

Table 1: Annual Respondent Burden and Cost – NESHAP for Chemical Recovery Combustion

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
1. Applications	N/A			
2. Surveys and studies	N/A			
3. Reporting requirements				
A. Familiarization with the regulatory requirements ^c	1	1	1	107
B. Required activities ^d				
Prepare for initial/periodic performance test	24	1	24	25
Attend initial/periodic performance test	24	2	48	25
Prepare for retest	24	1	24	5
Attend retest	24	2	48	5
C. Create information	See 3B			
D. Gather existing information	See 3B			
E. Write reports				
Notifications ^{e, f, g}				
Notification of construction/reconstruction	2	1	2	1.33
Notification of actual startup	2	1	2	1.33
Notification of applicability of standard	2	1	2	1.33
Notification of compliance status	80	1	80	1.33
Notification of performance test/retest	2	1	2	43
Notification of performance evaluation	2	1	2	43
Report of performance test/retest (through CEDRI using ERT) ^h	8	1	8	43
Excess emissions report (through CEDRI) ⁱ				
Semiannual reports of monitoring exceedances and periods of noncompliance	16	2	32	5
Semiannual reports of no exceedances	8	2	16	102
<i>Subtotal for Reporting Requirements</i>				
4. Recordkeeping requirements				
A. Read instructions	See 3A			
B. Plan activities	See 3B			
C. Implement activities	See 3B			
D. Develop record system ^j	40	1	40	1.33
E. Time to enter information				

Records and documentation of supporting calculations for compliance determinations ^k	8	1	8	43
Record of compliant monitoring parameter ranges	2	1	2	43
Records certifying that an NDCE recovery furnace equipped with a dry ESP system is used to comply with the gaseous organic HAP standard for kraft and soda recovery furnaces ^l	2	1	2	1
Records demonstrating compliance with requirement to maintain proper operation of ESP's AVC ^m	8	2	16	183.67
Records of failures to meet standards ⁿ	2	12	24	5
Records of black liquor solids firing rates for recovery furnaces and semichemical combustion units ^o	1.5	52	78	104
Records of lime production for lime kilns ^p	1.5	52	78	98
Records of CMS data ^q	0.5	1,050	525	107.33
F. Time to train personnel				
Initial training ^r	40	1	40	1.33
Refresher training ^s	16	1	16	107
G. Time to adjust existing ways to comply with previously applicable requirements ^t	17.8	1	17.8	107
H. Time to transmit or disclose information				
Compile data for semiannual periods ^u	96	2	192	107.33
Enter/verify information for semiannual reports ^v	8	2	16	107.33
I. Time for audits	N/A			
<i>Subtotal for Recordkeeping Requirements</i>				
TOTAL LABOR BURDEN AND COSTS (rounded) ^w				
TOTAL CAPITAL AND O&M COST (rounded) ^w				
GRAND TOTAL (rounded) ^w				

^a We estimate that the number of existing sources subject to the rule is 107 pulp mills. We estimate 1 new pulp mill will be installed at three existing pulp mills and become subject to the rule over the 3 years of this ICR (two new recovery furnaces and one new recovery boiler). Over these estimates, over the 3 years of this ICR, there will be an average of 107.33 pulp mills per year (107 existing facilities - source requirements for an average of 1.33 pulp mills per year (1 modified or reconstructed facility per year + 1 new facility per year)).

^b This ICR uses the following labor rates: \$147.40 per hour for Managerial labor; \$117.92 per hour for Technical labor, and \$11.79 per hour for Unskilled labor, from the United States Department of Labor, Bureau of Labor Statistics, December 2018, Table 2. Civilian Workers, by Occupation Compensation. The rates have been increased by 110% to account for the benefit packages available to those employed by the mills.

^c We have assumed that it will take 1 hour each year for existing respondents to refamiliarize themselves with rule requirements.

^d We estimate that it will take the respondent 24 hours to prepare for initial/periodic performance test (e.g., prepare test plan, personnel will attend the test. We estimate that 74 mills (which includes the 1 new mill) will need to conduct a test (the respondent state rules to conduct tests); this will occur once during the 3-year ICR period (74 respondents/3 years = 25). In addition, we will repeat performance test due to failure.

^e With the exception of the notification of compliance status, we estimate that it will take the respondent 2 hours once per year.

^f We estimate that it will take the respondent 80 hours once in the initial year to prepare the notification of compliance status.

^g We estimate that the 1 new pulp mill and 3 existing pulp mills with new process units will submit initial notifications (CAA standard) and a notification of compliance status, which are one-time requirements (4 new respondents/3 years = 1.33). We estimate that the test/retest and performance evaluation over the 3-year ICR period (testing = (1 new + 107 existing respondents)/3 years = 36 + 7 = 43).

^h Hard copy report of performance test/retest is included in capital/startup costs. Submittal of performance test/retest data takes 8 hours for 43 mills (see respondent calculation in footnote g).

ⁱ We estimate that 5% of respondents (5% x 107.33 respondents = 5) will each take 16 hours two times per year to complete noncompliance and submit them through the EPA's CEDRI. We estimate that 95% of respondents (95% x 107.33 respondents) will report no exceedances and submit them through the EPA's CEDRI.

^j We estimate that it will take the respondent 40 hours to develop a record system to comply with monitoring requirements.

^k We estimate that it will take the respondent 8 hours (1 day) each year to enter records and documentation of supporting data for record of compliant monitoring parameter ranges. We estimate that 43 mills (see footnote g) will enter this information (initial year).

^l We estimate that the 1 new pulp mill and 2 existing mills will install new recovery furnaces over 3 years, for an average of 1 furnace per year (3 mills/3 years=1). Based on current industry trends, the new furnaces are expected to be a non-direct contact evaporation system. We estimate that it will take the respondent 2 hours to record this information.

^m Assume the 1 new facility has two recovery furnaces with 1 ESP for each recovery furnace. We estimate that it will take the respondent 183.67 hours demonstrating compliance with the requirement to maintain proper operation of the ESP AVC for 183.67 recovery furnace third year/3 years = 183.67).

ⁿ We estimate that 5% of respondents (5% x 107.33 respondents = 5) will fail to meet standards each year. We estimate that the respondent will keep records of failures to meet the standards.

^o We estimate 104 existing kraft, soda, and stand-alone semichemical pulp mills have recovery furnaces or other chemical black liquor solids firing rate. We estimate that each respondent will take 1.5 hours 52 times per year to keep these records.

^p We estimate 98 existing kraft and soda pulp mills have lime kilns that will need to keep records of lime production rate.

^q For the 1 new facility, assume each of the 2 NDCE recovery furnaces has a smelt dissolving tank (SDT) with a wet scrubber 1,050 times per year to record wet scrubber and regenerative thermal oxidizer (RTO) parameters at all existing 107.33 mills (107.33 mills x 1,050 times per year=107.33).

^r We estimate that it will take the respondent 40 hours (1 week) once per year for initial training of personnel with new sources.

^s We estimate that it will take each respondent 16 hours to provide refresher training each year for personnel at all 107 existing mills.

^t Over the period October 11, 2017 through October 11, 2020, due to the RTR amendments published on October 11, 2017, we make a one-time adjustment to existing data acquisition systems to include startup and shutdown periods and the revised oxygen excess emissions reporting. This ICR includes the burden for the period November 1, 2018 through October 31, 2020, which is averaged over the 3 years of this ICR, this burden equates to 17.8 hours per year for 107 respondents.

^u We estimate that each respondent will take 96 hours per semiannual period to compile data for all 107.33 mills (107 existing mills x 96 hours = 10,300.8 hours).

^v We estimate that each respondent will take 8 hours two times per year to verify information for reports for all 107.33 mills.

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

Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills (40 CFR Part 63, Sul

(E) Technical person hr/yr (E=CxD)	(F) Management person hr/yr (Ex0.05)	(G) Clerical person hr/yr (Ex0.1)	(H) Total Cost Per year ^b	Renewal Notes	
					Tech
					Mgmt
					Cler
107	5.35	10.7	\$14,015.55	Reduction in burden - Was \$141, 500 (30 hours in initial year - Oct 11, 2017-Oct 11, 2018) due to one-time event in first year after RTR amendments. Changed to be the lower annual on-going burden item.	
					Respondant Rate: (Source: United St Labor Statistics, Jt occupational and i
600	30	60	\$71,559	Increase in burden - was 24	Labor Type
1,200	60	120	\$157,183.74		Mgmt.
120	6	12	\$15,718.37		Tech.
240	12	24	\$31,436.75		Cler.
					Hours per Resp
					122000
3	0.13	0.27	\$349.30	Increase in burden - was 1	348
3	0.13	0.27	\$349.30	Increase in burden - was 1	350
3	0.13	0.27	\$349.30	Increase in burden - was 1	
107	5.33	10.67	\$13,971.89	Increase in burden - was 1	
86	4.3	8.6	\$11,264.83		
86	4.3	8.6	\$11,264.83		
344	17.2	34.4	\$45,059.34		
160	8	16	\$20,957.83		
1,632	81.6	163.2	\$213,769.89		
5,393			\$607,250		
53	2	5.33	\$6,887.68	Increase in burden - was 1	

m) and 24 hours to attend the test. We also estimate 2 plant
t of the 107 existing mills are already required under existing
re estimate that 20% of respondents (20% x 25 respondents = 5)

year to complete the notifications and submit selected ones through the EPA's CEDRI.

us and submit it through the EPA's CEDRI.

struction/reconstruction, actual startup, applicability of
estimate that 43 mills will submit notifications of performance
36; retesting = 20% x 36 respondents = 7; total testing and

through the EPA's CEDRI in ERT format is estimated to require

te reports of monitoring exceedances and periods of
ents = 102) will each take 8 hours two times per year to write

; (4 new respondents/3 years = 1.33).

alculation for compliance determinations and 2 hours to enter a
cludes initial test and retest, for mills required to retest).

of 1 mill with new recovery furnaces per year over the ICR
porator (NDCE) recovery furnace equipped with a dry ESP

8 hours per semiannual period each year to keep records
and lime kiln ESPs (183 existing ESPs + 2 new ESPs in the

183 count likely from Cost Memo, unlikely to have changed significant

at each respondent will take 2 hours 12 times per year to keep

recovery combustion units that will need to keep records of

No newer facilities use BLO, so assuming the 1
new facility has no BLO system; 104 count likely
from Cost Memo, unlikely to have changed
significantly.

We estimate that each respondent will take 1.5 hours 52 times per
bber. We estimate that each respondent will take 0.5 hours
s (107 existing sources + 1 new source in third year/3

98 count likely from Cost Memo, unlikely to have changed significantl

ources (4 new respondents/3 years) = 1.33).

sting mills.

7, we estimated that it would take each respondent 80 hours to
capacity monitoring allowances, and to transition to electronic
ch equates to 2/3 of the original 80-hour estimate, or 53.3 hours.

ting sources + 1 new sources in third year/3 years=107.33).

ls (107 existing sources + 1 new sources in third year/3 years=107.33).

part MM) (Renewal)

\$117.92

\$147.40

\$57.02

s
ates Department of Labor, Bureau of
me 2018, "Table 2. Civilian Workers, by
ndustry group.")

Total Compensation (\$/hr)	Loaded Rate (Rate + 110%*rate)
\$70.19	\$147.40
\$56.15	\$117.92
\$27.15	\$57.02

ponse
hours
responses
hr/resp

tly.

ly

Table 2: Average Annual EPA Burden and Cost – NESHAP for Chemical Recovery Combustion

Activity	(A) EPA person- hours per occurrence	(B) No. of occurrences per plant per year	(C) EPA person- hours per plant per year (C=AxB)	(D) Plants per year ^a	(E) Technical person hr/yr (E=CxD)	(F) Management person hr/yr (Ex0.05)
1. Attend initial/periodic performance test ^c	24	1	24	3.6	86.4	4.32
2. Attend retest ^{c,d}	24	1	24	0.7	16.8	0.84
3. Report review						
Notification of construction/reconstruction ^e	2	1	2	1.33	2.67	0.13
Notification of actual startup ^e	2	1	2	1.33	2.67	0.13
Notification of applicability of standard ^e	2	1	2	1.33	2.67	0.13
Notification of initial/periodic performance test ^f	2	1	2	43	86	4.3
Notification of performance evaluation ^f	2	1	2	43	86	4.3
Review of notification of compliance status ^e	4	1	4	1.33	5.33	0.27
Review of excess emissions report						
Semiannual reports of monitoring exceedances and periods of noncompliance ^g	8	2	16	5	80	4
Semiannual reports of no exceedances ^h	2	2	4	102	408	20.4
Subtotal for Burden and Cost - Salary						893
Travel Expenses for Tests Attended ⁱ						
TOTAL ANNUAL BURDEN AND COST^j						

^a We estimate that the number of existing sources subject to the rule is 107 pulp mills. We estimate 1 new pulp mill will be installed at three existing pulp mills and become subject to the rule over the 3 years of this ICR (107 existing facilities + 1 new facility in the third year/3 years = 107.33) and new source requirements for pulp mills per year (1 modified or reconstructed facility per year + 1 new facility in the third year/3 years = 1.33 facilities).

^b This cost is based on the following labor rates which incorporate a 1.6 benefits multiplication factor to account for government rates: \$65.71 Managerial rate (GS-13, Step 5, \$41.07 x 1.6), \$48.75 Technical rate (GS-12, Step 1, \$30.47 x 1.6), and \$26.38 Clerical rate (GS-11, Step 1, \$16.49 x 1.6). These rates are from the Office of Personnel Management (OPM) 2018 General Schedule which excludes local rates.

^c Assume EPA will attend tests at 3.6 plants per year. We estimate that it will take EPA personnel 24 hours once per year to attend to performance tests at 10% of plants (0.10 x 108/3 years = 3.6), assuming 107 existing plant and 1 new plant will test.

^d Assume EPA will attend retests at 0.7 plants per year. We estimate that 20% of respondents will repeat performance test and EPA personnel will attend 10% of retests (0.20 x 0.10 x 108/3 years = 0.7), assuming 107 existing plant and 1 new plant will test.

^e We estimate that it will take EPA personnel 2 hours once per year to complete review of the initial notifications (construction startup, applicability of standard) and 4 hours once per year to review the notification of compliance status for new process units (2 x 108/3 years = 1.33).

^f We estimate that it will take EPA personnel 2 hours once per year to complete review of the initial and periodic notification and performance evaluation. We estimate that 43 mills will submit notifications of initial/periodic performance test/retest and over the 3-year ICR period (test: (1 new + 107 existing respondents)/3 years = 36; retest: 20% x 36 = 7; total: 36 + 7 = 43).

^g We estimate that it will take EPA personnel 8 hours two times per year to review the monitoring exceedances and periods of excess emissions report for 5% of respondents (5% x 107.33 = 5).

^h We estimate that it will take EPA personnel 2 hours two times per year to review the no exceedances report for 95% of respondents (95% x 107.33 = 102).

ⁱ We estimate that it will take EPA personnel 1 day per plant plus time for travel, at \$50 per diem per day, and \$400 transportation. Assuming an average of 4.3 tests/retests each year (3.6 tests + 0.7 retests = 4.3)(see footnotes c and d), the annual cost for testing (4.3 tests/retests*(\$400+\$50) = \$1,935).

^j Sum of salary and expenses. Total has been rounded to 3 significant figures. Figure may not add exactly due to rounding.

Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills (40 CFR Part 63,

(G) Clerical person hr/yr (Ex0.1)	(H) Cost, \$ ^b	ERG Notes			
8.64	\$4,724.01				
1.68	\$918.56		Tech	\$48.75	
			Mgmt	\$65.71	
0.27	\$145.80	was 1	Cler	\$26.38	
0.27	\$145.80	was 1	Agency Rates Source: Office of Personnel Management (OPM), 2018 General Schedule		
0.27	\$145.80	was 1		Hourly Mean Wage	With Fringe & Overhead
8.6	\$4,702.14		(GS- 12, step 1) - Tech.	30.47	\$48.75
8.6	\$4,702.14		(GS- 13, step 5) - Mgmt.	41.07	\$65.71
0.53	\$291.61	was 1	(GS-6, step 3) - Cler.	16.49	\$26.38
8	\$4,374.08				
40.8	\$22,307.81				
	\$42,458				
	\$1,935				
	\$44,400		Rounded to \$43,600 with 2017 labor rates in RTR ICR; addition of 1 new facility added		

Note that 2017 labor rat

in operation in 2021. We
of this ICR (two new
be an average of 107.33
or an average of 1.33 pulp

ment overhead expenses:
al rate (GS-6, Step 3,
lity rates of pay.

attend initial and periodic

ie to failure and that EPA

on/reconstruction, actual
nits (4 mills with new

ris of performance test/retest
d performance evaluation

of noncompliance in the

pondents (95% x 107.33 =

tation expense per round
or travel expenses is \$1,935

Subpart MM) (Renewal)

es were used in RTR amendmnets ICR supporting statement.

about \$200.

Capital/Startup Costs		
(A)	(B)	(C)
Cost Item	Capital/Startup Cost for One Respondent	Number of Respondents
Performance tests:		
Method 5 for PM	\$2,439	263
Method 25A for THC	\$3,414	7
Method 308 for methanol	\$3,414	8
Retests ^a		
Total annualized capital/startup cost ^b		

^a We estimate that 20% of respondents will repeat the performance test due to failure. Estimate as: 1 new facility with 2 recovery furnaces, and 6 new sources at 3 existing facilities with 263 sources, 1 new facility with 2 recovery furnaces, and 6 new sources at 3 existing facilities require THC testing.

^b Annualized capital costs were estimated assuming a 5-year payment period at 7% interest for initial investment (with a capital recovery factor of 0.244).

(D)	ERG Notes	
Total Annualized Capital/ Startup Cost_b		Capital recovery factor:^b 0.244
(B x C)		
\$641,433	Added 2 tests for 2 furnaces for 1 new facility	
\$23,901	Added 2 tests for 2 furnaces for 1 new facility	
\$27,316	Added 2 tests for 2 furnaces for 1 new facility	
\$138,530		
\$831,000	Was \$809,000; adding 1 new facility added \$22,000/yr.	

sumes 107 existing
g facilities, 5 of which

tial performance tests

Total Annual Responses			
(A)	(B)	(C)	(D)
Information Collection Activity ^a	Number of Respondents	Number of Responses	Number of Existing Respondents That Keep Records But Do Not Submit Reports
Notification of construction/ reconstruction	1.33	1	0
Notification of actual startup	1.33	1	0
Notification of applicability of standard	1.33	1	0
Notification of performance test/ retest	43	1	0
Notification of performance evaluation	43	1	0
Notification of compliance status	1.33	1	0
Report of performance test/retest	43	1	0
Semiannual report of monitoring exceedances and periods of noncompliance	5	2	0
Semiannual report of no exceedances	102	2	0
			Total

(E)
Total Annual Responses
E=(BxC)+D
1.33
1.33
1.33
43
43
1.33
43
10
204
348

ERG Notes

was 347 in RTR ICR; increased by 1.32.

Count of Number of Respondents

Year	Respondents That Submit Reports	
	(A) Number of New Respondents ^a	(B) Number of Existing Respondents
1	1	107
2	1	107
3	2	107
Average	1.33	107

Count of Existing Pulp Mills

Mill Type	Count of Existing Pulp Mills	
Kraft	65	
Kraft, Mechanical	4	
Kraft, Mechanical, Secondary	2	
Kraft, Secondary	17	
Kraft, Secondary, SemiChem	5	
Kraft, SemiChem	3	
Kraft, Sulfite-Na	1	
Soda	1	98
Secondary, Semichem	4	
SemiChem	2	6
Sulfite-Mg	1	
Sulfite-NH3	2	3
Grand Total	107	107

Respondents That Do Not Submit Any Reports		
(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)
0	1	107
0	1	107
0	1	108
0	1	107.33

kraft/soda
semichem
sulfite