

Overview - Number of Facilities and CEMS/CPMS Subject to ICR

Cells highlighted in blue denote values updated by ERG. All other cells use values EPA provided from calculations for the p

Number of Facilities Subject to ICR	2137.06			2137.07	
	Year 1	Year 2	Year 3	Year 1	Year 2
Existing Facilities	1,244	1,246	1,248	1,250	1,252
New Facilities	2	2	2	2	2

Number of CEMS/CPMS Subject to ICR	HAP	2137.06			2137.07	
		Year 1	Year 2	Year 3	Year 1	Year 2
A. Existing CEMS/CPMS	PM	N/A	N/A	N/A	1,250	1,252
	HCl	N/A	N/A	N/A	259	261
	Hg	700	700	700	1,101	1,103
	HF	N/A	N/A	N/A	0	0
	Total Existing CEMS/CPMS	700	700	700	2,610	2,616
B. New CEMS/CPMS	PM	1,246	1,248	1,250	2	2
	HCl	255	257	259	2	2
	Hg	397	399	401	2	2
	HF	0	0	0	0	0
	Total New CEMS/CPMS	1,898	1,904	1,910	6	6
C. Total CEMS/CPMS in Operation	PM	1,246	1,248	1,250	1,252	1,254
	HCl	255	257	259	261	263
	Hg	1,097	1,099	1,101	1,103	1,105
	HF	0	0	0	0	0
	Total CEMS/CPMS	2,598	2,604	2,610	2,616	2,622

Average CEMS/CPMS per Facility	Year 1	Year 2	Year 3	Year 1	Year 2
	2.09	2.09	2.09	2.09	2.09

Supporting Information

ICR Year	EGU Type	New	Existing	PM	
				M5, M202	M29
Calculations for 2137.06	Coal-fired >8,300	2	1,046	1,048	1,048
	Coal-fired <8,300	0	36	36	36
	IGCC	0	2	2	2
	liq oil-fired	0	149	149	0
	solid oil-fired	0	11	11	11

		Total	2	1,244	1,246	1,097
	Year 2	Coal-fired >8,300	2	1,048	1,050	1,050
		Coal-fired <8,300	0	36	36	36
		IGCC	0	2	2	2
		liq oil-fired	0	149	149	0
		solid oil-fired	0	11	11	11
		Total	2	1,246	1,248	1,099
	Year 3	Coal-fired >8,300	2	1,050	1,052	1,052
		Coal-fired <8,300	0	36	36	36
		IGCC	0	2	2	2
		liq oil-fired	0	149	149	0
		solid oil-fired	0	11	11	11
		Total	2	1,248	1,250	1,101
Calculations for 2137.07	Year 1	Coal-fired >8,300	2	1,052	1,054	1,054
		Coal-fired <8,300	0	36	36	36
		IGCC	0	2	2	2
		liq oil-fired	0	149	149	0
		solid oil-fired	0	11	11	11
		Total	2	1,250	1,252	1,103
	Year 2	Coal-fired >8,300	2	1,054	1,056	1,056
		Coal-fired <8,300	0	36	36	36
		IGCC	0	2	2	2
		liq oil-fired	0	149	149	0
		solid oil-fired	0	11	11	11
		Total	2	1,252	1,254	1,105
	Year 3	Coal-fired >8,300	2	1,056	1,058	1,058
		Coal-fired <8,300	0	36	36	36
		IGCC	0	2	2	2
		liq oil-fired	0	149	149	0
		solid oil-fired	0	11	11	11
		Total	2	1,254	1,256	1,107
Calculations for 2137.08	Year 1	Coal-fired >8,300	0	630	227	227
		Coal-fired <8,300	0	26	22	22
		IGCC	0	3	0	0
		liq oil-fired	0	60	4	0
		solid oil-fired	0	8	1	1
		Total	0	727	254	250
	Year 2	Coal-fired >8,300	0	630	227	227
		Coal-fired <8,300	0	26	22	22
		IGCC	0	3	0	0
		liq oil-fired	0	60	4	4
		solid oil-fired	0	8	1	1
		Total	0	727	254	254
	Year 3	Coal-fired >8,300	0	630	227	227
		Coal-fired <8,300	0	26	22	22

		IGCC	0	3	0	0
		liq oil-fired	0	60	4	4
		solid oil-fired	0	8	1	1
		Total	0	727	254	254

previous ICR.

	2137.08		
Year 3	Year 1	Year 2	Year 3
1,254	727	727	727
2	0	0	0

	2137.08		
Year 3	Year 1	Year 2	Year 3
1,254	254	254	254
263	607	607	607
1,105	555	555	555
0	0	0	0
2,622	1,415	1,415	1,415
2	0	0	0
2	0	0	0
2	0	0	0
0	0	0	0
6	0	0	0
1,256	254	254	254
265	607	607	607
1,107	555	555	555
0	0	0	0
2,628	1,415	1,415	1,415

2.09	1.95	1.95	1.95
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	HCl	SO2	Hg	HF
M29	M320	M6A	M30B	M320
0	255	0	1,048	
0	0	0	36	
	0		2	
0	0		0	
0	0	0	11	

0	255	0	1,097	0
0	257	0	1,050	
0	0	0	36	
	0		2	
0	0		0	
0	0	0	11	
0	257	0	1,099	0
0	259	0	1,052	
0	0	0	36	
	0		2	
0	0		0	
0	0	0	11	
0	259	0	1,101	0
0	261	0	1,054	
0	0	0	36	
	0		2	
0	0		0	
0	0	0	11	
0	261	0	1,103	0
0	263	0	1,056	
0	0	0	36	
	0		2	
0	0		0	
0	0	0	11	
0	263	0	1,105	0
0	265	0	1,058	
0	0	0	36	
	0		2	
0	0		0	
0	0	0	11	
0	265	0	1,107	0
0	580	0	529	
0	20	0	22	
	0		0	
0	0		0	
0	7	0	4	
0	607	0	555	0
0	580	0	529	
0	20	0	22	
	0		0	
0	0		0	
0	7	0	4	
0	607	0	555	0
0	580	0	529	
0	20	0	22	

0	0	0	0	0
0	0	0	0	0
0	7	0	4	0
0	607	0	555	0

Updated formulas to address changes to cells E70:M87 (changes to existing inventory per OAQPS)

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Updated formulas to address changes to cells E70:M87 (no new sources)

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Notes

M5 and M202 are most expensive for total PM; HCl testing more expensive than SO2; Hg testing is required

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All sources must use M29 for Hg; assumed would use for total HAP metals as well; M320 required for HF and HCl; no SO2 required

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M5 and M202 are most expensive for total PM; HCl testing more expensive than SO2; Hg testing is required

Updated existing unit counts based on data provided by OAQPS for RTR, with no new units for next 3 year prd
Revised # of units with CEMS/CPMS based on data provided by OAQPS, see %CEMSPMSvstesting tab

Table 1a: Annual Respondent Burden and Cost for Private Facilities - NESHAP for Coal- and Oil-Fired Electric Utility Steam Generating Units (40 CFR Part 63, Subpart UUUUU) (Renewal)
 Cells highlighted in blue denote values updated by ERG. All other cells use values EPA provided from calculations for the previous ICR.

Burden Item	A	B	C	D	E	F	G	H
	Technical person-hours per occurrence	No. of occurrences per respondent per year	Technical person-hours per respondent per year (AxB)	Respondents per year ^a	Technical hours per year (CxD)	Management hours per year (Ex0.05)	Clerical hours per year (Ex0.10)	Total cost per year (\$) ^b
1. Applications	N/A							
2. Surveys and studies	N/A							
3. Acquisition, installation, and utilization of technology and systems	160.6	1	160.6	0	0	0	0	Removed/revised all fields that applied only to new respondents
4. Report requirements								
A. Familiarization with regulatory requirements	1	1	1	268	268	13.4	26.8	\$33,748.86 Updated # of respondents to # of footprints. Included familiarization burden since actual report submittals are due less often than quarterly
B. Required activities								
Existing sources								
Annual performance test (PM, Methods 5 and 202)	27.8	1	27.8	407	11,313	566	1,131	1,424,577 Updated to # of units conducting testing by pollutant
Annual performance test (HCl, Method 320)	26.4	1	26.4	100	2,647	132	265	333,367 Updated to # of units conducting testing by pollutant
Annual performance test (Hg, Method 30B)	27.8	1	27.8	143	3,985	199	398	501,801 Updated to # of units conducting testing by pollutant
CEMS quarterly inspections ^c	2.5	4	10	505	5,048	252	505	\$625,694.46 Updated to # of units using HCl/SO2 CEMS. Updated to revised # of respondents
CEMS daily calibration drift tests	0.4	365	146	505	73,702	3,685.1	7,370.2	\$9,281,139.06 Updated to # of units using HCl/SO2 CEMS. Updated to revised # of respondents
CEMS daily monitoring	0.25	365	91.25	505	46,063	2,303.17	4,606.3	\$5,890,711.91 Updated to # of units using HCl/SO2 CEMS. Updated to revised # of respondents
All CEMS must follow appropriate performance specifications ^d	14	1	14	505	7,067	353.4	706.7	\$889,972.26 Updated to # of units using HCl/SO2 CEMS. Updated to revised # of respondents
New sources								
Initial performance test (PM, Methods 5 and 202)	27.8	1	27.8	0	0	0	0	0
Initial performance test (HCl, Method 320)	26.4	1	26.4	0	0	0	0	0
Initial performance test (Hg, Method 30B)	27.8	1	27.8	0	0	0	0	0
CEMS quarterly inspections	2.46	4	9.84	0	0	0	0	0
CEMS daily calibration drift tests	0.12	365	43.8	0	0	0	0	0
CEMS daily monitoring	0	365	0	0	0	0	0	0
All CEMS must follow appropriate performance specifications	7.3	1	7.3	0	0	0	0	0
C. Create information	See 4B							
D. Gather existing information	See 4E							
E. Write Report								
Existing sources								
Notification of CEMS demonstration	5	1	5	0	0	0	0	0
Notification of initial performance test	3	1	3	0	0	0	0	0
Performance test report	See 4B							
Notification of compliance status	16.5	1	16.5	0	0	0	0	0
Quality assurance program certification	4	1	4	0	0	0	0	0
Startup, shutdown, and malfunction report (10% of respondents)	10	1	10	26.8	268	13.4	26.8	\$33,748.86 Updated to based on 10% of footprints. Updated to revised # of respondents
Semiannual compliance report	75	2	150	268	40,200	2,010	4,020	\$5,062,329.72 Updated to based on # of footprints. Updated to revised # of respondents
Site-specific performance evaluation test plan	20	1	20	220	4,397	220	440	\$53,698 Updated to based on # of units estimated to conduct testing, assumes 20 hrs/plan/per unit.
Request to use alternative monitoring procedure (10% of respondents)	5	1	5	22	110	5	11	\$3,842
New sources								
Initial notification	3	1	3	0	0	0	0	0
Notification of CEMS demonstration	5	1	5	0	0	0	0	0
Notification of initial performance test	4	1	4	0	0	0	0	0
Performance test report	See 4B							
Notification of compliance status	16.5	1	16.5	0	0	0	0	0
Quality assurance program certification	3	1	3	0	0	0	0	0
Startup, shutdown, and malfunction report (10% of respondents)	10	1	10	0	0	0	0	0
Semiannual compliance report	75	2	150	0	0	0	0	0
Site-specific performance evaluation test plan	20	1	20	0	0	0	0	0
Request to use alternative monitoring procedure (10% of respondents)	5	1	5	0	0	0	0	0
Subtotal for Reporting Requirements						224,328		\$24,564,630
5. Recordkeeping requirements								
A. Familiarization with regulatory requirements	See 4A							
B. Plan activities	See 4B							
C. Implement activities	See 4B							
D. Record data	N/A							
E. Time to transmit or disclose information								
Existing sources								
Records of CEMS malfunctions (10% of respondents)	Tracy Curtis: We are only assuming 10% of respondents will be reporting SSM in line 37, have adjusted the records of CEMS malfunctions accordingly.	12	12	26.8	322	16.1	32.2	\$40,498.64 Updated to based on # of footprints. Updated to revised # of respondents
Records of startups, shutdowns, malfunctions, etc.		12	12	268	3,216	160.8	321.6	\$404,986.38 Updated to based on # of footprints. Updated to revised # of respondents
Records of monthly fuel use		12	24	268	6,432	321.6	643.2	\$809,972.78 Updated to based on # of footprints. Updated to revised # of respondents
New sources								
Records of CEMS malfunctions (10% of respondents)		12	12	0	0	0	0	0
Records of startups, shutdowns, malfunctions, etc.		12	12	0	0	0	0	0
Records of monthly fuel use		12	24	0	0	0	0	0
F. Time to train personnel		1	80	0	0	0	0	0
G. Time for audits	N/A							
Subtotal for Recordkeeping Requirements						11,465		\$1,255,458
TOTAL LABOR BURDEN AND COSTS (ROUNDED) ^a						236,000		\$25,800,000
TOTAL CAPITAL AND O&M COST (ROUNDED) ^a								\$86,600,000
GRAND TOTAL (ROUNDED) ^a								\$112,000,000

Tracy Curtis: Updated to # of HCl/SO2 CEMS, assumes that hourly estimates apply on a unit basis. Note that data provided by OAQPS broke down CEMS for HCl/SO2, CPMS for Hg and PM

Footnotes:
 a EPA estimates an average of 727 units at 322 existing facilities and no new units per year will be subject to the NESHAP over the next 3 years. Of these, 268 facilities are owned by private industry.
 b This ICR uses the following labor rates: \$112.98 (technical), \$149.35 (managerial), and \$54.81 (clerical). These rates are from the United States Department of Labor, Bureau of Labor Statistics, June 2017, "Table 2. Civilian workers, by occupational and industry group." The rates are from column 1, "Total compensation." They have been increased by 110 percent to account for the benefit packages available to those employed by private industry.
 c Estimates are based on the number of privately-owned EGU's complying with annual testing requirements for PM, HCl, and Hg, in lieu of CEMS/CPMS monitoring for these pollutants and includes 407 EGU's conducting Method 5 and Method 202 testing, 100 EGU's conducting Method 320 testing, and 143 EGU's conducting Method 30B testing.
 d Assumes that 505 privately-owned EGU's use HCl or SO2 CEMS.
 e Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.

Assumptions and calculation area:

Respondent Labor Rates	Loaded	Unloaded	Rate (110%)
Technical	\$112.98	\$53.80	2.1
Managerial	\$149.35	\$71.12	2.1
Clerical	\$54.81	\$26.10	2.1

Average Annual Capital Costs for Performance Testing			
Test Method	Cost per Test	Number of Tests	Total Cost
PM Methods 5 and 202	\$15,522	407	\$6,316,327
HCl Method 320	\$20,444	100	\$2,050,054
Hg Method 30B	\$20,066	143	\$2,867,628
Total	\$55,972		\$11,234,009

From MATS analysis November 2011--Stef Johnson

Average Annual Capital Costs for CEMS Installation (Labor and Other Direct Costs)			
Equipment	CEM	Cost per Installation	Number of Installations
new beta gauge PM CEMS	PM	\$65,388	0
new FTIR CEMS	HCl	\$111,045	0
new Hg CEMS	Hg	\$174,002	0
Total		\$350,434	0

updated - no new respondents

Tracy Curtis: Number of monitors has been updated based on the % of EGU's conducting CPMS or CEMS monitoring (see the %CEMSPMSvs.testing tab)

Average Annual Operation and Maintenance (O&M) Costs					
CEM	Costs per Monitor			Number of Monitors	Total Annual Cost
	Labor	Testing	ODC's		
PM	\$11,818	\$20,779	\$8,902	198	\$8,223,086
HCl	\$14,789	\$10,932	\$15,897	500	\$21,008,933
Hg	\$19,959	\$40,012	\$40,035	462	\$46,177,033
Total					\$75,409,054

updated to reference annual costs w. recovery from CEMS Cost model as applied to CEMS from existing units; Updated number of monitors based on OAQPS percentage of ERPs using CEMS by pollutant

Table 1b: Annual Respondent Burden and Cost for Public Facilities - NESHAP for Coal- and Oil-Fired Electric Utility Steam Generating Units (40 CFR Part 63, Subpart UUUUU) (Renewal)

Cells highlighted in blue denote values updated by ERG. All other cells use values EPA provided from calculations for the previous ICR.

Burden Item	A Technical person-hours per occurrence	B No. of occurrences per respondent per year	C Technical person-hours per respondent per year (AxB)	D Respondents per year ^a	E Technical hours per year (Cx D)	F Management hours per year (Ex0.05)	G Clerical hours per year (Ex0.10)	H Total cost per year (\$) ^b	
1. Applications	N/A								
2. Surveys and studies	N/A								
3. Acquisition, installation, and utilization of technology and systems	160.6	1	160.6	0	0	0	0	0	Removed/revised all fields that applied only to new respondents
4. Report requirements									
A. Familiarization with regulatory requirements	1	1	1	54	54	2.7	5.4	\$2,911.77	Updated # of respondents to # of footprints. Included familiarization burden since actual report submittals are due less often than quarterly
B. Required activities									
Existing sources									
Initial Annual performance test (PM, Methods 5 and 202) ^c	27.8	1	27.8	82	2,279	114	228	122,909	Updated to # of units conducting testing by pollutant
Initial Annual performance test (HCl, Method 320) ^c	26.4	1	26.4	20	533	27	53	28,762	Updated to # of units conducting testing by pollutant
Initial Annual performance test (Hg, Method 308) ^c	27.8	1	27.8	29	803	40	80	43,294	Updated to # of units conducting testing by pollutant
CEMS quarterly inspections	2.5	4	10	102	1,017	51	102	\$54,846.10	Updated to # of units using HCl/SO2 CEMS. Updated to revised # of respondents
CEMS daily calibration drift tests ^d	0.4	365	146	102	14,850	742.5	1,485.0	\$800,753.12	Updated to # of units using HCl/SO2 CEMS. Updated to revised # of respondents
CEMS daily monitoring ^e	0.25	365	91.25	102	9,281	464.07	928.1	\$500,470.70	Updated to # of units using HCl/SO2 CEMS. Updated to revised # of respondents
All CEMS must follow appropriate performance specifications ^e	14	1	14	102	1,424	71.2	142.4	\$76,784.55	Updated to # of units using HCl/SO2 CEMS. Updated to revised # of respondents
New sources									
Initial performance test (PM, Methods 5 and 202)	27.8	1	27.8	0	0	0	0	0	
Initial performance test (HCl, Method 320)	26.4	1	26.4	0	0	0	0	0	
Initial performance test (Hg, Method 308)	27.8	1	27.8	0	0	0	0	0	
CEMS quarterly inspections	2.46	4	9.84	0	0	0	0	0	
CEMS daily calibration drift tests	0.12	365	43.8	0	0	0	0	0	
CEMS daily monitoring	0	365	0	0	0	0	0	0	
All CEMS must follow appropriate performance specifications	7.3	365	2664.5	0	0	0	0	0	
C. Create information	See 4B								
D. Gather existing information	See 4E								
E. Write Report									
Existing sources									
Notification of CEMS demonstration	5	1	5	0	0	0	0	0	
Notification of initial performance test	3	1	3	0	0	0	0	0	
Performance test report	See 4B								
Notification of compliance status	16.5	1	16.5	0	0	0	0	0	
Quality assurance program certification	4	1	4	0	0	0	0	0	
Startup, shutdown, and malfunction report (10% of respondents)	10	1	10	5.4	54	2.7	5.4	\$2,911.77	Updated to based on 10% of footprints. Updated based on revised # of respondents
Semiannual compliance report	75	2	150	54	8,100	405	810	\$436,764.96	Updated to based on # of footprints. Updated to revised # of respondents
Site-specific performance evaluation test plan	20	1	20	44	886	44	89	47,772	Updated to based on # of units estimated to conduct testing, assumes 20 hrs/plan.
Request to use alternative monitoring procedure (10% of respondents)	5	1	5	4	22	1	4	1,194	
New sources									
Initial notification	3	1	3	0	0	0	0	0	
Notification of CEMS demonstration	5	1	5	0	0	0	0	0	
Notification of initial performance test	4	1	4	0	0	0	0	0	
Performance test report	See 4B								
Notification of compliance status	16.5	1	16.5	0	0	0	0	0	
Quality assurance program certification	3	1	3	0	0	0	0	0	
Startup, shutdown, and malfunction report (10% of respondents)	10	1	10	0	0	0	0	0	
Semiannual compliance report	75	2	150	0	0	0	0	0	
Site-specific performance evaluation test plan	20	1	20	0	0	0	0	0	
Request to use alternative monitoring procedure (10% of respondents)	5	1	5	0	0	0	0	0	
Subtotal for Reporting Requirements						45,200		\$2,119,374	
5. Recordkeeping requirements									
A. Familiarization with regulatory requirements	See 4A								
B. Plan activities	See 4B								
C. Implement activities	See 4B								
D. Record data	N/A								
E. Time to transmit or disclose information									
Existing sources									
Records of CEMS malfunctions (10% of respondents)	Tracy Curtis: We are only assuming 10% of respondents will be reporting SSM in line 37, have adjusted the records of CEMS malfunctions accordingly.	12	12	5.4	65	3.2	6.5	\$3,494.12	Updated to based on 10% of footprints. Updated to revised # of respondents
Records of startups, shutdowns, malfunctions, etc.		12	12	54	648	32.4	64.8	\$34,941.20	Updated to based on # of footprints. Updated to revised # of respondents
Records of monthly fuel use		12	24	54	1,296	64.8	129.6	\$69,882.39	Updated to based on # of footprints. Updated to revised # of respondents
New sources									
Records of CEMS malfunctions (10% of respondents)		12	12	0	0	0	0	0	
Records of startups, shutdowns, malfunctions, etc.		12	12	0	0	0	0	0	
Records of monthly fuel use		12	24	0	0	0	0	0	
F. Time to train personnel		1	80	0	0	0	0	0	
G. Time for audits	N/A								
Subtotal for Recordkeeping Requirements						2,310		\$108,318	
TOTAL LABOR BURDEN AND COSTS (ROUNDED) ^a						48,000		\$2,200,000	
TOTAL CAPITAL AND O&M COST (ROUNDED) ^a								\$17,500,000	
GRAND TOTAL (ROUNDED) ^a								\$19,700,000	

Footnotes:

^a EPA estimates an average of 727 units at 322 existing facilities and no new units per year will be subject to the NESHAP over the next 3 years. Of these, 54 facilities are owned by private industry.

^b This ICR uses the following labor rates: \$112.98 (technical), \$149.35 (managerial), and \$54.81 (clerical). These rates are from the United States Department of Labor, Bureau of Labor Statistics, June 2017, "Table 2. Civilian workers, by occupational and industry group." The rates are from column 1, "Total compensation." They have been increased by 110 percent to account for the benefit packages available to those employed by private industry.

^c Estimates are based on the number of publicly-owned EGUs complying with annual testing requirements for PM, HCl, and Hg, in lieu of CEMS/CPMS monitoring for these pollutants and includes 82 EGUs conducting Method 5 and Method 202 testing, 20 EGUs conducting Method 320 testing, and 29 EGUs conducting Method 308 testing.

^d Assumes that 102 publicly-owned EGUs use HCl or SO2 CEMS.

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

Assumptions and calculation area:

Respondent Labor Rates	Loaded	Multiplier	Unloaded	Updated to agency rates
Technical	\$48.08	1.6	\$30.05	
Managerial	\$64.80	1.6	\$40.50	
Clerical	\$26.02	1.6	\$16.26	

Average Annual Capital Costs for Performance Testing

Test Method	Cost per Test	Number of Tests	Total Cost
PM Methods 5 and 202	\$15,522	82	\$1,272,696
HCl Method 320	\$20,444	20	\$413,071
Hg Method 308	\$20,004	29	\$577,806
Total	\$55,972		\$2,263,569

Average Annual Capital Costs for CEMS Installation (Labor and Other Direct Costs)

Equipment	CEM	Cost per Installation	Number of Installations	Total Cost
new beta gauge PM CEMS	PM	\$65,388	0	\$0
new FTIR CEMS	HCl	\$111,045	0	\$0
new Hg CEMS	Hg	\$174,002	0	\$0
Total		\$350,434	0	\$0
Total Capital Cost:				\$2,263,569

CEM	Costs per Monitor				Number of Monitors	Total Annual Cost
	Labor	Testing	ODC's	Total		
PM	\$11,818	\$20,779	\$8,902	\$41,499	40	\$1,656,890.49
HCl	\$14,789	\$10,932	\$15,897	\$41,618	102	\$4,233,144
Hg	\$19,959	\$40,012	\$40,038	\$100,009	93	\$9,304,329
Total						\$15,194,364

Tracy Curtis: Number of monitors has been updated based on the % of EGUs conducting CPMS or CEMS monitoring (see the %CEMSCPMSvs.testin g tab)

Table 1c: Annual Respondent Burden and Cost Breakdown by Affected Sector - NESHAP for Coal- ar

Affected Sector	Number of Responses	Labor Hours			Labor Cost
		Reporting	Recordkeeping	Total	
Private	1212	224,328	11,465	236,000	\$25,800,000
Public (State/Local/Tribal)	244	45,200	2,310	47,500	\$2,200,000
Total (rounded)	1460	270,000	13,800	284,000	\$28,000,000

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

2011 Final Rule		% by sector	Current		% by sector
Total # facilities:	575		Total # of facilities (May 2017 Inventory):	322	
Total private sector:	479	83.3%	Total private sector	268	83.2%
Total public sector:	96	16.7%	Total public sector	54	16.8%

2.257763975 Units per facility

and Oil-Fired Electric Utility Steam Generating Units (40 CFR Part 63, Subpart UUUUU) (Renewal)

Capital and O&M Cost	Total Cost
\$86,600,000	\$112,000,000
\$17,500,000	\$19,700,000
\$104,000,000	\$132,000,000

195 hrs/response

Updated percentage of public/private to be based on number of facilities/footprints

(footprint)

Table 2a -- Agency Year 1

Burden Item	Technical person-hours per occurrence	No. of occurrences per respondent per year	Technical person-hours per respondent per year (AxB)	Respondents per year ^a	Technical hours per year (CxD)	Management hours per year (Ex0.05)	Clerical hours per year (Ex0.10)	Total cost per year (\$) ^b
Observe initial performance test ^c	24	1	24	0	0	0	0	0
Observe repeat performance test ^d	24	0.2	4.8	0	0	0	0	0
Review initial notification	0.5	1	0.5	0	0	0	0	0
Review notification of CEMS demonstration	0.5	1	0.5	0	0	0	0	0
Review notification of initial performance test	0.5	1	0.5	0	0	0	0	0
Review performance test report	8	1	8	0	0	0	0	0
Review quality assurance program certification	0.5	1	0.5	0	0	0	0	0
Review startup, shutdown, and malfunction report (10% of respondents)	8	1	8	32.2	257.6	12.88	25.76	\$13,890.20
Review semiannual compliance report	8	1	8	322	2,576	128.8	257.6	\$138,902.04
Review notification of compliance status	0.5	1	0.5	0	0	0	0	0
Review site-specific performance evaluation test plan	8	1	8	264		106	211	113,944
Review request to use alternative monitoring procedure (10% of respondents)	0.5	1	0.5	26		1	1	712
Travel Expenses ^e								\$400
TOTAL (ROUNDED) ^f						700		\$268,000

Tracy Curtis:
Updated to add values from Table 1b

Footnotes:

a EPA estimates an average of 727 existing facilities and no new facilities per year will be subject to the NESHAP over the next 3 years. Across all existing facilities, EPA estimates there will be a total of 727, 133, and 667 CEMS monitoring for PM, HCl, and Hg, respectively.

b This ICR uses the following labor rates: \$48.08 (technical), \$64.80 (managerial), and \$26.02 (clerical). These rates are from the Office of Personnel Management (OPM), 2017 General Schedule, which excludes locality rates of pay. The rates have been increased by 60 percent to account for the benefit packages available to government employees.

c EPA estimates it will observe 20% of initial performance tests.

d EPA assumes 20% of initial performance tests must be repeated due to failure.

e EPA estimates annual travel expenses to be \$400 [(1 person x 1 plant/year x 3 days/plant x \$50 per diem) + (\$250 round trip/plant x 1 plant/year) = \$400/year].

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

Assumptions and calculation area:

Agency Labor Rates	Unloaded Labor Rate	Multiplier	Loaded Labor Rate
GS-12 Step 1 Technical	\$30.05	1.6	\$48.08
GS-13 Step 5 Managerial	\$40.50	1.6	\$64.80
GS-06 Step 3 Clerical	\$16.26	1.6	\$26.02
TRAVEL EXPENSES			
SALARY TABLE 20	\$ 400		

Table 1d -- Respondent Summary

	B	C	D	E	F	G	H
2							
3	Total Annual Responses						
4	(A) Information Collection Activity	(B) Number of Respondents	(C) Number of Responses per year	(D) Number of Respondents That Keep Records But Do Not Submit Reports	(E) Total Annual Responses E=(BxC)+D		
5	Existing Sources						
6	Notification of CEMS demonstration	0	1	0	0		
7	Notification of initial performance test	0	1	0	0		
8	Performance test report	489	1	0	489		
9	Notification of compliance status	0	1	0	0		
10	Quality assurance program certification	0	1	0	0		
11	Startup, shutdown, and malfunction report (10% of respondents)	32.2	1	0	32.2		
12	Semiannual compliance report	322	2	0	644		
13	Site-specific performance evaluation test plan	264	1	0	264		
14	Request to use alternative monitoring procedure (10% of respondents)	26.4	1	0	26		
15	New Sources						

Tracy Curtis:
This is based on # tests/# of units; a that a report will c multiple pollutant; other tests be incl

Summary of CEMS (Hg)

<u>Analyzers</u>	BEFORE	AFTER
CO	0	0
SO2	0	0
NOX	0	0
HCl	0	0
Mercury (and CO2/O2)	0	1
CO2	0	0
O2	0	0
THC	0	0

Monitors

OPACITY	0	0
FLOW	0	0
PM (beta gauge)	0	0
PM (light scattering; insitu)	0	0
PM (light scattering; extractive)	0	0

Bag leak detector

Number of fabric filters to be monitored=	0	0
Number of sensors=	0	0

Summary of Costs

First Costs	Labor	Test	ODCs	Total
Planning	2,534	0	352	2,886
Select Equipment	10,941	0	3,067	14,008
Support Facilities	0	0	19,267	19,267
Purchase CEMS Hardware	0	0	103,044	103,044
Install and Check CEMS	6,762	0	11,979	18,741
Performance Specification Tests	2,244	33,855	628	36,726
QA/QC Plan	<u>2,570</u>	<u>11,981</u>	<u>692</u>	<u>15,244</u>
	25,052	45,836	139,029	209,917

Annual Costs

Day-to-Day Activities	11,016	0	1,000	12,016
Annual RATA	885	33,485	0	34,370
PM Monitor RCA	0	0	0	0
PM Monitor RRA	0	0	0	0
Cylinder Gas Audits (ACA/SVA f	1,164	0	15,881	17,045
Recordkeeping and Reporting	1,253	0	160	1,413
Annual QA & O&M Review and L	2,074	0	3,196	5,271
Capital Recovery	<u>3,567</u>	<u>6,527</u>	<u>19,798</u>	<u>29,892</u>

Total w/o capital recovery	16,392	33,485	20,238	70,114
Total with capital recovery	19,959	40,012	40,035	100,006

Summary of CEMS (HCI)

<u>Analyzers</u>	BEFORE	AFTER
CO	0	0
SO2	0	0
NOX	0	0
HCI	0	1
Mercury (and CO2/O2)	0	0
CO2	0	0
O2	0	0
THC	0	0

Monitors

OPACITY	0	0
FLOW	0	0
PM (beta gauge)	0	0
PM (light scattering; insitu)	0	0
PM (light scattering; extractive)	0	0

Bag leak detector

Number of fabric filters to be monitored=	0	0
Number of sensors=	0	0

Summary of Costs

First Costs	Labor	Test	ODCs	Total
Planning	2,534	0	352	2,886
Select Equipment	10,941	0	3,067	14,008
Support Facilities	0	0	19,267	19,267
Purchase CEMS Hardware	0	0	48,763	48,763
Install and Check CEMS	4,818	0	11,979	16,797
Performance Specification Test	2,129	8,463	503	11,095
QA/QC Plan	<u>2,570</u>	<u>11,981</u>	<u>692</u>	<u>15,244</u>
	22,993	20,444	84,622	128,059

Annual Costs

Day-to-Day Activities	6,018	0	1,000	7,018
Annual RATA	885	8,021	0	8,906
PM Monitor RCA	0	0	0	0
PM Monitor RRA	0	0	0	0
Cylinder Gas Audits (ACA/SVA	1,284	0	1,069	2,353
Recordkeeping and Reporting	1,253	0	160	1,413
Annual QA & O&M Review and	2,074	0	1,618	3,693
Capital Recovery	<u>3,274</u>	<u>2,911</u>	<u>12,050</u>	<u>18,236</u>

Total w/o capital recovery	11,515	8,021	3,847	23,382
Total with capital recovery	14,789	10,932	15,897	41,618

Summary of CEMS (PM)

<u>Analyzers</u>
CO
SO2
NOX
HCI
Mercury (and CO2/O2)
CO2
O2
THC

Monitors

OPACITY
FLOW
PM (beta gauge)
PM (light scattering; in
PM (light scattering; e:

Bag leak detector

Number of fabric filters
Number of sensors=

Summary of Costs

First Costs
Planning
Select Equipment
Support Facilities
Purchase CEMS Har
Install and Check C
Performance Specific
QA/QC Plan

Annual Costs

Day-to-Day Activities
Annual RATA
PM Monitor RCA
PM Monitor RRA
Cylinder Gas Audits
Recordkeeping and R
Annual QA & O&M R
Capital Recovery

Total w/o capital reco
Total with capital rec

)

	BEFORE	AFTER
	0	0
	0	0
	0	0
	0	0
)	0	0
	0	0
	0	0
	0	0

	0	0
	0	0
	0	0
isitu)	0	1
xtractive)	0	0

s to be mo	0	0
	0	0

Labor	Test	ODCs	Total
806	0	0	806
5,357	0	643	6,000
0	0	365	365
0	0	33,432	33,432
2,419	0	12,019	14,439
3,639	26,470	693	30,802
<u>2,306</u>	<u>10,444</u>	<u>692</u>	<u>13,442</u>
14,527	36,914	47,844	99,285

1,102	0	0	1,102
0	0	0	0
389	5,692	19	6,099
816	9,830	50	10,696
586	0	620	1,206
5,448	0	40	5,488
1,409	0	1,360	2,769
<u>2,069</u>	<u>5,257</u>	<u>6,813</u>	<u>14,138</u>

9,749	15,522	2,089	27,360
11,818	20,779	8,902	41,499

No. Release Pts	Hg Compliance Method		
610	All	Counts	%
	Hg CMS*	463	76
	Stack Test	147	24

PM Compliance I	
All Units	Counts
PM CMS**	198
Stack Test	412

Lignite Coal			
522	C	Counts	%
	Hg CMS*	441	84
	Stack Test	81	16

C	Counts
PM CMS**	188
Stack Test	334

Lignite Coal			
23	L	Counts	%
	Hg CMS*	19	83
	Stack Test	4	17

L	Counts
PM CMS**	5
Stack Test	18

IGCC			
3	PTC	Counts	%
	Hg CMS*	0	0
	Stack Test	3	100

PTC	Counts
PM CMS**	0
Stack Test	3

Oil: Oil, Diesel Oil, Residual Oil, Other Oil			
56	OIL	Counts	%
	Hg CMS*	0	0
	Stack Test	56	100

OIL	Counts
PM CMS**	4
Stack Test	52

Petroleum Coke			
6	PTC	Counts	%
	Hg CMS*	3	50
	Stack Test	3	50

PTC	Counts
PM CMS**	1
Stack Test	5

* Hg CEMS or Hg sorbent traps

** PM CEMS or PM CPI

Method
%
32
68

AG Compliance Method		
All Units	Counts	%
HCI CEMS	5	1
SO2 CEMS	498	82
Stack Test	107	17

Average % Units Usin
0.636667
Average % Units Testi
0.363

%		C	Counts	%
36		HCI CEMS	4	1
		SO2 CEMS	476	91
64		Stack Test	42	8

%		L	Counts	%
22		HCI CEMS	0	0
		SO2 CEMS	18	78
78		Stack Test	5	22

%		PTC	Counts	%
0		HCI CEMS	0	0
100		Stack Test	3	100

%		OIL	Counts	%
7		HCI CEMS	0	0
93		Stack Test	56	100

%		PTC	Counts	%
17		HCI CEMS	1	17
	6.64	SO2 CEMS	4	66
83		Stack Test	1	17

MS

g CEMS

ing