Table 1. Annual Respondent Burden and Cost - NESHAP for Petroleum Refineries (40 CFR P

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. Survey and studies	N/A			
Process units -LDAR Evaluation of prevention measures [c]	8	13	104	0
Initial Flare Management Plan [d]	75	4	270	0
Update the Flare Management Plan [e]	2	1	2.0	47
3. Acquisition, installation, and utilization of technology and systems [f]				
Technical	32	1	32	0
Management	2	1	2	0
4. Reporting requirements				
A. Familiarization with rule requirements[g, h]				
Initial: [i]				
i. General/applicability	20	1	20	14.2
ii. Storage vessels	20	12	240	14.2
iii. Process units – LDAR	20	11	220	14.2
iv. Process vents	20	9	180	14.2
Periodic: [j]				
i. General/applicability	4	1	4	142
ii. Storage vessels	2	12	24	142
iii. Process units – LDAR	2	11	22	142
iv. Process vents	2	9	18	142
v. Heat exchange systems	2	3	6	142
vi. Relief valves, bypass lines, delayed cokers, flares [k]	8	1	8	142
B. Required activities [g, h]				
Initial:				
i. General/applicability	10	1	10	14.2
ii. Storage vessels	88	12	1056	14.2
iii. Process units – LDAR	8	11	88	14.2
iv. Process vents – initial performance test [l]	11	4	44	14.2
v. Process vents – repeat performance test [l]	11	4	44	0.71
Periodic:				
i. General/applicability	3	1	3	142
ii. Storage vessels	4	12	48	142
iii. Process units – LDAR	1	11	11	142
iv. Process vents	2	9	18	142
v. Heat exchange systems – sampling analysis [m]				

Technical	1	36	36	142
Plant operator	3	36	108	142
vi. Heat exchange systems – triggered monitoring of leak [n]				
Technical	1	2	2	142
Plant operator	3	2	6	142
vii. Heat exchange systems – leak repair [o]	40	2	80	142
Required Activities: [p]				
i. Fenceline monitoring - small facility [q]	7.4	26	192	84
ii. Fenceline monitoring - medium facility [q]	9.8	26	255	27
iii. Fenceline monitoring - large facility [q]	11.6	26	302	31
iv. Develop alternative monitoring plan for fenceline monitoring [r]	40	1	40	0
v. Storage vessel inspections [s]	variable	variable	2.66	142
vi. Flares [s]	0.4	365	146	142
C. Create information	See 4B			
D. Gather existing information	See 4B			
E. Write report [g, h]				
Notification of compliance status [t]				
i. Storage vessels	1	12	12	14.2
ii. Process units – LDAR	4	11	44	14.2
iii. Process vents	1	9	9	14.2
iv. Heat exchange systems	1	3	3	14.2
Notification of storage vessel inspections	1	12	12	14.2
Notification of reconstruction – process vent control devices [l]	4	4	16	14.2
Notification of performance tests [g, h]	See 4B			
Notification of compliance status [u]				
Storage vessels, delayed cokers	1	2.67	2.67	0
Relief valves, flares	1	2	2	0
Notification of storage vessel inspection	0.5	1	0.5	0
Semiannual compliance reports [v, w]				
i. General/applicability [x]	18	2	36	142
ii. Storage vessels [y]	1	18	18	142
iii. Storage vessels – seal gap failure [z]	3	2	6	142
iv. Process units – LDAR [aa]	3	22	66	142
v. Process vents [bb]	1.5	8	12	142
vi. Heat exchange systems [cc]	2	6	12	142
vii. Storage vessels [dd]	0.00511	2	0.01022	142
viii. Relief valves [dd]	0.5	2	1	142
ix. Bypass lines [dd]	0.075	2	0.15	142
x. Delayed cokers [dd]	0.25	0.167	0.04175	142
xi. Flares [dd]	1.5	2	3	142
xii. Maintenance Vents [dd]	1	1	1	14.2
Quarterly fenceline monitoring report [ee]	2	4	8	142
Subtotal for Reporting Requirements				

5. Recordkeeping requirements				
A. Read and understand rule requirements	See 4A			
B. Plan activities [g, h]	See 4A			
C. Implement activities [g, h]	See 4B			
D. Develop record system [ff]				
Initial:				
i. Storage vessels	2	12	24	14.2
ii. Process units – LDAR	75	11	825	14.2
iii. Process vents	2	9	18	14.2
Periodic:				
i. Storage vessels	2	12	24	142
ii. Process units – LDAR	75	11	825	142
iii. Process vents	2	9	18	142
iv. Heat exchange systems [gg]				
Technical	12	12	144	142
Plant operator	12	12	144	142
E. Time to enter and transmit information				
Initial: [h]				
i. Storage vessels	6	12	72	14.2
ii. Process units – LDAR	99	11	1089	14.2
iii. Process vents [l]	12	4	48	14.2
Periodic: [hh]				
i. Storage vessels	3.5	12	42	142
ii. Process units – LDAR	99	11	1089	142
iii. Process vents	29	4	116	142
iv. Heat exchange systems	1	3	3	142
Time to enter information [ii]				
Storage vessels	variable	variable	4.09	142
Relief valves	0.5	3.2	2	142
Bypass lines	0.355	0.211	0.075	142
Fenceline monitoring	0.5	26	13	142
Delayed cokers	0.0167	501	8.4	142
Flares	0.05	365	18.3	142
Maintenance Vents	1	1	1	14.2
Maintenance Vents - <72 lb/day	0.1	1	0.1	142
F. Time to train personnel [jj]				
Initial:				
i. Storage vessels	1	12	12	14.2
ii. Process units – LDAR	1	11	11	14.2
iii. Process vents	1	4	4	14.2
Periodic:				
i. Storage vessels	N/A			
ii. Process units – LDAR	0.5	11	5.5	142
iii. Process vents	1	4	4	142
iv. Heat exchange systems [kk]	2	10	20	142
v. Training [ll]	8.5	1	8.5	142
Subtotal for Recordkeeping Requirements				

Total Labor Burden and Cost (rounded) [mm]				
Total Capital and O&M Cost (rounded) [mm]				
Grand TOTAL (rounded) [mm]				

Assumptions:

a. We estimate there are 142 existing petroleum refineries in the U.S. subject to NESHAP subpart CC, based on recent A that no new refineries will become subject to this regulation. Furthermore, we estimate that a refinery has the following a provisions; 9 process vents requiring monitoring, recordkeeping, and reporting; and 3 heat exchange systems subject to a reporting requirements to ensure compliance with the program.

b. This ICR uses the following labor rates: $152.73 per hour for Executive, Administrative, and Managerial labor; $113. maintenance, and repair; and $48.72 per hour for Clerical labor. The labor rates are from the United States Department o Employment Wage Estimates" for NAICS code 324100 - Petroleum and Coal Products Manufacturing. The rates have b private industry.

c. The 2015 amendments included a one-time requirement for respondents to evaluate the prevention measures for affect

d. New refineries are required to develop a Flare Management Plan, and existing refineries were required to submit a Fla

e. Assume all respondents have submitted the Flare Management Plan by January 30, 2019. Assume one-third of all resp

f. The labor estimates are based on an EPA Maximum Achievable Control Technology (MACT) floor cost analysis, whi and 2 labor hours for management.

g. We assume that initial notifications and periodic reporting requirements for existing sources are accounted for in othe exchangers. This ICR only addresses the additional industry burden associated with rule requirements for the compliance

h. Only new respondents or respondents that reconstruct units must comply with initial monitoring, recordkeeping, and r establishment of operating parameters for storage vessels; LDAR initial requirements; initial performance testing for pro malfunction plans and record systems for each unit. We estimate that existing refineries will reconstruct 10 percent of th or 3.8 flares per refinery).

i. Respondents having new, modified, or reconstructed units must comply with initial requirements. The occurrence estim that is modified.

j. We assume that each respondent will re-read the entire rule twice each year to re-familiarize with the applicability, mo

k. These requirements were added in the 2015 amendments. We have assumed 8 hours per year for respondents to refami

l. We assume that 4 process vents per refinery are routed to control devices, and of which existing refineries will reconst

m. We assume all heat exchange systems at existing refineries are in compliance with the heat exchange system monitor requirements. We estimate the labor burden for setup of portable air stripping column and sampling/analysis for one hea are 3 heat exchange systems per refinery, and that the event occurs 12 times per system per year, for a total of 36 occurre

n. We assume 2 events per year at each refinery, and estimate the labor burden for additional sampling and analysis trigg

o. We assume 2 events per year at each refinery, and estimate the labor burden to be 40 hours per repair.

p. These requirements are based on burden assumptions from the ICR for the 2015 amendment (ICR 1692.10).

q. These values are consistent with the *Fenceline Monitoring Technical Support Document*, located in Docket ID No. EP

r. This is a one-time requirement from the 2015 amendments.

s. These requirements for flare reporting are based on burden assumptions from the ICR for the 2015 amendment (ICR 1

t. New and existing refineries must submit notifications of compliance status for new or reconstructed units affected by t

u. Notification of compliance status is a one-time response required by the 2015 amendment.

v. The rule requires that sources meet specific periodic requirements including: monitoring of storage vessels annually, I parameters and monitoring results, and submittal of periodic semiannual compliance reports addressing each affected fac

w. Notifications related to construction/reconstruction and to periodic reporting for existing sources are accounted for in heat exchangers.

x. We assume 18 labor hours per occurrence, and that there will be 2 occurrences per refinery per year.

y. We assume 1 labor hour per occurrence, and that there will be 24 occurrences per respondent per year (12 Group 1 sto

z. We assume 3 labor hours per occurrence, and that there will be 2 occurrences per refinery per year.

aa. We assume 3 labor hours per occurrence, and that there will be 22 occurrences per respondent per year (11 process u

bb. We assume 1.5 labor hours per occurrence, and that there will be 8 occurrences per respondent per year (4 process ve

cc. We assume 2 labor hours per occurrence, and that there will be 6 occurrences per respondent per year (3 heat exchan

dd. These additional semiannual compliance reporting costs are for affected facilities with new requirements added in the

ee. The fenceline monitoring reports are submitted quarterly.

ff. We assume sources already have record systems in place to monitor existing operations. The burden shown below re

gg. We assume 12 occurrences per respondent per year and 24 labor hours per occurrence for recordkeeping requirement plant operators.

hh. We have included the labor associated with recording and transmitting data to develop initial and semiannual reports 99 hours for equipment leaks at each of the 11 process units, 29 hours at each of the 4 process vents routed to control dev

ii. These additional recordkeeping costs are for affected facilities with new requirements added in the 2015 amendments.

jj. We assume existing sources will provide initial training to employees associated with new affected facilities, and that result of the 2018 amendment.

kk. We assume annual training for heat exchange system requirements will require 2 labor hours per operator, and assum

ll. These additional training costs are for affected facilities with new requirements added in the 2015 amendments.

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

N/A – Not Applicable

'art 63, Subpart CC) (Renewal)

(E)	(F)	(G)	(H)	(I)	(J)
Technical person-hours per year (E=CxD)	Installation, maintenance, and repair person-hours per year (F=CxD)	Plant operator person-hours per year (G=CxD)	Management person-hours per year (Ex0.05)	Clerical person hours per year (Ex0.1)	Cost [b] $
0	N/A	N/A	0	0	$0
0	N/A	N/A	0	0	$0
94	N/A	N/A	4.7	9.4	$11,817.65
0	N/A	N/A	0	0	$0
0	N/A	N/A	0	0	$0
284	N/A	N/A	14	28	$35,704.38
3,408	N/A	N/A	170	341	$428,452.57
3,124	N/A	N/A	156	312	$392,748.19
2,556	N/A	N/A	128	256	$321,339.43
568	N/A	N/A	28	57	$71,408.76
3,408	N/A	N/A	170	341	$428,452.57
3,124	N/A	N/A	156	312	$392,748.19
2,556	N/A	N/A	128	256	$321,339.43
852	N/A	N/A	43	85	$107,113.14
1,136	N/A	N/A	57	114	$142,817.52
142	N/A	N/A	7.1	14	$17,852.19
14,995	N/A	N/A	750	1500	$1,885,191.30
1,250	N/A	N/A	62	125	$157,099.27
625	N/A	N/A	31	62	$78,549.64
31	N/A	N/A	1.6	3.1	$3,927.48
426	N/A	N/A	21	43	$53,556.57
6,816	N/A	N/A	341	682	$856,905.13
1,562	N/A	N/A	78	156	$196,374.09
2,556	N/A	N/A	128	256	$321,339.43

5,112	N/A	N/A	N/A	N/A	$578,734.63
N/A	N/A	15,336	N/A	N/A	$1,175,182.34
284	N/A	N/A	N/A	N/A	$32,151.92
N/A	N/A	852	N/A	N/A	$65,287.91
N/A	11,360	N/A	N/A	N/A	$798,698.88
16,162	N/A	N/A	808	1,616	$2,031,830.70
6,880	N/A	N/A	344	688	$864,900.90
9,350	N/A	N/A	467	935	$1,175,428.44
0	N/A	N/A	0	0	$0
378	N/A	N/A	19	38	$47,486.83
20,732	N/A	N/A	1,037	2,073	$2,606,419.78
170	N/A	N/A	8.5	17	$21,422.63
625	N/A	N/A	31	62	$78,549.64
128	N/A	N/A	6.4	13	$16,066.97
43	N/A	N/A	2.1	4.3	$5,355.66
170	N/A	N/A	8.5	17	$21,422.63
227	N/A	N/A	11	23	$28,563.50
0	N/A	N/A	0	0	$0
0	N/A	N/A	0	0	$0
0	N/A	N/A	0	0	$0
5,112	N/A	N/A	256	511	$642,678.85
2,556	N/A	N/A	128	256	$321,339.43
852	N/A	N/A	43	85	$107,113.14
9,372	N/A	N/A	469	937	$1,178,244.56
1,704	N/A	N/A	85	170	$214,226.28
1,704	N/A	N/A	85	170	$214,226.28
1	N/A	N/A	0.07	0.15	$182.45
142	N/A	N/A	7	14	$17,852.19
21	N/A	N/A	1	2	$2,677.83
6	N/A	N/A	0.3	1	$745.33
426	N/A	N/A	21	43	$53,556.57
14	N/A	N/A	0.7	1	$1,785.22
1,136	N/A	N/A	57	114	$142,817.52
179,481					***$18,669,686***

341	N/A	N/A	17	34	$42,845.26
11,715	N/A	N/A	586	1,172	$1,472,805.70
256	N/A	N/A	13	26	$32,133.94
3,408	N/A	N/A	170	341	$428,452.57
117,150	N/A	N/A	5,858	11,715	$14,728,057.00
2,556	N/A	N/A	128	256	$321,339.43
20,448	N/A	N/A	N/A	N/A	$2,314,938.53
N/A	N/A	20,448	N/A	N/A	$1,566,909.79
1,022	N/A	N/A	51	102	$128,535.77
15,464	N/A	N/A	773	1,546	$1,944,103.52
682	N/A	N/A	34	68	$85,690.51
5,964	N/A	N/A	298	596	$749,791.99
154,638	N/A	N/A	7,732	15,464	$19,441,035.24
16,472	N/A	N/A	824	1,647	$2,070,854.07
426	N/A	N/A	21	43	$53,556.57
581	N/A	N/A	29	58	$73,015.46
227	N/A	N/A	11	23	$28,563.50
11	N/A	N/A	0.5	1.1	$1,337.22
1,846	N/A	N/A	92	185	$232,078.47
1,188	N/A	N/A	59	119	$149,363.92
2,592	N/A	N/A	130	259	$325,802.47
14	N/A	N/A	0.7	1.4	$1,785.22
14	N/A	N/A	0.7	1.4	$1,785.22
170	N/A	N/A	8.5	17	$21,422.63
156	N/A	N/A	7.8	16	$19,637.41
57	N/A	N/A	2.8	5.7	$7,140.88
781	N/A	N/A	39	78	$98,187.05
568	N/A	N/A	28	57	$71,408.76
2,840	N/A	N/A	142	284	$357,043.81
1,207	N/A	N/A	60	121	$151,743.62
434,593					***$46,921,366***

614,000					**$65,600,000**
					$32,600,000
					$98,000,000

ıgency data gathered through an ICR collection request under Section 114 of the CAA. We assume affected units: 12 Group 1 storage vessels subject to regulation; 11 process units subject to LDAR monthly sampling program for VOC leak detection and repair, as well as recordkeeping and

21 per hour for Technical labor, $76.63 per hour for plant operators; $70.31 per hour for installation, ıf Labor, Bureau of Labor Statistics, "May 2019 National Industry-Specific Occupational een increased by 110 percent to account for the benefit packages available to those employed by

ted pressure relief devices.

ıre Management Plan by January 30, 2019.

ondents (142/3 = 47) make periodic updates to the Plan each year, and that the update takes 2 hours.

ch estimates the planning burden for a single heat exchange system to be 32 hours for technical labor

r existing NSPS and NESHAP regulations for equipment leaks, wastewater, storage tanks, and heat e reports.

eporting requirements for existing units, including initial notifications; design analysis and ocess vents routed to a control device; heat exchanger requirements; and development of startup and eir existing units (i.e., 12 storage vessels, 11 process units, 9 process vents, 3 heat exchange systems,

ıates are based on reading and understanding the rule requirements for each process unit/equipment

ıitoring, testing reporting and recordkeeping requirements for the equipment and process units.

liarize with these requirements.

ruct 10 percent. We assume that 5 percent of respondents will have to repeat performance tests.

ing requirements promulgated in the 2009 rule amendment, but would need to meet the periodic t exchange system to be 1 hour for technical labor and 3 labor hours for an operator. We assume there nces per refinery per year.

gered by leak monitoring to be 1 hour for technical labor and 3 labor hours for an operator.

A-HQ-OAR-2010-0682.

.692.10).

he standard.

LDAR monitoring of process units daily, monthly monitoring of process vents, recording of process ility and performance test result.

other existing NSPS and NESHAP regulations for equipment leaks, wastewater, storage tanks, and

ɔrage vessels/refinery x 2 occurrences/storage vessel/year).

nits/refinery x 2 occurrences/process unit/year).

ɛnts routed to control devices/refinery x 2 occurrences/process vent/year).

ge systems/refinery x 2 occurrences/heat exchange system/year).

ɛ 2015 amendments to subpart CC.

flects reconstructed units affected by the standard.

ts associated with heat exchange systems. The labor hours are divided equally between technical and

. We assume it takes respondents approximately 3.5 hours at each of the 12 Group 1storage vessels,
ɾices, and 1 hour at each of the 3 heat exchange systems.

there will be periodic refresher trainings. For ‘Maintenance Vents - <72 lb/day’, this requirement is a

ɪe there are 10 operators per facility.

Labor Rates				
Management	Technical	Operator	Maintenance	Clerical
$152.73	$113.21	$76.63	$70.31	$48.72

156 hr/response

Table 2. Average Annual EPA Burden and Cost -NESHAP for Petroleum Refineries (40 CF

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)
1. Initial notifications [c]			
Notification of reconstruction – process vents [d]	1	4	4
Notification of compliance status – storage vessels [e]	1	12	12
Notification of compliance status – equipment leaks [e]	1	11	11
Notification of compliance status – process vents [e]	1	9	9
Notification of compliance status – heat exchange systems	2	3	6
Notification of performance test – process vent control devices [e]	1	4	4
Notification of storage vessel inspections	1	12	12
Notification of compliance status – Storage vessels, delayed cokers [f]	1	2	2
Notification of compliance status – Relief valves, flares [f]	1	2	2
Request for alternative monitoring for fenceline requirements [f]	1	1	1
Flare management plan review [g]	1	1	1
2. Periodic reports [h]			
Semiannual parameter exceedance reports	4	2	8
Semiannual compliance - Storage tank seal gap failure reports	4	2	8
Semiannual compliance – LDAR reports	10	2	20
Semiannual compliance – Process vents	1	2	2
Semiannual compliance – Heat exchange systems	1	2	2
Semiannual reports – Storage	0.25	0.5	0.125
Semiannual reports – Relief valves	1	2	2
Semiannual reports – Bypass lines	0.25	0.5	0.125
Semiannual reports – Delayed cokers	0.25	0.5	0.125
Semiannual reports – Flares	2	4	8
Semiannual reports - Maintenance Vents	0.25	0.5	0.125
Quarterly report for fenceline monitoring	1	4	4
Audit Record Review			
Maintenance Vents - <72 lb/day [i]	0.2	1	0.2
TOTAL (rounded) [j]			

Assumptions:

a. We estimate there are 142 existing petroleum refineries, and that no new refineries will become subject to the rule
following affected units: 12 Group 1 storage vessels; 11 process units subject to LDAR provisions; 9 process vents fo
a monthly sampling program for VOC leak detection and repair, as well as recordkeeping and reporting requirements

b. This ICR uses the following labor rates: $68.37 for managerial, $50.72 for technical, and $27.46 for clerical labor which excludes locality rates of pay. The rates have been increased by 60 percent to account for the benefit packages

c. Only new respondents or respondents that reconstruct units must comply with initial monitoring, recordkeeping a and establishment of operating parameters for storage vessels, LDAR initial requirements, initial performance testing of startup and malfunction plans and record systems for each unit. We estimate that existing refineries will reconstru

d. The notification of reconstruction is only required for process vents routed to control devices. We assume that 4 p reconstruct 10 percent.

e. The notification of compliance status includes performance test results, as required by the general provisions.

f. Notification of compliance status is a one-time response required by the 2015 amendment.

g. We assume one-third of all respondents (142/3 = 47) make periodic updates to the Flare Management Plan each ye

h. The rule requires that respondents submit semiannual compliance reports addressing each affected unit subject to

i. Assumes that 25% of the respondents will be audited over the 3-year period of the ICR.

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

N/A – Not Applicable

FR Part 63, Subpart CC) (Renewal)

(D)	(E)	(F)	(G)	(H)
Plants per year [a]	Technical person-hours per year (E=CxD)	Management person-hours per year (Ex0.05)	Clerical person-hours per year (Ex0.1)	Cost [b] $
14.2	57	3	6	$3,231.04
14.2	170	9	17	$9,693.12
14.2	156	8	16	$8,885.36
14.2	128	6	13	$7,269.84
14.2	85	4	9	$4,846.56
14.2	57	3	6	$3,231.04
14.2	170	9	17	$9,693.12
0	0	0	0	$0
0	0	0	0	$0
0	0	0	0	$0
47	47	2	5	$2,673.57
142	1136	57	114	$64,620.79
142	1136	57	114	$64,620.79
142	2840	142	284	$161,551.98
142	284	14	28	$16,155.20
142	284	14	28	$16,155.20
142	18	1	2	$1,009.70
142	284	14	28	$16,155.20
142	18	1	2	$1,009.70
142	18	1	2	$1,009.70
142	1136	57	114	$64,620.79
14.2	2	0	0	$100.97
142	568	28	57	$32,310.40
36	7.1	0.4	0.7	$403.88
	9,890			**$373,000**

over the 3-year period of this ICR. We have further assumed that a refinery has the
or requiring monitoring, recordkeeping, and reporting; and 3 heat exchange systems subject to
to ensure compliance with the program.

:. These rates are from the Office of Personnel Management (OPM), 2020 General Schedule,
; available to government employees.

nd reporting requirements for existing units, including: initial notifications; the design analysis
g for process vents routed to a control device; heat exchanger requirements, and development
ct 10 percent of their existing units.

rocess vents per refinery are routed to control devices, and of which existing refineries will

ear.

the rule.

Labor Rates:	
Management	$68.37
Technical	$50.72
Clerical	$27.46

Total Annual Responses				
(A) Information Collection Activity	(B) Number of Respondents	(C) Number of Responses	(D) Number of Existing Respondents That Keep Records But Do Not Submit Reports	(E) Total Annual Responses E=(BxC)+D
Initial Notifications [a]:				
Notification of reconstruction process vents [b]	14.2	4	0	56.8
Notification of compliance status – storage vessels	14.2	12	0	170.4
Notification of compliance status – equipment leaks	14.2	11	0	156
Notification of compliance status – process vents	14.2	9	0	128
Notification of compliance status – heat exchange systems	14.2	3	0	43
Notification of performance test – process vent control devices [b]	14.2	4	0	57
Notification of storage vessel inspections	14.2	12	0	170
Notification of compliance status – Storage vessels, delayed cokers	0	2	0	0
Notification of compliance status – Relief valves, flares	0	2	0	0
Request for alternative monitoring for fenceline requirements	0	1	0	0
Flare management plan review	47	1	0	47
Periodic Reports:				
Semiannual parameter exceedance reports	142	2	0	284
Semiannual compliance reports - Storage tank seal gap failure	142	2	0	284
Semiannual compliance reports – LDAR	142	2	0	284
Semiannual compliance reports – process vents	142	2	0	284
Semiannual compliance reports – heat exchange system	142	2	0	284
Semiannual reports – Storage [d]	142	0.5	0	71
Semiannual reports – Relief valves [d]	142	2	0	284
Semiannual reports – Bypass lines [d]	142	0.5	0	71
Semiannual reports – Delayed cokers [d]	142	0.5	0	71
Semiannual reports – Flares [d]	142	4	0	568
Semiannual reports - Maintenance Vents [d, e]	14.2	0.5	0	7
Quarterly report for fenceline monitoring	142	4	0	568
Maintenance vents <72lb/day [f]	36	1	0	36
TOTAL				3,924

[a] Only new respondents or respondents with reconstructed units must comply with initial monitoring, recordkeeping, and reporting requirements for existing units, including initial notifications; design analysis and establishment of operating parameters for storage vessels; LDAR initial requirements; initial performance testing

[b] We assume that 4 process vents per refinery are routed to control devices, and that existing refineries will reconstruct 10 percent of these vents