to monitoring requirement changes for FCCUs (there are 116 FCCUs at 101 facilities in the source category); we assumed that one-third of facilities comply in each of the 3 years following promulgation, so that 33.7 facilities will revise the plan each year. Assumed 2 hours for review of the OMM Plan.

[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.