Table 1: Annual Respondent Burden and Cost – NESHAP for Coke Oven Pushing, Quenching, and Battery Stack

1. ApplicationsN/A2. Survey and StudiesN/A3. Acquisition, Installation, and Utilization of Technology and Systems40140004. Reporting Requirements-A. Familiarize with rule requirement2121632B. Required activities $^{-6}$ Method 5 performance test $^{+c'}$ 401.5606.4384Startup, shutdown, malfunction plan4014000Operation and maintenance plans for by-product coke oven batteries and capture systems and control devices applied to pushing emissions401401400Work practice plan for batteries with horizontal flues (one plant)0140140140Method 9 daily observations for fugitive pushing emissions i 3.13651,1411618,250Weekly sampling for total dissolved solids (TSD) s 2.352119.6161,913.6Monthly inspections and maintenance of affected sources, control devices, and continuous parameter moniloring systems * 21200Notification of applicability212000Notification of applicability212000Notification of actual startup212000Notification of applicability212000Notification of applicability<	Burden item	hours per	(B) No. of occurrence s per respondent per year	(C) Person hours per respondent per year (AxB)	(D) Responden ts per year ª	(E) Technical person- hours per year (CxD)
3. Acquisition, Installation, and Utilization of Technology and Systems 40 1 40 0 0 4. Reporting Requirements	1. Applications	N/A				
Technology and Systems 40 1 40 0 0 4. Reporting Requirements	2. Survey and Studies	N/A				
4. Reporting Requirements2121632A. Familiarize with rule requirement2121632B. Required activities $^{401.5606.4384Starup, shutdown, malfunction plan4014000Operation and maintenance plans for by-product coke oven batteries and capture systems and control devices applied to pushing emissions4014000Work practice plan for batteries with horizontal flues (one plant)401401401Method 9 daily observations for fugitive pushing emissions ^13.13651,1411618,250Weekly sampling for total dissolved solids (TSD) ^{\circ}2.352119.6161,913.6Monthly inspections and maintenance of affected sources, control devices, and continuous parameter monitoring systems ^{\circ}21200Notification of applicability212000Notification of anticipated starup21200Notification of anticipated starup212000Notification of applicability21200Notification of applicability21200000Notification of applicability000Notification of anticipated starup2120000000000000$						
A. Familiarize with rule requirement2121632B. Required activities $^{-6}$ 401.5606.4384Method 5 performance test $^{+6}$ 4014000Operation and maintenance plans for by-product coke oven batteries and capture systems and control devices applied to pushing emissions4014000Work practice plan for batteries with horizontal flues (one plant)40140140140Method 9 daily observations for fugitive pushing emissions i 3.13651,1411618,250Weekly sampling for total dissolved solids (TSD) s 2.352119.6161,913.6Monthy inspections and maintenance of affected sources, control devices, and continuous parameter monitoring systems s 21200Notification of applicability2120000Notification of applicability212000Notification of special compliance212000Notification of performance test tc 212000Notification of performance test tc 212 <td>Technology and Systems</td> <td>40</td> <td>1</td> <td>40</td> <td>0</td> <td>0</td>	Technology and Systems	40	1	40	0	0
B. Required activities e^4 40 1.5 60 6.4 384 Method 5 performance test e^6 40 1.5 60 6.4 384 Startup, shutdown, malfunction plan 40 1 40 0 0 Operation and maintenance plans for by-product coke applied to pushing emissions 40 1 40 0 0 Work practice plan for batteries with horizontal flues (ne plant) 40 1 <td< td=""><td>4. Reporting Requirements</td><td></td><td></td><td></td><td></td><td></td></td<>	4. Reporting Requirements					
Method 5 performance test ** 40 1.5 60 6.4 384 Startup, shutdown, malfunction plan 40 1 40 0 0 Operation and maintenance plans for by-product coke oven batteries and capture systems and control devices applied to pushing emissions 40 1 40 0 0 Work practice plan for batteries with horizontal flues (one plant) 40 1 40 1 40 1 40 Method 9 daily observations for fugitive pushing emissions ' 3.1 365 1,141 16 18,250 Weekly sampling for total dissolved solids (TSD) * 2.3 52 119.6 16 1,913.6 Monthly inspections and maintenance of affected sources, control devices, and continuous parameter monitoring systems * 2 1 2 0 0 Notification of applicability 2 1 2 0 0 Notification of actual startup 2 1 2 0 0 Notification of actual startup 2 1 2 0 0 Notification of actual startup		2	1	2	16	32
Startup, shutdown, malfunction plan4010401000Operation and maintenance plans for by-product coke oven batteries and capture systems and control devices applied to pushing emissions4014000Work practice plan for batteries with horizontal flues (one plant)401401401Method 9 daily observations for fugitive pushing emissions '3.13651,1411618,250Weekly sampling for total dissolved solids (TSD) * sources, control devices, and continuous parameter monitoring systems *2122416384C. Create informationSee 4B000Notification of applicability21200Notification of applicability21200Notification of actual startup21200Notification of period compliance sources, contin request21200Notification of performance test*21200Notification of performance test*21200Notification of performance test*21200Notification of performance test*21.5300Notification of performance test*21.5300Notification of actual startup81800Notification of performance test*21.20	B. Required activities ^{c, d}					
Startup, shutdown, malfunction plan4014000Operation and maintenance plans for by-product coke oven batteries and capture systems and control devices applied to pushing emissions4014000Work practice plan for batteries with horizontal flues (one plant)401401401Wethod 9 daily observations for fugitive pushing emissions t 3.13651,1411618,250Weekly sampling for total dissolved solids (TSD) s 2.352119.6161,913.6Monthly inspections and maintenance of affected sources, control devices, and continuous parameter monitoring systems s 2122416384C. Create information Notification of applicability212000Notification of actual startup Notification of actual startup212000Notification of performance test^ Compliance extension request212000Notification of performance test^ Requirements212000Notification of performance test^ Requirements212000Notification of performance test^ Requirements212000Notification of performance test^ Requirements212000Notification of actual startup2120000Notification	Method 5 performance test ^{e, c}	40	15	60	64	384
$\begin{array}{c c c c c c c c c c c c c c c c c c c $						
applied to pushing emissions4014000Work practice plan for batteries with horizontal flues (one plant)40140140Method 9 daily observations for fugitive pushing emissions '3.13651,1411618,250Weekly sampling for total dissolved solids (TSD) *2.352119.6161,913.6Monthly inspections and maintenance of affected sources, control devices, and continuous parameter monitoring systems *2122416384C. Create informationSee 4B	Operation and maintenance plans for by-product coke		1			0
(one plant)40140140Method 9 daily observations for fugitive pushing emissions i3.13651,1411618,250Weekly sampling for total dissolved solids (TSD) is ources, control devices, and continuous parameter monitoring systems is2.352119.6161,913.6Monthly inspections and maintenance of affected sources, control devices, and continuous parameter monitoring systems is2122416384C. Create informationSee 4B		40	1	40	0	0
emissions t 3.1 365 1,141 16 18,250 Weekly sampling for total dissolved solids (TSD) s 2.3 52 119.6 16 1,913.6 Monthly inspections and maintenance of affected sources, control devices, and continuous parameter monitoring systems s 2 12 24 16 384 C. Create information See 4B 384 D. Gather existing information See 4B 384 C. Create information See 4B 384 D. Gather existing information See 4B 384 D. Gather existing information See 4B		40	1	40	1	40
Monthly inspections and maintenance of affected sources, control devices, and continuous parameter monitoring systems $^{\circ}$ 10		3.1	365	1,141	16	18,250
Monthly inspections and maintenance of affected sources, control devices, and continuous parameter monitoring systems $^{\circ}$ 2122416384C. Create informationSee 4B	Weekly sampling for total dissolved solids (TSD) ^g	2.3	52	119.6	16	1.913.6
C. Create informationSee 4BD. Gather existing informationSee 4BE. Write report 1 Notification of applicability 2 1 2 1 2 0 Notification of constr./reconstr. 2 1 2 1 2 0 Notification of anticipated startup 2 1 2 1 2 0 Notification of special compliance 2 1 2 0 0 Notification of special compliance 2 1 2 0 0 Requirements 0 Compliance extension request 2 1 2 0 0 Notification of compliance test ⁶ 2 1.5 3 0 0 Notification of compliance status 8 1 8 1 8 0 0 0 Notification of compliance status 8 1 2 0 0 0 NetSHAP waiver application N/A Report of performance test ^h $See 4B$ Semiannual compliance reports for battery stacks ⁱ 12 4 <td>sources, control devices, and continuous parameter</td> <td>2</td> <td>12</td> <td>24</td> <td>16</td> <td>384</td>	sources, control devices, and continuous parameter	2	12	24	16	384
D. Gather existing informationSee 4BE. Write report 2 1200Notification of applicability21200Notification of constr./reconstr.21200Notification of anticipated startup21200Notification of actual startup21200Notification of special compliance21200Requirements 2 1200Compliance extension request21200Notification of performance test ^c 21.5300Notification of compliance status81800Notification of performance test ^c 21.5300Notification of compliance status81800NESHAP waiver applicationN/AN/ANESHAP waiver applicationN/AReport of performance test ^h See 4B1280161280Quarterly compliance reports for battery stacks ⁱ 1244811528Emergency startup, shutdown, or malfunction reports41444Subtotal for Reporting Requirements514145. Recordkeeping Requirements555555555555555555 <td>C Create information</td> <td></td> <td>12</td> <td>24</td> <td>10</td> <td>504</td>	C Create information		12	24	10	504
E. Write reportImage: Second Sec						
Notification of applicability21200Notification of constr./reconstr.21200Notification of anticipated startup21200Notification of actual startup21200Notification of special compliance21200Requirements21200Compliance extension request21200Notification of performance test ^c 21.5300Site-specific test plan4014000Notification of compliance status81800Notification of performance test ^h See 4B1401Report of performance reports ^h 40280161280Quarterly compliance reports for battery stacks ⁱ 1244811528Emergency startup, shutdown, or malfunction reports41414Subtotal for Reporting Requirements414145. Recordkeeping Requirements555<						
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Notification of anticipated startup21200Notification of actual startup21200Notification of special compliance21200Requirements21200Compliance extension request21200Notification of performance test ^c 21.5300Site-specific test plan4014000Notification of compliance status81800NESHAP waiver applicationN/AN/ANesee 4B111280Quarterly compliance reports ^h 40280161280Quarterly compliance reports for battery stacks ⁱ 1244811528Emergency startup, shutdown, or malfunction reports41414Subtotal for Reporting Requirements414145. Recordkeeping Requirements555555555						0
Notification of actual startup21200Notification of special compliance21200Requirements21200Compliance extension request21200Notification of performance test ^c 21.5300Site-specific test plan4014000Notification of compliance status81800NESHAP waiver applicationN/AN/ANESHAP waiver applicationN/AReport of performance test ^h See 4B1280161280Quarterly compliance reports ^h 40280161280Quarterly compliance reports for battery stacks ⁱ 1244811528Emergency startup, shutdown, or malfunction reports41414Subtotal for Reporting Requirements555555						0
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Requirements21200Compliance extension request21200Notification of performance testc21.5300Site-specific test plan4014000Notification of compliance status81800NESHAP waiver applicationN/A81800Report of performance test hSee 4B551244811528Semiannual compliance reports for battery stacks i12448115285Emergency startup, shutdown, or malfunction reports41414Subtotal for Reporting Requirements5555555	*	2	1		0	0
Compliance extension request21200Notification of performance test21.5300Site-specific test plan4014000Notification of compliance status81800NESHAP waiver applicationN/A81800Report of performance test hSee 4B551244811528Semiannual compliance reports for battery stacks i1244811528555612Subtotal for Reporting Requirements511414141414Subtotal for Reporting Requirements111141141111Subtotal for Reporting Requirements11<						
Notification of performance test21.5300Site-specific test plan4014000Notification of compliance status81800NESHAP waiver applicationN/A N/A N/A N/A Report of performance test hSee 4B $See 4B$ $See 4B$ Semiannual compliance reports h40280161280Quarterly compliance reports for battery stacks i1244811528Emergency startup, shutdown, or malfunction reports41444Subtotal for Reporting Requirements I I I I I 5. Recordkeeping Requirements I I I I I I		2	1	2	0	0
Site-specific test plan4014000Notification of compliance status81800NESHAP waiver applicationN/AReport of performance test hSee 4BSemiannual compliance reports h40280161280Quarterly compliance reports for battery stacks i1244811528Emergency startup, shutdown, or malfunction reports41414Subtotal for Reporting Requirements5Ecordkeeping Requirements5555		2	1.5	3	0	0
Notification of compliance status81800NESHAP waiver applicationN/AReport of performance test hSee 4BSemiannual compliance reports h40280161280Quarterly compliance reports for battery stacks i1244811528Emergency startup, shutdown, or malfunction reports41414Subtotal for Reporting Requirements5. Recordkeeping Requirements5. Recordkeeping Requirements5. Record status5. Record status	Site-specific test plan					
NESHAP waiver applicationN/AReport of performance test hSee 4BSemiannual compliance reports h40280161280Quarterly compliance reports for battery stacks i1244811528Emergency startup, shutdown, or malfunction reports41414Subtotal for Reporting Requirements5. Recordkeeping Requirements5. Recordkeeping Requirements5. Record startup5. Record startup<						0
Report of performance test hSee 4BSemiannual compliance reports h40280161280Quarterly compliance reports for battery stacks i1244811528Emergency startup, shutdown, or malfunction reports41414Subtotal for Reporting Requirements5. Recordkeeping Requirements5. Recordkeeping Requirements5. Record startup5. Record startup	*		I		-	I]
Semiannual compliance reports h40280161280Quarterly compliance reports for battery stacks i1244811528Emergency startup, shutdown, or malfunction reports41414Subtotal for Reporting Requirements5. Recordkeeping Requirements5. Rec						
Quarterly compliance reports for battery stacks i1244811528Emergency startup, shutdown, or malfunction reports j41414Subtotal for Reporting Requirements5. Recordkeeping Requirements	1 1		2	80	16	1280
Emergency startup, shutdown, or malfunction reports j41414Subtotal for Reporting Requirements </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
Subtotal for Reporting Requirements	Emergency startup, shutdown, or malfunction reports					
5. Recordkeeping Requirements	Subtotal for Reporting Requirements		_			
			1	1	1	I
A. Familiarize with rule requirement See 4A	A. Familiarize with rule requirement	See 4A				

B. Plan activities	3	1	3	0	0
C. Implement activities	12	1	12	0	0
D. Develop record system	3	1	3	0	0
E. Time to enter information	1	52	52	16	832
F. Time to train personnel	3	1	3	0	0
G. Time to adjust existing ways to comply with previously applicable requirements	3	1	3	0	0
H. Time to transmit or disclose information ^k	0.25	2	0.5	16	8
I. Time for audits	N/A				
Subtotal for Recordkeeping Requirements					
TOTAL LABOR BURDEN AND COST (rounded) ¹					
Capital and O&M Cost (rounded) ¹					
GRAND TOTAL (rounded) ¹					

Assumptions:

^a There is an average of 16 respondents (i.e., coke plants operating 30 by-product batteries and 20 non-recovery batteries

^b This ICR uses the following labor rates: \$147.40 per hour for Executive, Administrative, and Managerial labor; \$117.9.

^c We have assumed that existing respondents have already comply with initial rule requirements and are in full compliant

^d Monitoring and recordkeeping of operations for respondents include: monthly inspection of capture and control systems

^e The rule requires that every 2.5 years (or 0.4 times per year over the 3 years of the ICR), each control device applied to

^f Assumes one hour of observations per day per battery.

^g The measuring of the total dissolved solids (TDS) in the make-up water used for quenching is a requirement. In past an

^h The rules requires the submittal of quarterly compliance reports for all battery stacks. If no deviation occurred and no c

ⁱ 40 CFR 63.7341(b) requires quarterly reporting for the COMS monitoring opacity of emissions from the stacks on by-

^j It assumes that one respondent per year will have a startup, shutdown and malfunction (SSM) occurrence that is not ma

^k It assumes 15 minutes to transmit recorded information

¹Totals have been rounded to 3 significant values. Figures may not add exactly due to rounding.

s (40 CFR Part 63, Subpart CCCCC) (Renewal)

) Total Cost Per year ^b	(H) Total Cost Per year ^b	(G) Clerical person hours per year (Ex0.1)	(F) Manageme nt person hours per year (Ex0.05)
	Labor Rates				
117.	Technical	\$0	\$0	0	0
147.	Management	<u> </u>	¢4 101 74	2.2	1.0
57.	Clerical	\$4,191.74	\$4,191.74	3.2	1.6
	Number of Respondents:	\$50,300.93	\$50,300,93	38.4	19.2
-	By-product Batteries	\$0		0	0
	Dy product Dutteries		<i></i>		
2	Non-recovery Batteries	\$0	\$0	0	0
-	Tion recovery Butteries		Ψ	0	0
		\$5,239.68	\$5,239.68	4	2
Iones II	<mark>e</mark> 2015 updates: Per Donna Lee	2 390 604 00 Undated person	\$2 390 604 00	1,825.0	912.5
	2018 updates: Number of resp	\$250,666.29		1,025.0	95.7
Jonucints C	2010 updates. Number of resp	\$250,000.25	φ230,000.23	151.4	55.7
		\$50,300.93	\$50,300.93	38.4	19.2
		\$0		0 0	0
		<u>\$0</u> \$0		0	0
		\$0	\$0	0	0
		\$0 \$0		0	0
		<u></u>	¢0	0	0
		\$0 \$0		0	0
		\$0	\$0 \$0	0	0
		\$0		0	0
					•
		\$167,669.76	\$167.669.76	128	64
		\$167,669.76 \$69,163.78 Updated # of res		128 52.8	64 26.4
			\$69,163.78		

0	\$0		
0	\$0		
0	\$0		
83.2	\$108,985.34		
0	\$0		
0	\$0		
0.8	\$1,047.94		
	\$110,033		
	\$3,100,000		
	\$143,000		
	\$3,240,000		
	0 0 83.2 0		

83 responses/yr 326 hr/resp

). We have assumed that there will be no new sources subject to this regulation.

2 per hour for Technical labor, and \$57.02 per hour for Clerical labor. These rates are from the United States Department of ce with periodic requirements including quarterly and semiannual reports. New respondents would have to comply with the s; daily Method 9 observations; weekly sampling for dissolved solids for quenching operations; work practices for batteries pushing emissions must be sampled by Method 5 for particulate matter. From past analysis, we have determined that there

alysis, we determined there is an average of 2.3 quenching towers per facility.

ontinuous monitoring systems were out of control, only a summary report is required. For other affected sources, semiannu product recovery coke ovens, which are present at eleven plants.

inaged according to the SSM plan.

Notes:

updated 9/20/18 to match the United States Department of Labor, Bureau of Labor Statistics, June 2018, "Table 2. Civilian Wc updated 9/20/18 to match the United States Department of Labor, Bureau of Labor Statistics, June 2018, "Table 2. Civilian Wc updated 9/20/18 to match the United States Department of Labor, Bureau of Labor Statistics, June 2018, "Table 2. Civilian Wc

Steel Gary Works and US Steel Granite City Works shut down since last ICR period. These 2 facilities operate 5 by-product bat anges from 17 to 16. Number of batteries updated to 30 by-product and 20 non-recovery per industry input.

f Labor, Bureau of Labor Statistics, June 2018, "Table 2. Civilian Workers, by Occupational and Industry group." The rates are e initial rule requirements including notifications and performance tests for add-on control devices. with horizontal flues (one plant); and Method 5 testing for particulate matter.

is an average of 1.5 emission points per respondent that need to be tested. There is an average of 6.4 respondents per year (16*

al reports are required for any deviation from an emission limitation (including an operating limit), work practice standard, or (

rkers, by occupational and industry group rkers, by occupational and industry group rkers, by occupational and industry group

teries.

• from column 1, "Total Compensation." The rates have been increased by 110% to account for the benefit packages available t

[•]0.4) submitting Method 5 performance test reports.

D&M requirement.

to those employed by private industry.

Burden item	(A) Person hours per occurrence	(B) No. of occurrence s per plant per year	(C) Hours per plant per year (AxB)	(D) Plants per year ^a	(E) Technical person- hours per year (CxD)
Initial performance test	40	1	40	0	0
Repeat performance test-Retesting preparation	2	1	2	0	0
Repeat performance- Retesting	40	1	40	0	0
Report Review					
Notification of construction/reconstruction	N/A				
Notification of anticipated startup	N/A				
Notification of actual startup	N/A				
Notification of special compliance requirements	N/A				
Notification of initial performance test	2	1	2	0	0
Notification of compliance status ^d	2	1	2	0	0
Review of repeat Method 5 performance test report	8	1	8	6.4	51.2
Review of semi-annual compliance report ^e	8	0.4	3.2	16	51.2
Review of NESHAP waiver application	2	1	2	0	0
Review of quarterly compliance report for battery stacks ^f	1	4	4	11	44
Review of emergency startup, shutdown, and malfunction report ^g	4	1	4	1	4
TOTAL ANNUAL COST ^h					

Assumptions:

^a There are an average of 16 respondents (i.e., coke plants operating 30 by-product batteries and 20 non-recovery

^b This cost is based on the following labor rates which incorporates a 1.6 benefits multiplication factor to account

^c We have assumed that existing sources have complied with the initial rule requirements. New respondents are :

^d Every 2.5 years (or about 0.4 times per year, if averaged over the three-year period of ICR), respondents must s

^e Sources are required to submit semiannual compliance reports and startup, shutdown and malfunction (SSM) r

^f 40 CFR 63.7341(b) requires the submittal of quarterly compliance reports for the COMS monitoring opacity on

^g It assumes that one respondent will have a startup, shutdown and malfunction (SSM) occurrence that is not mar

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

enching, and Battery Stacks (40 CFR Part 63, Subpart CCCCC) (Renewal)

(F) Manageme nt person hours per year (Ex0.05)	(G) Clerical person hours per year (Ex0.1)	(H) Total Cost Per year ^b			Notes:
0	0	\$0	Labor	Rates	
0	0	\$0 \$0	Techn Mana Clerica	gement 65.7	5 Updated 9/20/18 to m 1 Updated 9/20/18 to m 8 Updated 9/20/18 to m
0	0	\$0			
0	0	\$0			
2.56	5.12	\$2,799.28			
2.56	5.12	\$2,799.28			
0	0	\$0			
2.2	4.4	\$2,405.63	Adjusted person-hrs and occ	urances to accuratel	y reflect 1 hr, 4x/year.
0.2 173	0.4	\$218.69 \$8,220			

batteries). We have assumed that there will be no new sources subject to this regulation.

t for government overhead expenses: Managerial rate of \$65.71 (GS-13, Step 5, \$41.07 + 60%), Technical rate of \$48.75 required to conduct performance test for add-on control equipment, submit initial notifications and prepare startup, shutdo ample each emission point using Method 5 for particulate matter and submit a report of results.

eports if there is an occurrence that is not managed according to the SSM plan.

the battery stacks at the eleven coke plants utilizing by-product recovery ovens.

naged according to the SSM plan.

atch the rates from the Office of Personnel Management (OPM), 2018 General Schedule. atch the rates from the Office of Personnel Management (OPM), 2018 General Schedule. atch the rates from the Office of Personnel Management (OPM), 2018 General Schedule.

(GS-12, Step 1, 30.47 + 60%), and Clerical rate of 26.38 (GS-6, Step 3, 16.49 + 60%). These rates are from the Office of P wn and malfunction (SSM) plans.

'ersonnel Management (OPM) "2018 General Schedule" which excludes locality rates of pay.