### Appendix J: Burden and Cost for Additional Sources of Fluorinated GHG (Subparts I, L, DD, QQ, SS)

Appendix J-1: Detailed Burden and Cost Appendix J-2: Summary of Burden and Cost by Activity and Year Appendix J-3: Change in Burden and Cost

# J-1a: SUBPART I: ELECTRONICS MANUFACTURING (1) (2)

					Þ	\nnual Burden &	Annual Burden & Cost, All Respondents					
Source Category	No. Respondents	No. Responses/ Total Respondents Respondent	Total Responses	Burden - Technical (hrs)	Burden - Managerial (hrs)	Burden - Clerical (hrs)	Burden - Legal (hrs)	Total Burden (hrs)	Total Labor Cost (\$)	Capital Cost (\$)	O&M Cost (\$)	Total Cost (\$)
Non-Semiconductors	3	1	3	720.0	83.5	80.5	0.8	884.8	\$51,624	\$0	\$0	\$51,624
	29 1 29 9,617.4	1	29	9,617.4	1,011.1	763.3	763.3 7.5	11,399.4		\$3,511,900	\$0	\$4,183,328
Non-Large Semiconductors	62	1	62	19,858.8	1,417.0	1,361.0	16.1	22,652.9	\$1,327,930	\$0	\$0	\$1,327,930
Total	94	1.0		30,196.3	2,511.6	94.0 30,196.3 2,511.6 2,204.8	24.4	34,937.1	34,937.1 \$2,050,981 \$3,511,900	\$3,511,900	\$0	\$0 \$5,562,881

(1) Does not include the burden or cost for provision of information on parent companies, NAICS codes, and whether emissions are from cogeneration. This adds another 0.68 hours and \$44 per respondent (see Appendix I).

(2) EPA is currently updating certain provisions of subpart I. Those updates are reflected in the ICR for that rulemaking effort.

### NON-SEMICONDUCTORS QA/QC Reporting Sampling and Analysis (Calculations) Recordkeeping Planning Activity \$59.12 Technical 186.49 240.01 28.82 24.70 Management \$77.23 Labor Hours / Rate 14.26 11.17 27.82 2.39 Clerical \$31.35 10.14 11.00 26.84 5.70 \$109.94 Legal 0.26 Unit or Facility Labor\$/Yr per (2011\$) \$12,233 \$3,152 \$1,82

LARGE SEMICONDUCTORS*	CTORS*				
		Labor Hours / Rate	s / Rate		
Activity	Technical	Management	Clerical	Legal	Labor\$/Yr per Unit or Facility
	\$59.12	\$77.23	\$31.35	\$109.94	(2011\$)
Planning	-				\$0
QA/QC		,			\$0
Recordkeeping	24.70	2.39	5.70		\$1,824
Sampling and					
Analysis					
(Calariana)	7/6 1/	10 10	10 22		516 770

\*In addition, large semiconductors incur capital costs per facility of:

\$121,100

Reporting (Calculations)

246.14

18.18 14.30 34.87

10.32 10.30 26.32

\$16,279 \$5,050

Total

331.64 60.80

NON-LARGE SEMICONDUCTORS

		Labor Hours / Rate	s / Rate		abové /Vr. po
Activity	Technical	Management	Clerical	Legal	Unit or Facility
	\$59.12	\$77.23	\$31.35	\$109.94	(2011\$)
Planning	-				\$(
QA/QC					\$(
Recordkeeping	24.70	2.39	5.70		\$1,82
Sampling and Analysis (Calculations)	266.78	6.21	6.11		\$16,443
Reporting	28.82	14.26	10.14	0.26	\$3,152
Total	320.30	22.86	21.95	0.26	\$21,418

## J-1b: SUBPART L: FLUORINATED GHG PRODUCTION (1)

					Þ	\nnual Burden &	Annual Burden & Cost, All Respondents					
Source Category	20	Responses/	Total	Burden -	Burden -	Burden		Total Burden	Total Labor		O&M Cost	Total Cost
	Respondents	Respondent	Responses	Technical (hrs)	Managerial (hrs)	Clerical (hrs)	Burden - Legal (hrs)	(hrs)	Cost (\$)	(\$)	(\$)	(\$)
Process Vent	11	1	11	1,902.8	51.6	408.7	-	2,363.1	\$129,291	\$28,217	\$14,080	\$171,588
Mass Balance 3 1 3 165.6 12.7 50.1 - 228.4	3.	1	ω 	165.6	12.7	50.1	-	228.4	\$12,344	\$5,152	\$0	\$17,496
Total	14	1.0	14.0 2,068.4	2,068.4	64.4	458.8	-	2,591.5	2,591.5 \$141,635	\$33,369	\$14,080	\$189,084

(1) Does not include the burden or cost for provision of information on parent companies, NAICS codes, and whether emissions are from cogeneration. This adds another 0.68 hours and \$44 per respondent (see Appendix I).

PROCESS VENT					
		Labor Hours / Rate	s / Rate		
Activity	Technical	Management	Clerical	Legal	Labor\$/Yr per Unit or Facility
	\$59.12	\$77.23	\$31.35	\$109.94	(2011\$)
Planning	-				\$0
QA/QC	17.00	0.85	8.50		\$1,337
Recordkeeping	32.83	2.39	16.33		\$2,637
Sampling and Analysis	107.73	0.75			\$6,427
Reporting	15.43	0.70	12.33		\$1,353
Total	172.98	4.69	37.15	-	\$11,754

MASS BALANCE					
		Labor Hours / Rate	s / Rate		
Activity	Technical	Management	Clerical	Legal	Labor\$/Yr per Unit or Facility
	\$59.12	\$77.23	\$31.35	\$109.94	(2011\$)
Planning					\$0
QA/QC	23.20	1.15	9.30		\$1,752
Recordkeeping	24.70	2.39	5.70		\$1,824
Sampling and Analy					\$0
Reporting	7.30	0.70	1.70	-	\$539
Total	55.20	4.24	16.70		\$4,115

# J-1c: SUBPART DD: Sulfur Hexafluoride (SF6) from Electric Power Systems (1)

					А	\nnual Burden 8	Annual Burden & Cost, All Respondents					
Source Category	No. Responses/ Total Respondents Respondent Responses	Responses/ Respondent	Total Responses	Burden - Technical (hrs)	Burden - Managerial (hrs)	Burden - Clerical (hrs)	Burden - Legal (hrs)	Total Burden (hrs)	Total Labor Cost (\$)	Capital Cost O&M Cost (\$) (\$)	O&M Cost (\$)	Total Cost (\$)
Sulfur Hexafluoride (Sf6) From Electric Power												
Systems	141	1	141	6,638.2	1,640.5	2,260.9		10,539.6	\$590,027	\$0	\$0	\$590,027
Total	141	1.0	141.0	141.0 6,638.2	1,640.5	2,260.9		10,539.6	10,539.6 \$590,027	\$0	\$0	\$590,027
		2							Ś			

<sup>(1)</sup> Does not include the burden or cost for provision of information on parent companies, NAICS codes, and whether emissions are from cogeneration. This adds another 0.68 hours and \$44 per respondent (see Appendix I).

## ur Hexafluoride (SF6) from Electric Power Systems

Sullur Hexalidoride (SF6) from Electric Power Systems	Systems				
		Labor Hours / Rate	s / Rate		
Activity	Technical	Management	Clerical	Legal	Labor\$/Yr per
	\$59.12	\$77.23	\$31.35	\$109.94	(2011\$)
Planning	-				\$0
QA/QC	4.63	2.11	3.67		\$551
Recordkeeping	8.93	5.92	7.05		\$1,207
Sampling and Analysis	29.32	1.86			\$1,877
Reporting	4.20	1.74	5.32		\$550
Total	47.08	11.63	16.03		\$4,185

# J-1d: Subpart QQ: Imports and Exports of Fluorinated GHGs in Products (1)

					А	nnual Burden &	Annual Burden & Cost, All Respondents					
Source Category	No. Respondents	No. Responses/ Total Respondents Respondent Responses	Total Responses	Burden - Technical (hrs)	Burden - Managerial (hrs)	Burden - Clerical (hrs)	Burden - Legal (hrs)	Total Burden (hrs)	Total Labor Cost (\$)	Capital Cost (\$)	0&M Cost (\$)	Total Cost (\$)
Hfc Equipment Importers	50	1	50	2,954.0	356.5	156.5	-		\$207,079	\$0	\$0	\$207,079
Sf6 Equipment Importers 8 1 8	œ	1	00	472.6	57.0	25.0	25.0 -	554.7	\$33,133	\$0	\$0	\$33,133
Close-Cell Foam Importers	50	1	50	2,954.0	356.5	156.5	,		\$207,079	\$0	\$0	\$207,079
Hfc Equipment Exporters	25 1.0 25	1.0	25	1,477.0	178.3	78.3	,	1,733.5	\$103,540	\$0	\$0	\$103,540
Sf6 Equipment Importers	0	1.0	,	,				,	\$0	\$0	\$0	\$0
Close-Cell Foam Exporters	25	1.0	25	1,477.0	178.3	78.3			\$103,540	\$0	\$0	\$103,540
Total	158		158.0	9,334.6	1,126.5	494.5		10,955.7	\$654,370	\$0	\$0	\$654,370
1) One not include the hurden or not for provision of information on agent commander to a Alors and whether emissions are from commander to the above the formation of the provision of the provi	of information on	naront companie	NAICE codos .	and whather em	iccione are from	cocoporation .	This adds another 0 60	harry and \$11 pa	roomandant (co	· Annondiv I )		

(1) Does not include the burden or cost for provision of information on parent companies, NAICS codes, and whether emissions are from cogeneration. This adds another 0.68 hours and \$44 per respondent (see Appendix L).

## HFC EQUIPMENT IMPORTERS

		Labor Hours / Rate	s / Rate		
Activity	Technical	Management	Clerical	Legal	Labor\$/Yr per Unit or Facility
	\$59.12	\$77.23	\$31.35	\$109.94	(2011\$)
Planning	-				\$0
QA/QC					\$0
Recordkeeping	25.08	3.13	3.13		\$1,823
Sampling and Analysis	31.00	3.00			\$2,064
Reporting	3.00	1.00		-	\$255
Total	59.08	7.13	3.13		\$4,142

## CLOSE-CELL FOAM IMPORTERS

		Labor Hours / Rate	s / Rate		abové /Vr. pov
Activity	Technical	Management	Clerical	Legal	Unit or Facility
	\$59.12	\$77.23	\$31.35	\$109.94	(2011\$)
Planning	-	-			\$0
QA/QC					\$0
Recordkeeping	25.08	3.13	3.13		\$1,823
Sampling and Analysis	31.00	3.00			\$2,064
Reporting	3.00	1.00			\$255
Total	59.08	7.13	3.13		\$4,142

### SF6 EQUIPMENT IMPORTERS

		Labor Hours / Rate	s / Rate		Labor\$/Yr per
Activity	Technical	Management	Clerical	Legal	Unit or Facility
	\$59.12	\$77.23	\$31.35	\$109.94	(2011\$)
Planning	-				\$0
QA/QC				,	\$0
Recordkeeping	25.08	3.13	3.13		\$1,823
Sampling	31.00	3.00			\$2,064
Reporting	3.00	1.00			\$255
Total	59.08	7.13	3.13		\$4,142

SH6 EQUIPMENT IMPORTERS	OKIEKS				
		Labor Hours / Rate	rs / Rate		
Activity	–	,			Labor\$/Yr per
,	Technical	Management	Clerical	Legal	Unit or Facility
	\$59.12	\$77.23	\$31.35	\$109.94	(2011\$)
Planning	-				0\$
QA/QC					\$0
Recordkeeping	25.08	3.13	3.13		\$1,823
Sampling and Analy	31.00	3.00			\$2,064
Reporting	3.00	1.00			\$255
Total	59.08	7.13	3.13		\$4,142

### HFC EQUIPMENT EXPORTERS

\$4,142		3.13	7.13	59.08	Total
\$255			1.00	3.00	Reporting
\$2,064		,	3.00	31.00	Sampling
\$1,823		3.13	3.13	25.08	Recordkeeping
\$0					QA/QC
\$0			-	-	Planning
(2011\$)	\$109.94	\$31.35	\$77.23	\$59.12	
Unit or Facility	Legal	Clerical	Management	Technical	Activity
laboré /Vr. por		s / Rate	Labor Hours / Rate		

### CLOSE-CELL FOAM EXPORTERS

		Labor Hours / Rate	s/Rate		laboré/Vr. por
Activity	Technical	Management	Clerical	Legal	Unit or Facility
	\$59.12	\$77.23	\$31.35	\$109.94	(2011\$)
Planning	-				\$0
QA/QC					\$0
Recordkeeping	25.08	3.13	3.13		\$1,823
Sampling	31.00	3.00			\$2,064
Reporting	3.00	1.00			\$255
Total	59.08	7.13	3.13		\$4,142

## J-1e: Subpart SS: SF6 Equipment Producers (1)

					,	\nnual Burden 8	Annual Burden & Cost, All Respondents					
Source Category	No. Respondents	Responses/ Respondent	Total Responses	Burden - Technical (hrs)	Burden - Managerial (hrs)	Burden - Clerical (hrs)	Burden - Legal (hrs)	Total Burden (hrs)	Total Labor Cost (\$)	Capital Cost (\$)	O&M Cost (\$)	Total Cost (\$)
Sf6 Equipment Producers	10	1	10	220.0	85.0	129.0	-	434.0	\$23,615	\$0	\$120	\$23,736
Total	10		10.0	220.0	85.0	129.0	-	434.0	\$23,615	\$0	\$120	\$23,736

<sup>(1)</sup> Does not include the burden or cost for provision of information on parent companies, NAICS codes, and whether emissions are from cogeneration. This adds another 0.68 hours and \$44 per respondent (see Appendix L).

SF6 EQUIPMENT PRODUCERS					
		Labor Hours / Rate	s / Rate		
Activity	Technical	Management	Clerical	Legal	Labor\$/Yr per Unit or Facility
	\$59.12	\$77.23	\$31.35	\$109.94	(2011\$)
Planning	1.50	1.00			\$166
QA/QC		1			\$0
Recordkeeping			0.20		\$6
Sampling and Analysis (Calculations)	17.00	4.00	11.00		\$1,659
Reporting	3.50	3.50	1.70		\$531
Total	22.00	8.50	12.90		\$2,362
Capital costs per facility:					\$0
O&M costs per facility:					\$12

APPENDIX J-2: Summary of Burden and Cost for Additional Sources of Fluorinated GHG (Subparts I, L, DD, QQ, and SS)

					Ann	ual Average	- 3 year ICR	Period				
Source Category	No. Respondents	Responses/ Respondent	Total Responses	Burden - Technical (hrs)	Burden - Managerial (hrs)	Burden - Clerical (hrs)	Burden - Legal (hrs)	Total Burden (hrs)	Total Labor Cost (\$)	Capital Cost (\$)	O&M Cost (\$)	Total Cost (\$)
I - Electronics Manufacturing	94	1	94	30,196	2,511.6	2,204.8	24.4	34,937.1	\$2,050,981	\$3,511,900	\$0	\$5,562,881
L - Fluorinated Gas Production	14	1	14	2,068	64.4	458.8	-	2,591.5	\$141,635	\$33,369	\$14,080	\$189,084
DD - Sulfur Hexafluoride (SF6) from Electric Power Systems	141	1	141	6,638	1,640.5	2,260.9	-	10,539.6	\$590,027	\$0	\$0	\$590,027
QQ - Imports and Exports of Fluorinated GHGs in Products	158	1	158	9,335	1,126.5	494.5	-	10,955.7	\$654,370	\$0	\$0	\$654,370
SS - SF6 Equipment Producers	10	1	10	220	85.0	129.0	-	434.0	\$23,615	\$0	\$120	\$23,736
TOTAL	417	1	417	48,457	5,428.0	5,548.0	24.4	59,458.0	\$3,460,628	\$3,545,269	\$14,200	\$7,020,098

### J3. Change in Burden and Cost for Additional Sources of Fluorinated GHG (Subparts I, L, DD, QQ, and SS)

### Current Cost & Burden (OMB No. 2060-0650, ICR No. 2373.02-2373.04)

### First-Year Burden & Cost (1)

Source Category	No. Respond- ents	Responses/ Respondent	Total Responses	Total Burden (hrs)	Total Labor Cost (\$K)	Capital Cost (\$K)	O&M Cost (\$K)	Total Cost (\$K)
I - Electronics Manufacturing	94	1	94	34,937	\$1,913,073	\$990,379	\$0	\$2,903,452
L - Fluorinated Gas Production DD - Sulfur Hexafluoride (SF6) from	14	1	14	52,740	\$2,816,745	\$33,369	\$0	\$2,850,114
Electric Power Systems QQ - Imports and Exports of Fluorinated	141	1	141	10,540	\$549,988	\$0	\$0	\$549,988
GHGs in Products	158	1	158	12,536	\$699,671	\$0	\$0	\$699,671
SS - SF6 Equipment Producers	10	1	10	434	\$22,006	\$0	\$120	\$22,127
TOTAL	417	1	417	111,186	\$6,001,483	\$1,023,748	\$120	\$7,025,351

### Subsequent-Year Burden & Cost (1)

Source Category	No. Respond- ents	Responses/ Respondent	Total Responses	Total Burden (hrs)	Total Labor Cost (\$K)	Capital Cost (\$K)	O&M Cost (\$K)	Total Cost (\$K)
I - Electronics Manufacturing	94	1	94	34,937	\$1,913,073	\$3,511,900	\$0	\$5,424,973
L - Fluorinated Gas Production	14	1	14	2,591	\$132,348	\$33,369	\$14,080	\$179,797
DD - Sulfur Hexafluoride (SF6) from Electric Power Systems QQ - Imports and Exports of Fluorinated	141	1	141	10,540	\$549,988	\$0	\$0	\$549,988
GHGs in Products	158	1	158	10,956	\$609,953	\$0	\$0	\$609,953
SS - SF6 Equipment Producers	10	1	10	434	\$22,006	\$0	\$120	\$22,127
TOTAL	417	1	417	59,458	\$3,227,369	\$3,545,269	\$14,200	\$6,786,838

### Annual Average Burden & Cost (1)

Source Category	No. Respond- ents	Responses/ Respondent	Total Responses	Total Burden (hrs)	Total Labor Cost (\$K)	Capital Cost (\$K)	O&M Cost (\$K)	Total Cost (\$K)
I - Electronics Manufacturing	94	1	94	34,937	\$1,913,073	\$2,671,393	\$0	\$4,584,466
L - Fluorinated Gas Production	14	1	14	19,307	\$1,027,147	\$33,369	\$9,387	\$1,069,903
DD - Sulfur Hexafluoride (SF6) from Electric Power Systems QQ - Imports and Exports of Fluorinated	141	1	141	10,540	\$549,988	\$0	\$0	\$549,988
GHGs in Products	158	1	158	11,482	\$639,859	\$0	\$0	\$639,859
SS - SF6 Equipment Producers	10	1	10	434	\$22,006	\$0	\$120	\$22,127
TOTAL	417	Varies	417	76,702	\$4,152,073	\$2,704,762	\$9,507	\$6,866,343

<sup>(1)</sup> Does not include the burden or cost for provision of information on parent companies, NAICS codes, and whether emissions are from cogeneration. This adds another 0.68 hours and \$44 per respondent (see Appendix L).

### J3. Change in Burden and Cost for Additional Sources of Fluorinated GHG (Subparts I, L, DD, QQ, and SS)

### **Revised Burden & Cost**

### First-Year Burden & Cost (1)

Source Category	No. Respond- ents	Responses/ Respondent	Total Responses	Total Burden (hrs)	Total Labor Cost (\$K)	Capital Cost (\$K)	O&M Cost (\$K)	Total Cost (\$K)
I - Electronics Manufacturing	94	1	94	34,937	\$2,050,981	\$3,511,900	\$0	\$5,562,881
L - Fluorinated Gas Production DD - Sulfur Hexafluoride (SF6) from	14	1	14	2,591	\$141,635	\$33,369	\$14,080	\$189,084
Electric Power Systems QQ - Imports and Exports of Fluorinated	141	1	141	10,540	\$590,027	\$0	\$0	\$590,027
GHGs in Products	158	0	158	10,956	\$654,370	\$0	\$0	\$654,370
SS - SF6 Equipment Producers	10	0	10	434	\$23,615	\$0	\$120	\$23,736
TOTAL	417	Varies	417	59,459	\$3,460,628	\$3,545,269	\$14,200	\$7,020,098

### Subsequent-Year Burden & Cost (1)

Source Category	No. Respond- ents	Responses/ Respondent	Total Responses	Total Burden (hrs)	Total Labor Cost (\$K)	Capital Cost (\$K)	O&M Cost (\$K)	Total Cost (\$K)
I - Electronics Manufacturing	94	1	94	34,937	\$2,050,981	\$3,511,900	\$0	\$5,562,881
L - Fluorinated Gas Production	14	1	14	2,591	\$141,635	\$33,369	\$14,080	\$189,084
DD - Sulfur Hexafluoride (SF6) from Electric Power Systems QQ - Imports and Exports of Fluorinated	141	1	141	10,540	\$590,027	\$0	\$0	\$590,027
GHGs in Products	158	0	158	10,956	\$654,370	\$0	\$0	\$654,370
SS - SF6 Equipment Producers	10	0	10	434	\$23,615	\$0	\$120	\$23,736
TOTAL	417	Varies	417	59,459	\$3,460,628	\$3,545,269	\$14,200	\$7,020,098

### Annual Average Burden & Cost (1)

Source Category	No. Respond- ents	Responses/ Respondent	Total Responses	Total Burden (hrs)	Total Labor Cost (\$K)	Capital Cost (\$K)	O&M Cost (\$K)	Total Cost (\$K)
I - Electronics Manufacturing	94	1	94	34,937	\$2,050,981	\$3,511,900	\$0	\$5,562,881
L - Fluorinated Gas Production	14	1	14	2,591	\$141,635	\$33,369	\$14,080	\$189,084
DD - Sulfur Hexafluoride (SF6) from Electric Power Systems QQ - Imports and Exports of Fluorinated	141	1	141	10,540	\$590,027	\$0	\$0	\$590,027
GHGs in Products	158	0	158	10,956	\$654,370	\$0	\$0	\$654,370
SS - SF6 Equipment Producers	10	0	10	434	\$23,615	\$0	\$120	\$23,736
TOTAL	417	Varies	417	59,459	\$3,460,628	\$3,545,269	\$14,200	\$7,020,098

<sup>(1)</sup> Does not include the burden or cost for provision of information on parent companies, NAICS codes, and whether emissions are from cogeneration. This adds another 0.68 hours and \$44 per respondent (see Appendix L).

### J3. Change in Burden and Cost for Additional Sources of Fluorinated GHG (Subparts I, L, DD, QQ, and SS)

### **Change in Burden and Cost**

Source Category	No. Respond- ents	Responses/ Respondent	Total Responses	Total Burden (hrs)	Total Labor Cost (\$K)	Capital Cost (\$K)	O&M Cost (\$K)	Total Cost (\$K)
I - Electronics Manufacturing	0	0	0	0	\$137,908	\$840,507	\$0	\$978,415
L - Fluorinated Gas Production	0	0	0	-16,716	-\$885,512	\$0	\$4,693	-\$880,819
DD - Sulfur Hexafluoride (SF6) from Electric Power Systems	0	0	0	0	\$40,039	\$0	\$0	\$40,039
QQ - Imports and Exports of Fluorinated GHGs in Products	0	-1	0	-527	\$14,511	\$0	\$0	\$14,511
SS - SF6 Equipment Producers	0	-1	0	0	\$1,609	\$0	\$0	\$1,609
TOTAL	0		0	-17,242	-\$691,445	\$840,507	\$4,693	\$153,755

### Reason for Changes in Burden and Cost

- Adjusted the labor hours and labor cost per facility for subparts L and QQ to recognize the completion of the one-time activities that occurred in the first year of data collection.
- Updated the labor rates used to calculate labor costs, adopting an approach consistent with the approach used in the other subparts (see Appendix F).