Appendix A: Detailed Explanation of Respondent Burden Estimates and Respondent Universe

Respondents for this information collection include operators of Class I – VI wells and state primacy agencies. The first part of this Appendix contains EPA's estimates of respondent burden associated with UIC paperwork requirements. The second part of this Appendix provides EPA's assumptions about the number of respondents subject to each information collection activity.

A.1 Estimating Respondent Burden

EPA has calculated respondent burden hours for each information collection, reporting, and recordkeeping activity required of well operators and state primacy agencies. Because required data items vary by well class, separate operator and state burden estimates have been prepared for each class. Tables A-1 through A-7 contain detailed estimates of the number of respondents and unit burden hours for required paperwork-related activities. Legal, managerial, technical, and clerical staff hours are shown; Column A presents the total unit burden for each activity.

EPA recognizes that many UIC information collection activities are performed by contractors. The operator unit burdens reported in this appendix represent a composite of the operator time needed to both perform an information collection activity and to supervise a contractor when the contractor performs the activity. The mix of operator versus contractor labor varies by activity and by well class. Contractor costs are included in the estimates of operator unit costs.

Burden Associated with Class I Wells

EPA's estimate of the annual paperwork burden on operators for permitting, monitoring and testing, reporting and recordkeeping, and closing their facilities and state burden for administering Class I hazardous and Class I nonhazardous programs are presented in Tables A-1A and Table A-1B, respectively.

Class I facility operators rely on contractors to assist them with most information collection activities, including initial/start-up activities (e.g., permit applications, completion reports, and no-migration petitions); monitoring and testing (e.g., ambient monitoring, pressure fall-off tests, and MITs); closure-related reporting; and other paperwork activities (e.g., permit and no-migration petition modifications). The operator burdens presented in Column A of Tables A-1A and A-1B largely reflect the time it takes to oversee and furnish information to contractors. The costs associated with contractor labor and other contractor services are presented in Column C of Tables A-1A and A-1B.

EPA estimates that 70 percent of the new Class I permits issued will be for newly constructed wells at existing facilities, and that much of the information these applicants are required to submit is likely to have been developed in connection with permitting other wells and, therefore, already exists for the facility. EPA assumes the remaining 30 percent of permits will be issued for wells at new facilities, and the burden associated with applying for a permit will be greater. Thus, the unit burdens presented in this ICR are a composite of the burdens for permitting new wells at both new and existing facilities.

Table A-1A
Annual Paperwork Burden and Costs Associated with Class I Hazardous Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response							Total Hours and Costs		
Description of Requirement	**Frequency (A)**	**Legal**	**Managerial**	**Technical**	**Clerical**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-labor Cost (B)**	**No. of Responses**	**Total Hours/Year**	**Total Cost/Year**
Initial/Startup Requirements (Per Permit Application)											
Requirements associated with permit applications											
Read permit application directions.	One-time	0.0	0.25	0.25	0.00	0.5	$35	$0	8	4	$277
Gather and submit description of activities requiring a permit, facility name and address, SIC codes, ownership & facility status, facility location, listing of relevant permits/construction approvals, description of the business.	One-time	3.0	2.0	9.0	5.8	19.8	$1,103	$0	8	158	$8,824
In DI programs, gather and submit a list of land owners within one-quarter mile of the facility boundary.	One-time	4.0	0.0	0.0	1.2	5.2	$447	$0	1	7	$614
Prepare and submit a map and tabulation of all wells with the AoR.	One-time	0.0	1.5	5.5	0.0	7.0	$403	$24,767	8	56	$201,360
Prepare and submit AoR protocol.	One-time	0.0	0.0	1.3	0.0	1.3	$63	$960	8	10	$8,183
Prepare and submit maps/cross sections of local and regional geology, USDWs.	One-time	0.0	1.5	16.0	0.0	17.5	$915	$51,420	8	140	$418,681
Develop formation testing and stimulation programs & injection procedures.	One-time	0.0	2.0	5.0	1.0	8.0	$453	$7,381	8	64	$62,670
Prepare and submit contingency plans for shut-ins or well failures.	One-time	0.0	3.0	10.0	1.9	14.9	$816	$287	8	119	$8,822
Prepare and submit ambient monitoring plan.	One-time	0.0	3.0	0.0	0.0	3.0	$265	$4,839	8	24	$40,832
Prepare and submit Corrective Action Plan.	One-time	0.0	2.0	3.0	2.2	7.2	$393	$12,260	8	58	$101,231
Prepare and submit descriptions of logs and tests, construction schematics & operating data.	One-time	0.0	2.0	8.0	4.8	14.8	$716	$6,151	8	118	$54,933
Prepare and submit closure plan, including demonstration of financial responsibility.	One-time	0.0	1.0	3.0	2.1	6.1	$301	$1,812	8	49	$16,909
Prepare and submit post-closure care plan.	One-time	0.0	1.4	2.0	1.3	4.7	$263	$2,231	8	38	$19,951
Prepare and submit information to support an aquifer exemption request.	One-time	0.0	2.5	17.0	0.5	20.0	$1,069	$2,231	1.4	27	$4,487

Table A-1A
Annual Paperwork Burden and Costs Associated with Class I Hazardous Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response							Total Hours and Costs		
Description of Requirement	Frequency (A)	Legal	Managerial	Technical	Clerical	Unit Burden	Unit Labor Cost	Unit Non-labor Cost (B)	No. of Responses	Total Hours/Year	Total Cost/Year
Requirements for active hazardous waste facilities											
Gather and submit dates of well operation and specific waste information.	One-time	0.0	0.0	26.6	10.9	37.5	$1,629	$9,349	8	300	$87,828
Gather and submit hazardous waste release information.	One-time	0.0	1.9	30.4	21.9	54.2	$2,319	$4,675	0	0	$0
Develop waste analysis plan.	One-time	0.0	1.9	15.2	1.8	18.9	$967	$3,116	8	151	$32,669
Prepare construction logging/testing schedule.	One-time	0.0	0.0	0.5	0.5	1.0	$39	$0	8	8	$312
Requirements associated with completion reports											
Prepare and submit completion report.	One-time	0.0	0.0	1.5	2.4	3.9	$147	$0	8	32	$1,179
Submit results of deviation checks, other logs & tests; sample formation fluids; test injection and confining zones.	One-time	0.0	0.0	6.0	1.0	7.0	$322	$37,725	8	56	$304,374
Demonstrate mechanical integrity.	One-time	0.0	2.0	18.0	0.0	20.0	$1,057	$24,603	8	160	$205,282
Submit information on the anticipated maximum pressure and flow rate.	One-time	0.0	0.0	2.0	0.0	2.0	$97	$164	8	16	$2,092
Submit formation testing results.	One-time	0.0	1.0	4.0	0.0	5.0	$285	$41,005	8	40	$330,320
Submit actual injection procedure.	One-time	0.0	0.0	1.0	0.0	1.0	$49	$164	8	8	$1,702
Demonstrate hydrogeologic compatibility/ compatability of well materials.	One-time	0.0	2.0	6.0	0.0	8.0	$472	$8,201	8	64	$69,387
Prepare and submit information on calculated AoR.	One-time	0.0	0.0	2.0	0.0	2.0	$97	$3,280	8	16	$27,023
No-migration petition requirements											
Submit waste information and modeling data to demonstrate that wastes will not migrate from injection zone.	One-time	0.0	24.0	120.0	30.0	174.0	$8,921	$861,105	8	1,392	$6,960,209
Requirements associated with permit renewals/modifications and petition modifications											
Submit updated permit application attachments.	Occasional	0.0	9.0	41.5	21.0	71.5	$3,472	$12,137	12	858	$187,308
Request Permit Modification.	One-time	0.0	2.0	6.0	2.0	10.0	$533	$7,053	5	50	$37,931
Prepare and submit Petition Modification.	One-time	0.0	24.0	120.0	30.0	174.0	$8,921	$815,142	6	1,044	$4,944,377

Table A-1A
Annual Paperwork Burden and Costs Associated with Class I Hazardous Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response							Total Hours and Costs		
Description of Requirement	Frequency (A)	Legal	Managerial	Technical	Clerical	Unit Burden	Unit Labor Cost	Unit Non-labor Cost (B)	No. of Responses	Total Hours/Year	Total Cost/Year
Monitoring/Testing Requirements (Per Facility)											
Use continuous recording devices to monitor injection pressure, flow rate, volume, and temperature.	Continuous	0.0	0.0	5.7	0.0	5.7	$278	$0	74	420	$20,470
Conduct chemical monitoring of injectate as prescribed in waste analysis plan.	As specified in WAP	0.0	0.0	38.0	0.0	38.0	$1,852	$4,921	295	11,200	$1,996,161
Conduct additional chemical monitoring as specified by the Director.	Varies	0.0	0.0	7.6	0.0	7.6	$370	$984	29	224	$39,923
Conduct casing pressure test and radioactive tracer survey of bottom-hole cement.	Annual	0.0	3.8	5.2	0.0	9.0	$595	$6,793	59	531	$435,516
Conduct casing pressure test, radioactive tracer of bottom hole cement, & noise/temperature logs to check for movement along the borehole.	Every 5 years	0.0	1.0	7.0	0.0	8.0	$431	$46,746	15	118	$695,238
Conduct casing inspection log at workover.	Occasional	0.0	3.8	8.0	0.0	11.8	$732	$8,151	4	43	$32,728
Conduct pressure fall-off test.	Annual	0.0	6.0	18.0	0.0	24.0	$1,417	$19,020	74	1,768	$1,505,896
Conduct ambient monitoring.	Annual	0.0	0.4	1.9	0.0	2.3	$127	$6,561	74	168	$492,770
Reporting Requirements (Per Facility)											
Prepare and submit report on maximum injection pressure, total injectate volume, and monitoring and testing results.	Quarterly	0.0	4.0	15.0	5.7	24.7	$1,762	$0	295	7,293	$519,291
Prepare and submit MIT report.	Annual	0.0	1.0	2.0	1.0	4.0	$283	$1,476	74	295	$129,624
Notify Director of: any planned physical changes to facility, changes that may result in noncompliance, permit transfers, planned workovers, USDW endangerment.	Occasional	0.0	1.0	2.0	3.0	6.0	$283	$0	1	4	$209
Prepare and submit revised plugging and abandonment cost estimate.	Annual	0.0	1.0	0.0	0.0	1.0	$103	$0	74	74	$7,592
Report on: events exceeding operating parameters or triggering alarms; changes in annular fluid volume; workovers or other testing; or permit transfers.	Occasional	0.0	1.0	1.0	0.9	2.9	$165	$0	4	11	$609

Table A-1A

Annual Paperwork Burden and Costs Associated with Class I Hazardous Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response							Total Hours and Costs		
Description of Requirement	**Frequency (A)**	**Legal**	**Managerial**	**Technical**	**Clerical**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-labor Cost (B)**	**No. of Responses**	**Total Hours/Year**	**Total Cost/Year**
Recordkeeping Requirements (Per Facility)											
Maintain monitoring information, calibration & maintenance records, required reports, application data, monitoring results, and most recent plugging & abandonment cost estimate.	3 years	0.0	0.0	0.0	5.0	5.0	$152	$0	74	368	$11,211
Closure Requirements (Per Well)											
Prepare and submit notice of intent to close.	One-time	0.0	0.5	0.0	1.0	1.5	$75	$0	1	2	$75
Prepare and submit closure report.	One-time	0.0	2.0	8.0	0.0	10.0	$570	$3,280	1	10	$3,850
Conduct pressure fall-off test.	One-time	0.0	1.0	5.0	0.0	6.0	$334	$19,020	1	6	$19,354
Demonstrate mechanical integrity.	One-time	0.0	2.0	18.0	0.0	20.0	$1,057	$30,704	1	20	$31,761
Notify state or local zoning or drilling authorities	One-time	0.0	0.5	1.0	3.0	4.5	$185	$0	1	5	$185
TOTAL									**1,374**	**27,626**	**$ 20,082,230**

Notes:

(A) EPA assumes that occasional notification will be included in the next quarterly report except where required within 24 hours.

(B) EPA assumes that there are no start-up costs; all non-labor costs are O & M costs.

EPA assumes one well per facility for start-up and closure activities; and 1.9 wells per facility for monitoring, testing and reporting.

Numbers may not add due to rounding.

Table A-1A (continued)
Annual Paperwork Burden and Costs Associated with Class I Hazardous Wells: States

		A	B	C	D	E	F
		Hours and Costs per Response			Total Hours and Costs		
Description of Requirement	**Frequency (A)**	**Unit Burden (B)**	**Unit Labor Cost**	**Unit Nonlabor Cost**	**Number of State Responses**	**Total State Hours/Year**	**Total State Cost/Year**
Initial/Start-up							
Permit Applications							
Consider the permit application, AoR, relevant maps and cross sections, fluid injection rate and volume, proposed contingency plans, monitoring plans, and construction procedures as required at 146.70 and prepare draft permit.	One-time	40.0	$1,748	$0	7	265	$11,589
Provide public notice of issuance of a draft permit or intent to deny.	One-time	1.0	$44	$0	7	7	$290
Consider public comments.	One-time	6.0	$262	$0	7	40	$1,738
Issue final permit decision.	One-time	2.0	$87	$0	7	13	$579
Respond to comments.	One-time	7.0	$306	$0	7	46	$2,028
Review notice of completion of construction.	One-time	2.0	$87	$0	7	13	$579
Review information related to aquifer exemption requests and forward to EPA region.	One-time	1.0	$44	$0	1	1	$49
No-Migration Petitions							
Review and respond to petition request.	One-time	18.0	$787	$0	7	119	$5,215
Public notice/public comment.	One-time	10.0	$437	$0	7	66	$2,897
Review and respond to petition modification request.	One-time	10.0	$437	$0	5	50	$2,173
Permit renewals/modifications							
Review and respond to requests for permit modifications or re-issuance.	Occasional	30.0	$1,311	$0	10	298	$13,038

Table A-1A (continued)
Annual Paperwork Burden and Costs Associated with Class I Hazardous Wells: States

		A	B	C	D	E	F
		Hours and Costs per Response			Total Hours and Costs		
Description of Requirement	**Frequency (A)**	**Unit Burden (B)**	**Unit Labor Cost**	**Unit Nonlabor Cost**	**Number of State Responses**	**Total State Hours/Year**	**Total State Cost/Year**
Monitoring/Testing							
Review quarterly monitoring and testing results.	Quarterly	1.5	$66	$0	244	366	$16,011
Review casing pressure test and radioactive tracer survey of bottom-hole cement.	Annual	4.0	$175	$0	49	195	$8,539
Review casing pressure test, radioactive tracer survey of bottom-hole cement, and logs.	Every 5 years	4.0	$175	$0	12	49	$2,135
Review pressure fall-off test.	Annual	2.0	$87	$0	47	94	$4,110
Other Reporting							
Respond to periodic notifications by owners and operators.	Occasional	2.0	$87	$0	5	10	$435
Closure							
Review closure and post-closure plans prior to approving plugging and abandonment.	One-time	2.0	$87	$0	1	2	$87
Witness and review pressure fall-off test prior to authorizing closure.	One-time	24.0	$1,049	$0	1	24	$1,049
TOTAL					**476**	**1,661**	**$72,585**

Notes:

(A) For quarterly activities, the number of responses = number of facilities X 4.

(B) EPA assumes one well per facility for start-up and closure activities; and 1.9 wells per facility for all other activities.

Regions review 17 percent of MITs and 23 percent of pressure fall-off tests in primacy states.

Numbers may not add due to rounding.

Table A-1B

Annual Paperwork Burden and Costs Associated with Class I Nonhazardous Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response							Total Hours and Costs		
Description of Requirement	**Frequency (A)**	**Legal**	**Managerial**	**Technical**	**Clerical**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost (B)**	**No. of Responses**	**Total Hours/Year**	**Total Cost/Year**
Initial/Startup Requirements (Per Permit Application)											
Requirements associated with permit applications											
Read permit application directions.	One-time	0.0	0.25	0.25	0.00	0.5	$35	$0	14	7	$486
Gather and submit description of activities requiring a permit, facility name & address, SIC codes, ownership & facility status, facility location, list of relevant permits/construction approvals, description of the business.	One-time	3.0	2.0	9.0	5.8	19.8	$1,105	$0	14	278	$15,475
In DI programs, gather and submit a list of landowners within 1/4 mile of the facility boundary.	One-time	4.0	0.0	0.0	1.2	5.2	$448	$0	2	12	$1,075
Prepare and submit a map and tabulation of all wells within the AoR.	One-time	0.0	1.5	5.5	0.0	7.0	$403	$19,814	14	98	$283,033
Prepare and submit maps/cross sections of local and regional geology, USDWs.	One-time	0.0	1.5	16.0	0.0	17.5	$915	$51,420	14	245	$732,691
Prepare and submit descriptions of logs and tests, construction schematics and operating data.	One-time	0.0	2.0	8.0	2.4	12.4	$644	$6,151	14	174	$95,125
Develop formation testing and stimulation programs and injection	One-time	0.0	2.0	7.0	1.0	10.0	$551	$7,381	14	140	$111,043
Prepare and submit contingency plans for shut-ins or well failures.	One-time	0.0	3.0	10.0	1.9	14.9	$817	$287	14	209	$15,450
Prepare and submit ambient monitoring plan.	One-time	0.0	3.0	3.0	2.9	8.9	$505	$4,839	14	125	$74,810
Prepare and submit Corrective Action Plan.	One-time	0.0	2.0	3.0	2.2	7.2	$394	$9,431	14	101	$137,556
Prepare and submit closure plan, including demonstration of financial responsibility.	One-time	0.0	1.0	3.0	2.1	6.1	$301	$1,812	14	86	$29,591
Prepare and submit information to support an aquifer exemption request.	One-time	0.0	2.5	17.0	0.5	20.0	$0	$0	2.4	48	$0

Table A-1B

Annual Paperwork Burden and Costs Associated with Class I Nonhazardous Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response							Total Hours and Costs		
Description of Requirement	**Frequency (A)**	**Legal**	**Managerial**	**Technical**	**Clerical**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost (B)**	**No. of Responses**	**Total Hours/Year**	**Total Cost/Year**
Requirements associated with completion reports											
Prepare and submit completion report.	One-time	0.0	0.0	1.5	2.4	3.9	$146	$0	14	55	$2,049
Prepare and submit a report of deviation checks and other logs and tests during construction.	One-time	0.0	0.0	6.0	1.0	7.0	$322	$37,725	14	97	$532,649
Demonstrate mechanical integrity.	One-time	0.0	2.0	3.5	0.0	5.5	$351	$10,661	14	77	$154,166
Submit information on the anticipated maximum pressure and flow rate.	One-time	0.0	0.0	2.0	0.0	2.0	$97	$164	14	28	$3,661
Submit results of the formation testing program.	One-time	0.0	1.0	4.0	0.0	5.0	$285	$41,005	14	70	$578,059
Submit actual injection procedure.	One-time	0.0	0.0	1.0	0.0	1.0	$49	$164	14	14	$2,979
Demonstrate hydrogeologic compatibility/ compatibility of well materials.	One-time	0.0	2.0	6.0	0.0	8.0	$472	$8,201	14	112	$121,428
Requirements associated with permit renewals/modifications											
Submit updated components of permit application attachments.	Occasional	0.0	8.0	11.0	2.0	21.0	$1,317	$5,741	20	420	$141,151
Prepare and submit request for permit modification.	Occasional	0.0	2.0	6.0	0.0	8.0	$472	$4,101	9	72	$41,156
Monitoring/Testing Requirements (Per Facility)											
Analyze injected fluids.	Per permit	0.0	0.0	38.0	0.0	38.0	$1,852	$3,280	1,448	55,040	$7,434,006
Monitor injection pressure, flow rate and volume, and annulus pressure.	Continuous	0.0	0.0	5.7	0.0	5.7	$278	$0	362	2,064	$100,598
Demonstrate mechanical integrity.	Every 5 years	0.0	1.0	8.0	0.0	9.0	$480	$20,256	72	652	$1,501,749
Conduct pressure fall-off test.	Annual	0.0	8.0	16.0	0.0	24.0	$1,500	$19,020	362	8,691	$7,430,270
Conduct ambient monitoring.	Annual	0.0	0.4	1.5	0.0	1.9	$108	$6,561	362	688	$2,414,908

Table A-1B

Annual Paperwork Burden and Costs Associated with Class I Nonhazardous Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response							Total Hours and Costs		
Description of Requirement	**Frequency (A)**	**Legal**	**Managerial**	**Technical**	**Clerical**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost (B)**	**No. of Responses**	**Total Hours/Year**	**Total Cost/Year**
Reporting Requirements (Per Facility)											
Report on: physical, chemical, and other characteristics of injected fluids; injection pressure, flow rate, and volume; and monitoring of USDWs.	Quarterly	0.0	0.0	4.0	10.4	14.4	$511	$0	1,448	20,847	$740,439
Report results of ambient monitoring and pressure fall-off test.	Annual	0.0	2.0	6.0	4.0	12.0	$594	$1,358	362	4,345	$706,902
Notify Director of: any planned physical changes to facility, changes that may result in noncompliance, permit transfers, planned workovers, possible endangerment to a USDW.	Occasional	0.0	1.0	2.0	3.0	6.0	$279	$0	18	109	$5,047
Submit periodic updates of financial responsibility for closure that account for inflation.	Occasional	0.0	1.0	0.0	0.0	1.0	$90	$0	121	121	$10,861
Report results of: any required mechanical integrity tests, other required tests, well workovers, or permit transfers.	Occasional	0.0	1.0	2.0	0.9	3.9	$216	$1,476	4	14	$6,127
Recordkeeping Requirements (Per Facility)											
Maintain monitoring information, calibration & maintenance records, required reports, application data, and monitoring results.	At least 3 years	0.0	0.0	0.0	4.0	4.0	$122	$0	362	1,448	$44,074
Closure Requirements (Per Well)											
Notify the Director before conversion or abandonment of the well or closure of the project.	One-time	0.0	0.5	0.0	1.0	1.5	$75	$0	1	2	$75
TOTAL									**5,195**	**96,488**	**$ 23,468,686**

Notes:

(A) EPA assumes that occasional notification will be included in the next quarterly report except where required within 24 hours.

(B) EPA assumes that there are no start-up costs; all non-labor costs are O & M costs.

EPA assumes one well per facility for start-up and closure activities; and 1.9 wells per facility for monitoring, testing and reporting.

Numbers may not add due to rounding.

Table A-1B (continued)
Annual Paperwork Burden and Costs Associated with Class I Nonhazardous Wells: States

		A	B	C	D	E	
		Hours and Costs per Response			Total Hours and Cost		
Description of Requirement	**Frequency (A)**	**Unit Burden (B)**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**Number of State Responses**	**Total State Hours/Year**	**Total State Cost/Year**
Initial/Start-up							
Permit applications							
Consider the permit application, AoR, relevant maps and cross sections, fluid injection rate and volume, proposed contingency plans, monitoring plans, and construction procedures as required at 146.14 and issue notice of intent to deny.	One-time	20.0	$874	$0	1	23	$1,014
Consider the permit application, AoR, relevant maps and cross sections, fluid injection rate and volume, proposed contingency plans, monitoring plans, and construction procedures as required at 146.14 and prepare draft permit.	One-time	40.0	$1,748	$0	10	418	$18,253
Provide public notice of issuance of a draft permit or intent to deny.	One-time	1.0	$44	$0	12	12	$507
Consider public comments.	One-time	6.0	$262	$0	12	70	$3,042
Issue final permit decision.	One-time	2.0	$87	$0	12	23	$1,014
Respond to comments.	One-time	7.0	$306	$0	12	81	$3,549
Review notice of completion of construction.	One-time	2.0	$87	$0	12	23	$1,014
Review information related to aquifer exemption requests and forward to EPA region.	One-time	1.0	$44	$0	2	2	$86
Permit renewals/modifications							
Review and respond to requests for permit modifications or re-issuance.	Occasional	30.0	$1,311	$0	17	497	$21,729

Table A-1B (continued)
Annual Paperwork Burden and Costs Associated with Class I Nonhazardous Wells: States

		A	B	C	D	E	
		Hours and Costs per Response			Total Hours and Cost		
Description of Requirement	**Frequency (A)**	**Unit Burden (B)**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**Number of State Responses**	**Total State Hours/Year**	**Total State Cost/Year**
Monitoring/Testing							
Review casing pressure test and logs.	Every 5 years	4.0	$175	$0	60	240	$10,491
Review pressure fall-off test.	Annual	2.0	$87	$0	300	600	$26,228
Review monitoring data submitted by operators.	Quarterly	2.0	$87	$0	1,200	2,400	$104,911
Other Reporting							
Respond to periodic notifications by owners and operators.	Occasional	1.0	$44	$0	8	8	$362
Closure							
Review plugging and abandonment report.	One-time	1.0	$44	$0	1	1	$44
TOTAL					**1,657**	**4,398**	**$192,244**

Notes:

(A) For quarterly activities, the number of responses = number of facilities X 4.

(B) EPA assumes one well per facility for start-up and closure activities; and 1.9 wells per facility for all other activities.

Regions review 17 percent of MITs and 23 percent of pressure fall-off tests in primacy states.

Numbers may not add due to rounding.

EPA assumes that some activities required of Class I permit applicants are customary business practices. The burden presented in this ICR is the incremental time and cost of presenting the information in a format acceptable to permitting authorities and for using EPA-approved tests.

- Knowledge of subsurface geology is necessary to site a well and locate a subsurface zone suitable for injection. EPA assumes that 50 percent of the geological characterization required of permit applicants is customary business practice. Most of the incremental ICR burden is attributable to the requirement to submit detailed maps of local geology.

- Operators would customarily develop and conduct formation testing and stimulation programs for the same reasons they would develop geological data. EPA estimates that 50 percent of the required program development and testing is customary business practice.

- Operators are likely to develop and retain contingency plans to reduce potential liability should a well failure occur and develop closure plans to reduce potential liability when they close their facilities. EPA assumes that 25 percent of the burden of developing these plans is customary business practice.

- Facility engineers would normally prepare construction schematics and operating data during the planning and design of an injection facility; EPA estimates that 75 percent of the burden associated with compiling this data is customary business practice.

- As part of their overall industrial process, operators would normally develop injectate composition data and test the compatibility of the waste stream with well materials. EPA assumes that 50 percent of the time and cost of developing a waste analysis plan and conducting waste compatibility testing is customary business practice.

- During construction, operators would probably conduct deviation checks and other logs to verify that drilling is progressing within expected parameters. EPA estimates that 50 percent of the requirement to conduct deviation checks and other logs and tests is customary business practice.

- Operators would routinely observe injection pressure, flow rate, volume, and temperature, and analyze the chemical composition of their wastes to verify the proper operation of their wells; EPA assumes that nearly all the burden for continuous monitoring and 75 percent of the burden of performing chemical analyses of the injectate is customary business practice.

EPA estimates that owners or operators of Class I wells that apply for an aquifer exemption will submit geologic and water use-related information to demonstrate that the criteria at 40 CFR 144.7 and 40 CFR 146.4 are met. EPA estimates that much of this information will be gathered as part of the Class I permit application process, and that applying for an aquifer exemption will require an additional 20 hours for each applicant.

Class I Hazardous Facilities

Operator activities associated with Class I hazardous facilities include: permitting and start-up-related reporting; permit renewals and modifications of permits or petitions; monitoring; reporting and recordkeeping; and closure-related paperwork.

Initial Permitting/Start-up

EPA estimates that, of the new Class I hazardous waste facility operating permits that are issued each year, most will be for new wells at existing facilities. Thus, in some cases, operators will adapt existing materials for their permit applications. Note that for permitting activities, the unit burdens are expressed on a per-application basis.

EPA estimates that the operator burden associated with applying for Class I hazardous waste injection permits via Form 7520-6[1] will be 215 hours per permit. (This unit burden incorporates the above assumptions about customary business practices.) Applicants will also spend 6.1 hours developing the plugging and abandonment plan and financial responsibility cost estimate, using Form 7520-19. Table A-1A contains burden estimates for specific components of the permit application. EPA's calculation of operator burden and contractor labor costs above customary business practices is based on the following assumptions:

- Operators, rather than contractors, will gather the facility description and location information necessary to complete the permit application form;

- Area of review (AoR) studies in support of the application will encompass portions of previous AoR studies at the facility;

- The burden for developing a corrective action plan is based on the assumption that 10 percent of operators will be required by the permitting authority to revise their corrective action plans; and

- The requirement that operators of active hazardous waste facilities gather and submit site investigation information [40 CFR 144.31(g)(3)] duplicates Resource Conservation and Recovery Act (RCRA) requirements and is not included in this burden estimate. Other activities that operators of active hazardous waste facilities must perform (e.g., developing a waste analysis plan) are included in this estimate.

EPA estimates that the burden on Class I hazardous facility operators associated with preparing and submitting completion reports (Form 7520-18) will be 3.9 hours per facility. The burden to perform specific activities related to completion reports (e.g., MITs and formation testing) is presented in Table A-1A. As with permitting activities, EPA anticipates that much of the testing reported in the completion report would normally be performed in the course of business.

In addition to submitting permit applications, operators of newly constructed Class I hazardous wells will submit no-migration petitions to the EPA Regional Administrator. EPA assumes that no-migration petition requirements impose an additional 174 burden hours on each operator. EPA anticipates that operators already have compiled much of the extensive data required to support a no-migration petition in the process of permitting and preparing petitions for existing wells at their facilities, during the permit application process, or as a customary business practice.

[1] References to the federal reporting forms are provided throughout this appendix; owners or operators in some primacy states may report using state equivalents to these forms.

Permit Renewals and Modifications

Class I operating permits are valid for up to ten years, after which operators must apply to renew their permits. Additionally, from time to time, operators of Class I hazardous facilities may need to modify their permits or their no-migration petitions. Paperwork submittals include: permit renewals, permit modifications, and petition modifications.

EPA anticipates that the burden associated with renewing permits for a Class I hazardous facility will be 71.5 hours per renewal. Requirements for permit renewals vary among states and regions, ranging from submitting a letter of intent to continue operating the facility to submitting an application that is similar in scope to one for a new permit. EPA assumes that, for renewal applications, Class I hazardous facility operators will be required to submit facility identification information and those attachments that have changed or been updated since their last application, such as the AoR, corrective action plan, closure plan, waste identification information, and financial responsibility information. EPA assumes that Class I hazardous facility operators will not be required to submit no-migration petitions in support of permit renewal applications.

EPA estimates the operator burden for overseeing contractor activities associated with preparing and submitting a request for a permit modification is 10 hours per facility, and the burden associated with modifying a no-migration petition is 174 hours.

Monitoring/Testing

As indicated above, EPA assumes that operators of Class I hazardous facilities would routinely observe injection pressure, flow rate, volume, and temperature in the normal course of business. EPA estimates an incremental annual burden of 5.7 hours per facility beyond customary business practice to meet UIC reporting requirements.

Class I hazardous facility operators must also monitor the chemical composition of their wastes according to the waste analysis plans submitted with their permit applications. As with monitoring of injection pressure, flow rate, and volume, EPA assumes that operators would perform some chemical monitoring during the course of business. EPA estimates the additional annual burden for chemical monitoring is 38 hours per facility per quarter for operators to collect samples and send them to commercial laboratories for analysis. In addition, EPA assumes that, for various reasons, permitting authorities will require 10 percent of facilities to conduct additional monitoring under 40 CFR 146.68(a)(3), and that the total burden will be 7.6 hours per facility per quarter. EPA assumes that all monitoring will be conducted quarterly.

The burden associated with conducting annual MITs (i.e., conducting a casing pressure test and radioactive tracer survey) is estimated to be 9 hours per facility, and the burden associated with conducting five-year MITs, which also include temperature, noise, or other logs to check for movement along the borehole, is estimated to be 8 hours per facility.

Operators must conduct casing inspection logs when their wells are worked over. EPA estimates the total annual burden will be 11.8 hours per log.

Class I hazardous facility operators must conduct a pressure fall-off test every year; EPA estimates that the annual burden associated with this requirement will be 24 hours per facility. EPA estimates that the total burden associated with required annual ambient monitoring at Class I hazardous facilities will be 2.3 hours per facility.

Reporting and Recordkeeping

Operators of each Class I hazardous facility will spend 104 hours per facility reporting the results of required monitoring and testing each year: this includes 24.7 hours per report for quarterly monitoring reports (Form 7520-8), and 4 hours to report on the results of MITs. In addition, EPA assumes that 5 percent of operators will spend 2.8 hours annually submitting various occasional reports (e.g., on changes to the facility, permit transfers, planned workovers, noncompliance or anticipated noncompliance, or events triggering alarms or shutdown devices) via Forms 7520-7 or 7520-19. Operators will also spend one hour submitting revised plugging and abandonment cost estimates.

EPA estimates the annual recordkeeping burden for Class I hazardous facilities to be 5 hours. Operators must maintain monitoring information, calibration and maintenance records, required reports, application data, and monitoring results for three years; and keep their most recent plugging and abandonment cost estimate for one year.

Closure

EPA estimates that the total annual burden associated with closure of a Class I hazardous well is 42 hours. This includes 1.5 hours to notify the permitting authority prior to closing, 6 hours to perform pressure fall-off tests, 20 hours for MITs, and 10 hours for a closure report. EPA assumes that the operator will not revise the closure plan or the post-closure care plan. The operator will also spend 4.5 hours on third-party notification activities, such as notifying state or local zoning or drilling authorities and the permitting authority following closure.

Class I Nonhazardous Facilities

Paperwork requirements for operators of Class I nonhazardous facilities include permitting and start-up-related reporting, permit renewals and modifications, monitoring and testing, reporting and recordkeeping, and closure-related paperwork activities.

Initial Permitting/Start-up

As is the case for Class I hazardous facilities, EPA estimates that the majority of the new, nonhazardous waste injection permits issued each year will be for new wells at existing facilities. Unit burdens are reported on a per-application basis.

Requirements associated with permit applications (Form 7520-6) add 104 hours to the customary business activities of Class I nonhazardous facility operators. Applicants will also spend 6.1 hours developing the plugging and abandonment plan and financial responsibility cost estimate, using Form 7520-19. Column A of Table A-1B presents EPA's estimates of burdens for specific components of a permit application. Class I nonhazardous waste injection well permit applicants must submit much of the same information as operators of hazardous facilities. EPA assumes that the burden on nonhazardous facilities is the same as that for Class I hazardous waste facilities, with the exception of the following:

- Class I nonhazardous facility operators will study a smaller AoR. Consequently, the burden for the AoR study and for developing a corrective action plan for wells in the AoR will be lower for these operators.

- Nonhazardous facility operators are not required to develop waste analysis plans or plans to reduce the quantity or toxicity of their injectate; nor are they required to gather and submit hazardous waste release information.

EPA estimates that the unit burden on Class I nonhazardous facility operators for preparing and submitting completion reports (Form 7520-18) is 3.9 hours. This unit burden varies from that for Class I hazardous facilities, as Class I nonhazardous facility operators are not required to submit information on the calculated AoR. Burden estimates for specific activities associated with completion of new wells (e.g., MITs and formation testing) are presented in Column A of Table A-1B.

Permit Renewals/Modifications

As with Class I hazardous facility operators, EPA assumes that applicants for Class I nonhazardous injection permit renewals will submit only those attachments to the application form that have changed since the original permit application. Preparing and submitting the updated materials needed for a permit renewal application will take an estimated 21 hours. EPA estimates the operator burden associated with contractor oversight to gather the necessary information for a permit modification to be 8 hours.

Monitoring/Testing

EPA assumes that operator staff will observe and record injection pressure, flow rate, volume, and temperature and sample their injectate periodically as normal business activities. However, to comply with UIC requirements, operators spend more time on these activities than they otherwise would. Class I nonhazardous facility operators will spend 38 hours to monitor their injectate; 5.7 hours to monitor injection pressure, flow rate, and volume; 1.9 hours to conduct ambient monitoring; and 24 hours to conduct an annual pressure fall-off test. In addition, approximately 20 percent of operators will spend 9 hours to demonstrate mechanical integrity.

Reporting and Recordkeeping

Operators will spend 14.4 hours per facility reporting quarterly on the chemical and physical characteristics of injectate, flow rate, and volume (via Form 7520-8). Class I nonhazardous facility operators will spend 12 hours per facility reporting on the results of ambient monitoring and pressure fall-off testing.

EPA assumes that Class I nonhazardous facility operators will spend one hour each year to update and submit revised plugging and abandonment cost estimates. EPA also assumes that operators will spend about 4 hours submitting additional reports (e.g., of changes to the facility, permit transfers, planned workovers, noncompliance or anticipated noncompliance, or events triggering an alarm or shutdown) via Forms 7520-7 or 7520-19.

EPA estimates the annual recordkeeping burden on Class I nonhazardous facilities to maintain monitoring information, calibration and maintenance records, required reports, application data, and monitoring results for three years will be 4 hours per facility.

Closure

EPA estimates the annual burden on operators of Class I nonhazardous facilities associated with closure is 1.5 hours, for notifying the Director.

Burden on Primacy Agencies Associated with Class I Wells

State primacy agencies' burden associated with implementing Class I programs arises from program oversight and reviewing and responding to permit applications, completion reports, monitoring and testing data, and closure reports submitted by operators within their states. State burden associated with oversight of Class I programs is presented in Column A of Tables A-1A and A-1B.

EPA estimates that states will spend from 20 to 58 hours per permit application reviewing applications for hazardous or nonhazardous Class I wells (depending on whether the permit is issued or denied), and 30 hours reviewing requests for permit modifications or renewals. EPA regional offices review all no-migration petitions and petition modification requests submitted by operators of Class I hazardous waste injection facilities; however, state primacy agencies assist the regions with this review. States spend 28 hours per no-migration petition application and 10 hours per petition modification request on this assistance.

State primacy agencies spend from 1 to 4 hours per report reviewing monitoring and MIT data or occasional reports submitted by operators (details are presented in Tables A-1A and A-1B). States spend one hour reviewing plugging and abandonment reports submitted by operators of Class I nonhazardous waste facilities, and 26 hours reviewing reports and testing results associated with closure of hazardous waste facilities. EPA estimates that state staff will spend 1 hour per request reviewing aquifer exemption requests for Class I owners or operators in their state and forwarding these requests to the EPA Region for a determination.

Burden Associated with Class II Wells

EPA's estimates of the annual paperwork burden on operators for permitting, monitoring and testing, reporting and recordkeeping, and closing wells, and state burden for administering Class II programs, are presented in Table A-2.

Class II Operators

Initial Permitting/Start-up

EPA anticipates that 28 percent of Class II permit applications will be for area permits and 73 percent will be for individual permits. On average, each area permit application will cover 3.1 wells.

The average burden for preparing permit application forms (Form 7520-6) and the supporting documentation is approximately 61 hours per application. The time that a particular operator will spend on a permit application will likely vary, depending on the specific state submission requirements, the operator's level of experience, whether the application is for an individual or an area permit, the use of contractors, and other factors. The following paragraphs summarize the burdens for various components of a Class II permit application.

EPA estimates that operators will spend 2.5 hours to read the application directions and complete the permit application form. With respect to the supporting documentation, EPA assumes that operators would normally prepare a well schematic and some geological, hydrogeological, and operating data in the course of business, and/or utilize existing data for the project. For area permits, the operator generally submits supporting data for a representative well. Table A-2 provides estimates of the time required, beyond what is considered customary business practice, to prepare the attachments to a Class II permit application. EPA estimates that permit applicants will spend an average of about:

- 6 hours to prepare plugging and abandonment plans (Form 7520-19);
- 19 hours to prepare financial responsibility information;
- 2 hours to prepare proposed operating data;
- 9.5 hours to prepare geological data on injection and confining zones;
- 2.5 hours to identify and determine depth to the bottom of USDWs; and
- 3 hours to prepare well schematics.

Table A-2

Annual Paperwork Burden and Costs Associated with Class II Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response							Total Hours and Costs		
Description of Requirement	**Frequency**	**Legal**	**Managerial**	**Technical**	**Clerical**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**No. of Responses**	**Total Hours/Year**	**Total Cost/Year**
Initial/Start-up Requirements											
Requirements associated with permit applications (Per Permit Application)											
Read permit application directions.	One-time	0.0	0.0	0.5	0.5	1.0	$39	$0	1,289	1,262	$50,211
Gather and submit: description of activities requiring a permit, facility name & address, SIC codes, ownership and facility status, facility location, listing of relevant permits or construction approvals, topographic maps, description of the business.	One-time	0.1	0.0	1.0	0.4	1.5	$71	$0	1,289	1,912	$91,148
For DI programs, gather and submit a list of all land owners within one quarter mile of the facility boundary.	One-time	0.2	0.0	0.0	1.0	1.2	$50	$207	27	31	$6,811
Prepare and submit plugging and abandonment plan.	One-time	0.0	0.6	4.8	0.6	6.0	$305	$0	1,289	7,699	$393,634
Show evidence of financial responsibility for closure.	One-time	0.0	5.0	5.0	9.6	19.6	$985	$0	1,289	25,246	$1,270,044
Prepare and submit proposed Corrective Action Plan.	One-time	0.0	0.3	2.9	0.2	3.4	$174	$0	129	437	$22,452
Prepare and submit revised Corrective Action Plan.	One-time	0.0	1.0	9.6	0.7	11.3	$578	$0	26	291	$14,909
Prepare and submit Area of Review map. (State/DI Program performs study)	One-time	0.0	0.0	1.0	0.0	1.0	$49	$41	287	287	$25,718
Prepare and submit Area of Review map and study.	One-time	0.0	0.1	2.9	1.9	4.9	$208	$224	243	1,201	$105,018
Prepare and submit proposed operating data.	One-time	0.0	0.1	1.8	0.1	2.0	$100	$0	1,289	2,573	$128,448
Prepare and submit geological data on the injection and confining zone.	One-time	0.0	0.5	8.0	1.0	9.5	$464	$0	1,289	12,192	$598,209
Prepare and submit name and depth to bottom of USDWs.	One-time	0.0	0.1	2.3	0.1	2.5	$124	$246	1,289	3,217	$477,006
Prepare and submit schematic of the well.	One-time	0.0	0.0	2.8	0.2	3.0	$142	$0	1,289	3,856	$183,435
Prepare and submit information to support an aquifer exemption request.	One-time	0.0	2.5	17.0	0.5	20.0	$1,069	$0	39	773	$41,330

Table A-2

Annual Paperwork Burden and Costs Associated with Class II Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response							Total Hours and Costs		
Description of Requirement	**Frequency**	**Legal**	**Managerial**	**Technical**	**Clerical**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**No. of Responses**	**Total Hours/Year**	**Total Cost/Year**
Requirements associated with completion reports (Per Well)											
Prepare and submit completion report.	One-time	0.0	0.0	1.5	1.8	3.3	$127	$0	1,228	4,001	$155,457
Perform and report on appropriate logs and other tests during construction.	One-time	0.0	0.2	1.9	0.2	2.4	$122	$4,921	184	442	$928,683
Demonstrate mechanical integrity.	One-time	0.0	0.0	7.0	0.0	7.0	$341	$221	1,228	8,594	$690,687
Requirements associated with permit reviews/modifications (Per Permit/Per Operator)					0.0						
Respond to issues raised during permit review.	Every 5 years	0.0	0.5	2.0	0.5	3.0	$158	$0	1,802	5,406	$284,145
Prepare and submit request for permit modification.	Occasional	0.0	0.4	2.8	0.8	4.0	$197	$0	2,703	10,812	$531,963
Monitoring/Testing Requirements (Per Operator)											
Monitor the nature of injected fluids.	As necessary to obtain	0.0	0.0	2.0	0.0	2.0	$97	$49	72,080	144,159	$10,572,953
Record injection pressure, flow rate, and cumulative volume.	At least every 30 days.	0.0	0.0	0.6	0.3	0.8	$36	$0	216,239	181,641	$7,744,412
Demonstrate mechanical integrity.	Every 5 years	0.0	0.0	3.0	0.0	3.0	$146	$2,214	48,654	145,961	$114,846,526
Reporting Requirements (Per Operator)											
Gather and submit groundwater monitoring data, analyses of injected fluids, a description of geologic strata, and other items as requested.	Annual	0.0	3.0	22.0	4.7	29.7	$1,486	$0	5,316	157,969	$7,897,758
In DI programs, notify Regional Administrator 30 days prior to MIT.	Every 5 years	0.0	0.0	0.5	0.5	1.0	$40	$0	39	39	$1,558
Notify Director of: any planned physical changes to facility, changes that may result in noncompliance, permit transfers, planned workovers, possible endangerment to a USDW.	Occasional	0.0	1.0	1.5	2.2	4.7	$229	$0	1,081	5,047	$247,658
Report monitoring data, including monthly records of injected fluids, any changes in characteristics or sources of injected fluids.	Annual	0.0	0.0	3.3	1.7	5.0	$213	$0	18,020	90,100	$3,840,374
Report MIT results.	Annual	0.0	0.0	1.0	0.0	1.0	$49	$0	18,020	18,020	$878,276

Table A-2

Annual Paperwork Burden and Costs Associated with Class II Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response							Total Hours and Costs		
Description of Requirement	**Frequency**	**Legal**	**Managerial**	**Technical**	**Clerical**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**No. of Responses**	**Total Hours/Year**	**Total Cost/Year**
Recordkeeping Requirements (Per Operator)											
Retain records of permitting data, nature and composition of injected fluids, and all monitoring results.	At least 3 years	0.0	0.0	1.0	3.0	4.0	$140	$0	18,020	72,080	$2,523,276
Closure Requirements (Per Operator)											
In DI programs, notify director of revisions to plugging and abandonment plan.	One-time	0.0	0.5	2.5	1.0	4.0	$197	$0	0	1	$42
Notify the Director before conversion or abandonment of the well, or in the case of area permits, before closure of the project.	One-time	0.0	1.0	0.0	2.0	3.0	$151	$0	1,044	3,132	$157,477
In DI programs, submit a plugging and abandonment report within 60 days after plugging a well.	One-time	0.0	0.0	4.5	1.5	6.0	$265	$295	22	129	$12,051
Other Requirements (Per Operator)											
In DI programs, submit revised demonstration of financial responsibility.	Occasional	0.0	0.5	0.5	1.0	2.0	$100	$0	37	74	$3,705
TOTALS									**416,777**	**908,583**	**$ 154,725,375**

Note: Numbers may not add due to rounding.

Table A-2 (continued)
Annual Paperwork Burden and Costs Associated with Class II Wells: States

		A	B	C	D	E	F
		Hours and Costs per Response			Total Hours and Cost		
Description of Requirement	**Frequency**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**Number of Responses**	**Total Hours/Year**	**Total Cost/Year**
Initial/Start-up							
Permit applications (Per Permit Application)							
Review permit application and supporting documentation and prepare draft permit.	One-time	6.0	$262	$0	1,262	7,575	$331,116
Consider public comments.	One-time	2.0	$87	$0	1,262	2,525	$110,372
Issue final permit decision.	One-time	2.0	$87	$0	1,262	2,525	$110,372
Respond to comments.	One-time	4.0	$175	$0	1,262	5,050	$220,744
Review operator's AoR map and study.	One-time	5.0	$219	$0	238	1,190	$52,035
Review operator's AoR map and perform AoR study.	One-time	2.5	$109	$0	287	716	$31,317
Review completion report.	One-time	2.0	$87	$0	1,202	2,405	$105,116
Review information related to aquifer exemption requests and forward to EPA region.	One-time	1.0	$44	$0	36	36	$1,577
Permit reviews/modifications (Per Operator)							
Review each permit to determine whether it should be modified, revoked and reissued, or terminated.	Every 5 years	1.0	$44	$0	1,765	1,765	$77,146
Review request for permit modification or re-issuance.	Occasional	4.0	$175	$0	2,647	10,589	$462,873
Monitoring/Testing (Per Operator)							
Review mechanical integrity test data submitted by operators.	Every 5 years	0.5	$22	$0	47,651	23,826	$1,041,465
Review monitoring data submitted by operators.	Annual	0.3	$11	$0	17,649	4,412	$192,864
Recordkeeping							
Maintain administrative record in DI programs.	One-time	1.0	$44	$0	0	0	$0

Table A-2 (continued)
Annual Paperwork Burden and Costs Associated with Class II Wells: States

		A	B	C	D	E	F
		Hours and Costs per Response			Total Hours and Cost		
Description of Requirement	**Frequency**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**Number of Responses**	**Total Hours/Year**	**Total Cost/Year**
Other Reporting (Per Operator)							
Respond to periodic notifications by owners and operators.	Occasional	2.0	$87	$0	1,059	2,118	$92,575
Closure (Per Operator)							
For DI programs, review plugging and abandonment report.	One-time	1.0	$44	$0	0	0	$0
TOTAL					**77,623**	**64,732**	**$2,829,570**

Note: Numbers may not add due to rounding

Based on studies of state AoR practices and requirements, EPA estimates that state primacy agencies and EPA Regions will determine that a complete AoR study is not necessary for approximately 60 percent of Class II permit applicants. A complete AoR study may not be performed because:

- The AoR is entirely overlapped by the AoRs of wells previously studied;
- A State primacy agency has cross-referenced AoR studies, ensuring AoR coverage;
- The operator has been granted a state variance based on factors relating to geologic setting and/or well conditions; or
- The well is located in a unitized project, and many of the elements of AoR studies were previously performed during unitization.

EPA studies also have shown that many state primacy agencies perform all or most of the tasks involved in the AoR study. In these cases, the operator typically submits only a map of the AoR and a list of wells in the AoR. EPA expects that approximately 19 percent of applicants will submit an AoR map and an AoR study as part of the permit application. Each AoR map and study will require an average of 5 hours of operator time.[2] Another 22 percent of applicants will submit an AoR map and a listing of the wells in the AoR, and the state primacy agency will perform most or all of the tasks involved in the AoR study. The operator time needed to prepare the map and listing of wells is about one hour.

Based on historical information, EPA assumes that operators will incur different burdens to prepare a corrective action plan. EPA estimates that 90 percent of permit applicants will submit brief corrective action plans demonstrating that corrective action is not necessary to address potential conduits to USDWs in the AoR; these plans will require one hour to prepare. The remaining 10 percent of applicants will submit more complex corrective action plans to address specific problems identified by the AoR study, which will take approximately 25 hours to prepare. Thus, the weighted average time to prepare a corrective action plan is 3.4 hours. EPA regional or state primacy staff will require 20 percent of applicants to revise their complex corrective action plans. Each revised plan will take about 11.3 hours to prepare.

Unless exempted by the Director, operators in DI programs are required to submit a list of landowners within ¼ mile of the facility boundary. EPA estimates that these applicants will each take 1.2 hours to research property ownership records and prepare the list. This unit burden assumes that operators will supply about 30 percent of the effort, and the remaining 70 percent will be performed by contractors.

Prior to obtaining approval to begin injection, operators must submit completion reports (Form 7520-18) for each new Class II well (at an estimated 3.3 hours/report). With the completion report, operators must submit results of MITs and any well logs and tests required by the Director. Operators will take approximately 2.4 hours to perform and report on logs and tests and 3.7 hours per well to fill out the completion form. The MIT will require an additional 7 hours of operator time, given current MIT practices for various completion types.

Most operators will submit logs for offset wells in their projects. EPA expects that Directors will require some permit applicants to perform and report on new well logs and tests, such as cement bond, temperature, or density logs. Directors are more likely to require additional logs and tests for II-D (disposal) wells than for II-R (recovery) wells. EPA assumes that operators will perform additional logs and tests for 50 percent of new II-D wells and 5 percent of new II-R wells. Each of the logs and tests will take approximately 2.4 hours of operator time, primarily to supervise contractors.

[2] EPA estimates that some operators will utilize contract AoR services. The unit burden for operators assumes that operators will perform about 67 percent of the AoR burden themselves and contract out for the remaining 33 percent.

EPA estimates that owners or operators of Class II wells that apply for an aquifer exemption will submit geologic and water use-related information to demonstrate that the criteria at 40 CFR 144.7 and 40 CFR 146.4 are met. EPA estimates that much of this information will be gathered as part of the Class II permit application process, and that applying for an aquifer exemption will require an additional 20 hours for each applicant.

Permit Reviews/Modifications

Class II permits are valid "up to the operating life of the facility" [40 CFR 144.36]. While the regulations do not require permit renewals, most permits are reviewed every five years. These reviews may be formal compliance reviews or informal reviews, usually conducted in conjunction with reviews of MIT results. Operators may be required to respond to any issues raised during the permit review. For purposes of calculating operator burden, EPA assumes that each operator will take 3 hours to respond to issues raised during the review.

Operators occasionally submit requests for permit modifications in response to changes in injection practices, to add wells to existing area permits, and for other reasons. EPA expects that preparing each request will take an average of 4 hours.

Monitoring/Testing

For purposes of estimating the number of respondents performing monitoring and testing, EPA assumes that the typical Class II operator has approximately 10 wells. An operator with wells in multiple states is treated as a separate operator in each state, since the operator would have to submit separate reports to each state primacy agency or EPA regional office.

In general, all operators located in DI programs and operators of commercial II-D wells in primacy states are required to submit annual injectate analyses. EPA estimates that approximately 40 percent of Class II operators submit annual injectate analyses each year. EPA assumes that operators submit samples for approximately 20 percent of their wells. Each operator takes 2 hours per year to sample and analyze its injectate. This includes the time it takes for operators to analyze their injectate or, in some cases, send it to a commercial laboratory for analysis.

Most operators are required to observe injection pressure, flow rate, and cumulative volume weekly for II-D wells and monthly for II-R wells. EPA anticipates that operators, especially operators of II-R wells, perform periodic observations of pressure, flow rate, and cumulative volume as a customary business practice. Thus, the incremental time needed to perform these observations is about 0.84 hours per operator (0.08 hours, or 5 minutes, per well) per month. This represents the time required to record the data on a field report.

Based on information reported on the UIC reporting forms, EPA assumes that 27 percent of operators will perform MITs on their wells each year. Each operator will spend 3.0 hours (0.3 hours per well) performing MITs. The unit burden assumes that contractors perform many of the tasks involved in an MIT.

Reporting and Recordkeeping

Each year, EPA estimates that Class II operators spend about 5 hours preparing annual monitoring reports. These reports include summaries of monthly or weekly observations of flow, pressure, and cumulative volume. In addition, EPA estimates that 27 percent of operators will spend 1 hour per operator to prepare reports on MITs performed.

From time to time, operators submit other reports or notify UIC staff of various events. These include notifications of planned changes to the injection facility, permit transfers, planned workovers, progress in achieving compliance milestones, and noncompliance or malfunctions that may endanger a USDW via Forms 7520-7 or 7520-19. EPA estimates that approximately 6 percent of operators submit one of these occasional reports each year. Operators will spend an estimated average of 4.7 to 6.0 hours to prepare these reports.

Operators of rule-authorized wells in DI states may be required to gather and submit ground water monitoring data, analyses of injected fluids, and other items as requested annually. EPA predicts that each report (Form 7520-11) will take about 30 hours to prepare. In addition, operators of rule-authorized wells will spend an estimated one hour per operator to notify the Region prior to performing MITs.

EPA predicts that each operator will spend about 4 hours annually to maintain records on permitting, monitoring, and testing.

Closure

EPA estimates that each operator that closes a well will spend about 3.0 hours (0.3 hours per well) to notify UIC officials prior to abandoning the wells.

In addition, EPA assumes that operators in DI programs who elect to plug their wells in a manner different from the one specified in their plugging and abandonment plans will spend 4 hours to prepare revised plugging and abandonment plans. In addition, EPA estimates that operators who plug wells in DI programs will spend 6 hours to prepare and submit plugging and abandonment reports.

Other Activities

DI programs may require some operators of wells with lifetime permits to submit revised financial responsibility demonstrations. EPA estimates that 10 percent of operators in DI programs will each take 2 hours to prepare and submit revised financial data.

Burden on Primacy Agencies Associated with Class II Wells

Class II primacy agencies review and respond to permit applications and permit reviews/modifications, as well as monitoring and testing data submitted by operators within their states. State burden associated with each activity involved in the oversight of Class II programs is presented in Column A of Table A-2.

EPA estimates that states will spend 23.5 hours per application reviewing Class II injection well permit applications. Primacy agency staff spend one hour to determine whether to reissue, modify, or revoke each permit during the five-year review process. Primacy agencies spend 4 hours reviewing each request for a permit modification or renewal. EPA estimates that state staff will spend 1 hour per request reviewing aquifer exemption requests for Class II owners or operators in their state and forwarding these requests to the EPA Region for a determination.

State primacy agencies spend from 0.3 to 0.5 hours per report reviewing monitoring and MIT data or occasional reports submitted by Class II operators (see details in Table A-2).

Burden Associated with Class III Wells

Table A-3 presents EPA's estimate of the annual paperwork burden on operators for permitting, monitoring and testing, reporting and recordkeeping, and closing their facilities, as well as state burden for administering Class III programs.

Class III Operators

Initial Permitting/Start-up

A Class III operator will spend an average of 123 hours to prepare a new permit application form (Form 7520-6) and the required attachments. Table A-3 provides estimates of the operator time, incremental to that considered customary business practice, required to prepare each component of the permit application. EPA estimates that permit applicants will spend an average of approximately:

- 7.9 hours to prepare plugging and abandonment plans (Form 7520-19);
- 3.5 hours to demonstrate financial responsibility;
- 14 hours to prepare proposed corrective action plans;
- 32 hours to prepare AoR maps and studies;
- 22 hours to prepare maps and cross sections of USDWs within the AoR, and of local and regional geology;
- 9 hours to prepare proposed operating data, formation testing and stimulation programs, and injection procedures;
- 5 hours to prepare schematics of the wells; and
- 16 hours to prepare monitoring plans.

In addition, EPA estimates that, when requested by the Director, revised corrective action plans will take 10 hours each. Applicants in DI programs will spend 1.2 hours each to gather a list of landowners adjacent to the facility.

Operators must also perform a two-part MIT and submit a well completion form. Operators of Class III facilities, especially uranium mining facilities, typically develop their projects in multiple phases under the same area permit and submit a single completion report (Form 7520-18) for the entire facility. Based on conversations with operators and states, EPA estimates that operators of Class III wells will spend an average of 3.9 hours to prepare the completion report, 161 hours to demonstrate mechanical integrity at all wells, and 2.4 hours to submit the results of required logs and tests during construction.

EPA estimates that owners or operators of Class III wells that apply for an aquifer exemption will submit geologic and water use-related information to demonstrate that the criteria at 40 CFR 144.7 and 40 CFR 146.4 are met. EPA estimates that much of this information will be gathered as part of the Class III permit application process, and that applying for an aquifer exemption will require an additional 20 hours for each applicant.

Permit Renewals, Reviews, and Modifications

EPA estimates that, each year, 20 percent of Class III operators will participate in a formal or informal review of their permits. Each operator will take 4 hours to respond to any issues raised during the review. In addition, Class III operators will take an average of 28 hours to prepare requests for permit modifications.

Monitoring/Testing

EPA anticipates that operators of salt solution mining facilities will submit annual analyses of their injectate. On average, each operator will take 8 hours per year to sample and analyze its injectate in-house.

Operators of Class III facilities will monitor injection pressure, flow rate, or volume of injected fluids every two weeks, or meter injected and produced fluid volumes continuously. EPA expects that operators perform this activity periodically as a customary business practice to ensure the efficient operation of their facilities, and that the incremental collection burden is approximately 4.6 hours per operator to complete the field reports.

EPA estimates that operators of salt solution mining facilities will perform two-part MITs on all of their wells each year.[3] The burden is estimated to be 161 hours per operator.

All uranium facility operators monitor water quality at selected monitoring wells completed in the injection zone and overlying freshwater aquifers. Some active facilities monitor twice monthly, while other facilities that are performing aquifer restoration monitor monthly. EPA estimates that the typical uranium facility has about 110 monitoring wells. As with pressure, flow, and volume monitoring, operators will perform about two-thirds of this monitoring as a customary business practice to ensure that no mined ore is escaping from the intended zone. EPA assumes that UIC requirements increase the time spent on monitoring for these operators by about 30.5 hours per monitoring period.

[3] Some operators may be allowed to submit cementing records in lieu of performing temperature or noise logs.

Table A-3
Annual Paperwork Burden and Costs Associated with Class III Wells: Operators

		Hours and Costs per Response				A	B	C	D	E	F
									Total Hours and Costs		
Description of Requirement	**Frequency**	**Legal**	**Managerial**	**Technical**	**Clerical**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**No of Responses**	**Total Hours/Year**	**Total Cost/Year**
Initial/Start-up Requirements											
Requirements associated with permit applications (Per Permit Application)											
Read permit application directions.	One-time	0.0	0.0	0.5	0.5	1.0	$39	$0	18	18	$705
Gather and submit: a description of activities requiring a permit; facility name and address; SIC codes; ownership and facility status; facility location; and listing of relevant permits or construction approvals.	One-time	0.5	2.0	4.7	2.7	9.9	$543	$0	18	179	$9,780
For DI programs, gather and submit a list of all land owners within one quarter mile of the facility boundary.	One-time	0.2	0.0	0.0	1.0	1.2	$50	$207	0.3	0	$80
Prepare and submit plugging and abandonment plan.	One-time	0.0	0.0	6.4	1.5	7.9	$356	$0	18	141	$6,412
Show evidence of financial responsibility for closure.	One-time	0.0	0.5	1.0	1.9	3.4	$153	$0	18	62	$2,751
Prepare and submit proposed Corrective Action Plan.	One-time	0.0	2.0	10.0	1.9	13.9	$726	$0	18	251	$13,077
Prepare and submit revised Corrective Action Plan.	One-time	0.0	1.0	8.0	1.0	10.0	$509	$0	0.4	4	$183
Prepare and submit AoR map and study.	One-time	0.0	3.2	25.5	3.3	31.9	$1,628	$1,222	18	574	$51,297
Prepare and submit maps and cross-sections of USDWs within AoR, local geology, and regional geology.	One-time	0.0	0.0	18.0	3.9	21.9	$996	$246	18	394	$22,348
Prepare and submit proposed operating data, formation testing program, stimulation program, and injection procedure.	One-time	0.0	2.0	6.0	1.0	9.0	$502	$0	18	161	$9,035
Prepare and submit schematic of the well.	One-time	0.0	0.0	4.2	0.8	5.0	$228	$0	18	90	$4,110
Prepare and submit monitoring plan.	One-time	0.0	0.0	12.0	3.9	15.9	$703	$0	18	286	$12,656
Prepare and submit information to support an aquifer exemption request.	One-time	0.0	2.5	17.0	0.5	20.0	$1,069	$0	0.2	4	$192
Requirements associated with completion reports (Per Facility)					0.0						
Prepare and submit completion form and supporting documentation.	One-time	0.0	0.0	1.5	2.4	3.9	$146	$0	18	70	$2,632
Prepare and submit reports of appropriate logs and tests during construction.	One-time	0.0	0.2	1.9	0.2	2.4	$122	$5,629	18	43	$103,525
Demonstrate mechanical integrity.	One-time	0.0	16.1	128.7	15.5	160.2	$8,191	$79,157	18	2,884	$1,572,250
Requirements associated with permit reviews/renewals/modifications (Per Permit/Per Facility)											
Respond to issues raised during permit review.	Every 5 years	0.0	3.0	1.0	0.0	4.0	$319	$0	45	180	$14,341
Prepare and submit request for permit modification.	Occasional	0.0	2.0	22.0	4.0	28.0	$1,374	$0	24	672	$32,975
Monitoring/Testing Requirements (Per Facility)											
Monitor the nature of injected fluids.	As necessary to obtain representative data	0.0	0.0	6.0	2.0	8.0	$353	$0	62	494	$21,812
Monitor injection pressure and flow rate or volume of injected fluids, or meter and record injected and produced fluid	Semi-monthly/ Continuous	0.0	0.0	3.3	1.3	4.6	$202	$0	5,850	27,114	$1,179,685
Demonstrate mechanical integrity.	Every 5 years	0.0	16.1	128.7	16.1	160.9	$8,209	$79,157	12	1,986	$1,078,797
Monitor the fluid level in the injection zone where appropriate and monitor parameters chosen to measure water quality in the monitoring wells.	Semi-monthly/ monthly	0.0	0.0	27.5	3.0	30.5	$1,432	$0	357	10,884	$510,872

Table A-3

Annual Paperwork Burden and Costs Associated with Class III Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response							Total Hours and Costs		
Description of Requirement	**Frequency**	**Legal**	**Managerial**	**Technical**	**Clerical**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**No of Responses**	**Total Hours/Year**	**Total Cost/Year**
Reporting Requirements (Per Facility)											
Notify Director of: planned physical changes to the facility, anticipated noncompliance, permit transfers, planned workovers, progress in meeting compliance schedule in permit, or possible endangerment to a USDW.	Occasional	0.0	1.0	3.0	1.8	5.8	$292	$0	23	131	$6,563
Report to the Director on required monitoring, mechanical integrity tests, and other required tests.	Quarterly	0.0	1.0	10.0	16.9	27.9	$1,090	$0	900	25,066	$981,129
Recordkeeping Requirements (Per Facility)											
Retain records of permitting data, calibration and maintenance data, and monitoring results.	At least 3 years	0.0	0.0	0.4	3.0	3.4	$111	$0	225	765	$24,926
Closure Requirements (Per Facility)											
Notify the Director before conversion or abandonment of the well or in the case of area permits before closure of the project.	One-time	0.0	1.0	0.5	0.5	2.0	$130	$0	2	4	$259
In DI programs, submit a plugging and abandonment report within 60 days after plugging a well or at the time of the next quarterly report.	One-time	0.0	0.0	0.8	0.3	1.0	$44	$0	0	0	$2
Other Requirements (Per Facility)											
In DI programs, submit revised demonstration of financial responsibility.	Occasional	0.0	0.5	0.5	1.0	2.0	$100	$0	3	6	$276
TOTALS									**7,737**	**72,464**	**$ 5,662,670**

Note: Numbers may not add due to rounding.

Table A-3 (continued)

Annual Paperwork Burden and Costs Associated with Class III Wells: States

		A	B	C	D	E	F
		Hours and Costs per Response			Total Hours and Cost		
Program Oversight Activities	**Frequency**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**Number of Responses**	**Total Hours/Year**	**Total Cost/Year**
Initial/Start-up							
Permit applications (Per Permit Application)							
Consider the permit application, area of review, relevant maps and cross sections, fluid injection rate and volume, proposed contingency plans, monitoring plans, and construction procedures and issue notice of intent to deny.	One-time	20.0	$874	$0	18	354	$15,465
Consider the permit application, area of review, relevant maps and cross sections, fluid injection rate and volume, proposed contingency plans, monitoring plans, and construction procedures and prepare draft permit.	One-time	40.0	$1,748	$0	18	708	$30,929
Provide public notice of issuance of a draft permit or intent to deny.	One-time	2.0	$87	$0	18	35	$1,546
Consider public comments.	One-time	8.0	$350	$0	18	142	$6,186
Issue final permit decision.	One-time	10.0	$437	$0	18	177	$7,732
Respond to comments.	One-time	15.0	$656	$0	18	265	$11,598
Review completion report.	One-time	2.0	$87	$0	18	35	$1,546
Review information related to aquifer exemption requests and forward to EPA region.	One-time	1.0	$44	$0	0.0	0.0	$0

Table A-3 (continued)

Annual Paperwork Burden and Costs Associated with Class III Wells: States

		A	B	C	D	E	F
		Hours and Costs per Response			Total Hours and Cost		
Program Oversight Activities	**Frequency**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**Number of Responses**	**Total Hours/Year**	**Total Cost/Year**
Permit reviews/modifications (Per Facility)							
Review each permit to determine whether it should be modified, revoked and reissued, or terminated.	Every 5 years	4.0	$175	$0	44	177	$7,732
Review request for permit modification or re-issuance.	Occasional	20.0	$874	$0	24	480	$20,982
Monitoring/Testing (Per Facility)							
Review mechanical integrity test data submitted by operators.	Every 5 years	0.5	$22	$0	44	22	$967
Review monitoring data submitted by operators.	Quarterly	0.25	$11	$0	884	221	$9,665
Other Reporting (Per Facility)							
Respond to periodic notifications by owners and operators.	Occasional	4.0	$175	$0	23	90	$3,934
Recordkeeping (Per Facility)							
Maintain administrative record (DI).	One-time	4.0	$175	$0	0	0	$0
Closure (Per Facility)							
Review plugging and abandonment report (DI only).	One-time	4.0	$175	$0	0	0	$0
TOTAL					**1,179**	**2,706**	**$ 118,283**

Note: Numbers may not add due to rounding.

Reporting and Recordkeeping

Operators of Class III facilities will incur a burden of 27.9 hours per facility per quarter for quarterly reporting on monitoring and any MITs performed (Form 7520-8). About 10 percent of operators will spend about 6 hours per year on occasional reporting activities (e.g., on planned changes to the facility, anticipated noncompliance, permit transfers, planned workovers, progress in meeting a compliance schedule, or possible endangerment to a USDW) via Forms 7520-7 or 7520-19. EPA estimates that each Class III operator spends approximately 3.4 hours on recordkeeping annually.

Closure

EPA estimates that Class III operators who close their projects will take 2 hours to prepare written notifications to the Director. Operators will spend one hour to submit a plugging and abandonment report.

Burden on Primacy Agencies Associated with Class III Wells

Class III primacy agency staff review and respond to permit applications, permit reviews/modifications, and monitoring and testing data submitted by operators. State burden associated with each activity involved in the oversight of Class III programs is presented in Column A of Table A-3.

Depending on whether the permit is issued or denied, EPA estimates that states will spend between 20 and 77 hours reviewing each Class III permit application. Primacy agency staff will spend 4 hours determining whether to reissue, modify, or revoke each permit during the five-year review process, and 20 hours reviewing each request for a permit modification or re-issuance. Class III primacy agencies spend from 0.25 to 4 hours per report reviewing monitoring and MIT data or occasional reports submitted by operators (see details in Table A-3). EPA estimates that state staff will spend 1 hour per request reviewing aquifer exemption requests for Class III owners or operators in their state and forwarding these requests to the EPA Region for a determination.

Burden Associated with Class IV and Endangering Class V Wells

Paperwork burden on operators of Class IV/endangering Class V wells and on states for administering these wells is presented Table A-4.

Class IV and Endangering Class V Well Operators

Class IV wells and Class V wells that are found to be endangering USDWs are banned from injection, and owners of these wells are required to close them and submit plugging and abandonment reports to states or DI programs. The exception to the ban is for those Class IV wells used to inject contaminated ground water that has been treated and re-injected into the same formation from which it was drawn. These wells are authorized by rule for the life of the well if such subsurface emplacement of fluid is approved by EPA or a State pursuant to the provisions for the cleanup of releases under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or RCRA. EPA estimates that these owners or operators will incur a one-time burden of 1.4 hours to prepare and submit a pre-closure notification form (Form 7520-17) and 8.5 hours to plug their well (See Table A-4). Because these wells are banned, there are no permitting or monitoring requirements.

Burden on Primacy Agencies Associated with Class IV and Endangering Class V Wells

State burden associated with Class IV and endangering Class V wells involves review by primacy agency staff of closure plans submitted by operators. EPA estimates the state burden to be one hour per review.

Burden Associated with Class V Wells

EPA's estimate of the annual paperwork burden on operators and states associated with Class V wells is presented in Column A of Table A-5.

Class V Operators

Activities for Class V well operators include submitting inventory information (or, for a small number of operators, submitting permit applications) and the results of monitoring by operators of motor vehicle waste disposal wells (MVWDWs) subject to the Class V Rule.

Inventory Activities

Efforts by the Regions and state primacy agencies to address the potential threats to USDWs posed by Class V wells will likely increase compliance with the inventory requirement. Each Class V well operator will take 0.4 hours to prepare and submit inventory information (Form 7520-16) to the appropriate Regional or state primacy agency.

Permitting

Class V permit applicants who have been requested by the permitting authority to complete a permit application (Form 7520-6) will prepare and submit an application that is similar to that requested for other well classes. These applicants will gather and submit the following types of information: AoR and corrective action information; geological data on the injection and confining zone and information about USDWs; descriptions of logs and tests; construction schematics; operating data; a monitoring plan; and a closure plan that includes a demonstration of financial responsibility.

The time needed to complete a Class V permit application will vary based on the specific project; however, EPA assumes that the burden will be similar to that for a Class I non-hazardous permit application, or approximately 104 hours per response. The burden reflects the time that is above customary business practices that is needed to oversee and furnish information to contractors who perform much of the required work.

Activities Required Under the Class V Rule

Operators of MVWDWs that were granted permits will sample their injectate quarterly (and incur a burden of 1.5 hours, 4 times per year) and sample sludge annually (1.5 hours). They will submit these results once per year and incur a burden of 4 hours annually to prepare the report and retain records.

Burden on Primacy Agencies Associated with Class V Wells

State primacy agencies' burden associated with Class V wells includes time associated with reviewing inventory information and reviewing monitoring data submitted by owners or operators of MVWDWs within their states. State burden associated with oversight of Class V programs is presented in Column A of Table A-5.

EPA estimates that states will spend 0.5 hours per Class V facility reviewing inventory information. Class V Primacy agencies will spend 56 hours responding to each Class V permit application. State primacy agencies will also spend 0.8 hours annually to review each monitoring report submitted by operators of MVWDWs (details are presented in Table A-5).

Table A-4

Annual Paperwork Burden and Costs Associated with Class IV/Endangering Class V Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response							Total Hours and Costs		
Description of Requirement	**Frequency**	**Legal**	**Managerial**	**Technical**	**Clerical**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-labor Cost**	**No. of Responses**	**Total Hours/Year**	**Total Cost/Year**
Closure Requirements (Per Well)											
Plug injection well.	One-time	0	0	7	1.5	8.5	$220	$0	659	5,604	$145,064
Prepare and submit pre-closure notification (Form 7520-17)	One-time	0	0	0.5	0.86	1.4	$31	$0	659	899	$20,768
TOTAL									**1,319**	**6,503**	**$165,832**

Note:

Numbers may not add due to rounding.

Table A-4 (continued)
Annual Burden and Costs Associated with Class IV/Endangering Class V Wells: States

		Hours and Costs per Response			Total Hours and Cost		
Description of Requirement	**Frequency**	**Unit Burden (A)**	**Unit Labor Cost**	**Unit Nonlabor Cost**	**Number of Responses**	**Total Hours/Year**	**Total Cost/Year**
Closure							
Review closure plan.	One-time	1.0	$44	$0	508	508	$22,192
TOTAL					**508**	**508**	**$22,192**

Note:
Numbers may not add due to rounding.

Table A-5

Annual Paperwork Burden and Costs Associated with Class V Wells: Operators

						A	B	C	D	E	F
		Hours and Costs per Response									
Description of Requirement	**Frequency**	**Legal**	**Managerial**	**Technical**	**Clerical**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-labor Cost (A)**	**No. of Responses**	**Total Hours/Year**	**Total Cost/Year**
Inventory Requirements											
Submit inventory information prior to commencing injection.	One-time	0.0	0.0	0.0	0.4	0.4	$7	$0	19,276	6,827	$142,436
Permitting											
Prepare and submit permit application (if required). Gather and submit: AoR and corrective action information; geological data on the injection and confining zone and information about USDWs; descriptions of logs and tests; construction schematics; operating data; monitoring plan; and closure plan, including demonstration of financial responsibility.	One-time	7.0	17.3	61.8	17.5	103.6	$3,238	$101,135	10	1,036	$1,043,730
Class V Rule - Ongoing Activities for Owners / Operators of Motor Vehicle Waste Disposal Wells											
Conduct quarterly injectate sampling.	Quarterly	0.0	0.0	1.0	0.5	1.5	$37	$758	5,916	8,874	$4,704,193
Conduct annual sludge sampling (concurrent with injectate sampling).	Annual	0.0	0.0	1.0	0.5	1.5	$37	$1,981	1,479	2,219	$2,985,737
Annual reporting and recordkeeping of all monitoring results.	Annual	0.0	0.0	3.0	1.0	4.0	$102	$0	1,479	5,916	$150,479
TOTAL									**28,160**	**24,871**	**$9,026,574**

Notes:
(A) EPA assumes that there are no start-up costs; all non-labor costs are O & M costs.

Numbers may not add due to rounding.

Table A-5 (continued)

Annual Paperwork Burden and Costs Associated with Class V Wells: States

		A	B	C	D	E	F
		Hours and Costs per Response			Total Hours and Cost		
Description of Requirement	**Frequency**	**Unit Burden (A)**	**Unit Labor Cost**	**Unit Nonlabor Cost**	**Number of Responses**	**Total Hours/Year**	**Total Cost/Year**
Initial/Startup							
Review inventory information.	One-time	0.5	$22	$0	13,507	6,754	$295,213
Review permit applications. Consider the permit application and attachments, prepare draft permit, solicit and respond to public comments.	One-time	56.0	$2,448	$0	10	560	$24,479
Primacy State Activities Associated With the Class V Rule							
Review and file annual monitoring reports.	Annual	0.8	$35	$0	1,036	829	$36,242
TOTAL					**14,554**	**8,143**	**$ 355,934**

Notes:

(A) Unit burdens for initial/start-up activities reported on a per-permit basis. Unit burden for other activities reported on a per-operator basis.

Numbers may not add due to rounding.

Burden Associated with Class VI Wells

EPA's estimate of the annual paperwork burden on operators and states associated with Class VI wells is presented in Column A of Table A-6. The burden estimates presented for Class VI wells are weighted averages that take into account the formation type, injection depth waiver status, and number of facilities that are active during this ICR clearance period. As such, these burden estimates are not representative of any one situation under which a GS project will operate.

Class VI Operators

Activities for Class VI well operators include permitting and start-up-related reporting, demonstration of financial responsibility, monitoring and testing, AoR reevaluations and associated plan revisions, and closure and post-injection site care related paperwork activities.

EPA anticipates that Class VI facility operators will rely on contractors to assist them for information collection activities such as 3D seismic surveys, aerial surveys, and test well drilling. The costs associated with contractor labor and other contractor services are included in the operator costs presented in Column C of Table A-6. However, as geologic sequestration is a relatively new endeavor, there are still many activities for which uncertainty exists as to whether they will customarily be performed by operators or contractors. Those activities were classified as operator burden to provide a conservatively large estimate of operator burden.

EPA assumes that some activities required of Class VI operators (such as developing maps and cross-sections of the receiving formation) are customary business practices that would be performed by operators even in the absence of regulation. Unit burden and costs used in Table A-6 represent the costs of performing each activity required of Class VI operators that are incremental to customary business practices.

<u>Initial Permitting/Start-up</u>

EPA estimates that the operator burden associated with applying for Class VI permits, including submitting all required attachments and plans will be 540 hours per permit. Submitted plans include an Area of Review and Corrective Action Plan, a Testing and Monitoring Plan, an Emergency and Remedial Response Plan, an Injection Well Plugging Plan, and a Post-Injection Site Care and Site Closure Plan.

In addition to applying for permits, EPA estimates that owners or operators of Class VI wells will incur burden above customary business practices to perform the following start-up activities:

- Conduct a 3D seismic survey to identify faults and fractures and to obtain and analyze the seismic history of the site (180 hours);
- Obtain geomechanical and geochemical information on the injection zone, other subsurface aquifers (including all USDWs), and the confining zone in the AoR (159 hours);
- Develop maps and cross-sections of the injection zone, other subsurface formations (including all USDWs), and the confining zone in the AoR (44 hours);
- Conduct baseline ground water sampling of the injection and confining zones for comparison to future geochemical monitoring results (10 hours);

Table A-6
Annual Paperwork Burden and Costs Associated with Class VI Wells: Operators

				A	B	C	D	E	F
		Hours and Costs Per Response					Total Hours andCosts		
Description Of Requirement	**Frequency**	**Technical 1 (Engineer)**	**Technical 2 (Geologist)**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**Number of Responses**	**Total Hours/ Year**	**Total Cost/Year**
Initial/Startup Requirements (Per Permit Application)									
Requirements Associated with Permit Applications									
Prepare and submit Class VI permit application, including all attachments and plans.	One-Time	240	300	540	$54,583	$589,545	1.0	540	$644,128
Conduct 3D seismic survey to identify faults and fractures; obtain and analyze seismic history.	One-Time	0	180	180	$17,859	$653,425	1.0	180	$671,283
Obtain geomechanical and geochemical information on injection zone, subsurface aquifers including all USDWs, and the confining zone in the area of review.	One-Time	30	129	159	$15,901	$151,430	1.0	159	$167,331
Develop maps and cross sections of the injection zone, subsurface aquifers including all USDWs, and the confining zone in the area of review.	One-Time	0	44	44	$4,405	$0	1.0	44	$4,405
Take initial samples to develop a geochemical baseline for injection zones and confining zones.	One-Time	0	10	10	$992	$19,727	1.0	10	$20,719
Prepare geologic characterization report demonstrating: suitability of receiving zone, storage capacity and injectivity, trapping mechanism free of nonsealing faults, competent confining system, etc.	One-Time	0	240	240	$23,812	$0	1.0	240	$23,812
Demonstrate financial responsibility to ensure funds will be available for required future actions.	One-Time	40	0	40	$4,136	$0	1.0	40	$4,136
Conduct aerial and database search for artificial penetrations (wells) within the area of review; determine integrity/plugging status of each.	One-Time	140	300	440	$44,242	$109,715	1.0	440	$153,957
Perform complex modeling of CO2 fluid flow and migration (reservoir simulations) and prepare AoR and corrective action plan.	One-Time	724	1,200	1,924	$193,927	$0	1.0	1,924	$193,927
Compile and submit information to support an injection depth waiver application.	One-Time	100	200	300	$30,184	$0	-	-	$0

Table A-6
Annual Paperwork Burden and Costs Associated with Class VI Wells: Operators

				A	B	C	D	E	F
		Hours and Costs Per Response					Total Hours andCosts		
Description Of Requirement	**Frequency**	**Technical 1 (Engineer)**	**Technical 2 (Geologist)**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**Number of Responses**	**Total Hours/ Year**	**Total Cost/Year**
Requirements Associated with Injection Well Construction									
Design and install equipment for injection wells to measure: injected volumes, pressure, flow rates, and annulus pressure.	One-Time	0	0	0	$0	$431,235	1.0	0	$431,235
Install check/shut-off valve on injection well.	One-Time	0	0	0	$0	$2,978	1.0	0	$2,978
Construct monitoring wells.	One-Time	0	0	0	$0	$2,558,498	1.0	0	$2,558,498
Design and install equipment for monitoring wells to measure: pressure, temperature, resisitivity, salinity, CO2, and any other required parameters.	One-Time	0	0	0	$0	$183,449	1.0	0	$183,449
Monitoring/Testing Requirements (Per Operator)									
Analyze injectate stream and perform corrosion monitoring.	Quarterly	62	0	62	$6,360	$17,597	5.3	328	$ 127,770
Operate and maintain monitoring wells and the monitoring equipment within them.	Annual	13	0	13	$1,295	$498,889	1.3	17	$666,912
Conduct periodic monitoring of groundwater quality and geochemistry.	Monthly	21	0	21	$2,172	$11,772	16.0	336	$223,098
Conduct external mechanical integrity tests	Annual	0	0	0	$0	$196,237	1.3	0	$261,650
Conduct pressure fall-off testing.	Every Five Years	0	0	0	$0	$36,989	0.3	0	$9,864
Conduct 3D seismic survey to track movement of the CO2 plume and pressure front.	Every Five Years	0	0	0	$0	$1,289,407	0.3	0	$343,842
Activities Associated with Area of Review Reevaluations									
Conduct updated AoR modeling. Based on new results, update AoR and Corrective Action Plan, Testing and Monitoring Plan, and Emergency and Remedial Response Plan.	Every Five Years	1,118	0	1,118	$115,610	$0	0.3	373	$38,537

Table A-6
Annual Paperwork Burden and Costs Associated with Class VI Wells: Operators

				A	B	C	D	E	F
		Hours and Costs Per Response					Total Hours andCosts		
Description Of Requirement	**Frequency**	**Technical 1 (Engineer)**	**Technical 2 (Geologist)**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**Number of Responses**	**Total Hours/ Year**	**Total Cost/Year**
Reporting and Recordkeeping Requirments (Per Operator)									
Report to regulators; maintain records of data from all data gathering activities.	Semi-Annual	33	0	33	$3,412	$0	2.7	88	$9,100
Plugging, Post-Injection Site Care, and Site Closure Requirements (Per Operator)									
Demonstrate financial ability (accounting for inflation) to close site.	One-Time	8	0	8	$827	$0	0	0	$0
Perform a MIT prior to plugging the injection well.	One-Time	0	0	0	$0	$37,537	0	0	$0
Conduct ground water monitoring - operate and maintain monitoring wells and the monitoring equipment within them.	Annual	0	0	0	$0	$574,204	1	0	$574,204
Track the CO2 plume and pressure front.	Every 5 Years	0	0	0	$0	$1,289,407	0	0	$257,881
Submit results of post-injection monitoring.	Annual	40	0	40	$4,136	$0	1	40	$4,136
Perform non-endangerment demonstration and submit results.	One-Time	400	0	400	$41,363	$0	0	0	$0
TOTAL							**42.7**	**4,759**	**$ 7,576,853**

Notes:
(A) Unit Non-Labor Cost inflated by 20% to account for G&A
Numbers may not add due to rounding.

Table A-6 (continued)

Annual Paperwork Burden and Costs Associated with Class VI Wells: States

		A	B	C	D	E	F
		Hours and Costs Per Response			Total Hours and Costs		
Description Of Requirement	**Frequency**	**Unit Burden**	**Unit Labor Cost**	**Unit Non-Labor Cost**	**Number of Responses**	**Total Hours/ Year**	**Total Cost/Year**
Initial/Startup Requirements (Per Permit Application)							
Review the permit application and other information submitted by the operator, considering: AoR, relevant maps, site geology, formation testing results, well schematics and construction procedures, proposed injection procedure, status of corrective action on wells in the AoR, well logging, testing, and mechanical integrity data, and project plans.	One-time	780	$34,095	$0	0.33	260.0	$11,365
Review financial responsibility demonstration.	One-time	100	$4,371	$0	0.33	33.3	$1,457
Determine and specify tubing, packing, casing, and cementing requirements based on review of information submitted by operator.	One-time	140	$6,120	$0	0.33	46.7	$2,040
Witness logging and testing.	One-time	20	$874	$0	0.33	6.7	$291
Review applications for waviers to inject above the lowermost underground source of drinking water.	One-time	200	$8,742	$0	-	0.0	$0
Monitoring and Recordkeeping							
Review reports submitted by operators; recordkeeping of data from all data gathering activities.	Annual	40	$1,748	$0	0.33	13	$583
Review mechanical integrity test data.	Annual	13.5	$590	$0	0.33	5	$197
Area of Review Reevaluation							
Review updated AoR modeling and updated plans.	Every 5 years	150	$6,557	$0	0.00	0	$0
Post-Injection Site Care and Site Closure							
Review relevant data prior to granting approval for plugging and abandonment of a well.	One-time	20	$874	$0	0.00	0	$0
Review post-injection monitoring data.	Annual	15	$656	$0	0.00	0	$0
Review non-endangerment demonstration and authorize site closure.	One-time	40	$1,748	$0	0.00	0	$0
Project-Independent Activities							
Prepare and submit primacy application.	One-time	1,040	$45,460	$0	0.7	693	$30,307
TOTAL					**2.7**	**1,058**	**$ 46,240**

Notes:

Numbers may not add due to rounding.

- Prepare a geologic characterization report demonstrating the suitability of the injection zone, storage capacity and injectivity, the presence of a trapping mechanism free of non-sealing faults, and a competent confining zone (240 hours);

- Estimate the costs of activities to be covered by financial responsibility and demonstrate financial responsibility for these activities (40 hours);

- Conduct aerial and database searches for artificial penetrations (wells) within the AoR, and determine integrity and plugging status of each (440 hours); and

- Perform complex modeling (reservoir simulations) of carbon dioxide flow and fluid migration to delineate the AoR (1,924 hours).

In addition, applicants seeking to inject carbon dioxide for geologic storage above or between USDWs must apply for an injection depth waiver. EPA estimates this burden to be 300 hours per waiver application.

Monitoring/Testing

Class VI well operators will be required to perform quarterly analysis of the injectate stream and perform corrosion testing of the injection well, which is estimated to require approximately 61.5 hours per operator per quarter. Additionally, operators will incur an annual burden of approximately 12.5 hours to operate and maintain monitoring wells and the monitoring equipment within them. Operators must also perform ground water quality and geochemical monitoring which is estimated to require approximately 21 hours per month. Owners or operators will also hire contractors to perform annual external MITs and to track the extent of the carbon dioxide plume and pressure front.

Area of Review Reevaluations

Owners or operators of Class VI wells must reevaluate the AoR for the GS project at least every five years. Based on the results of the reevaluation, operators will update and resubmit their Area of Review and Corrective Action Plan, the Testing and Monitoring Plan, and the Emergency and Remedial Response Plan or demonstrate that no updates are necessary. They will also update the financial responsibility demonstration as needed to address any changes to these plans. (Note that owners or operators will also review their financial responsibility demonstrations annually to account for inflation; this is assumed to involve a negligible burden that is accounted for in the AoR reevaluation estimate.)

EPA estimates that, each year, 20 percent of operators will reevaluate the AoR and update the aforementioned plans and submit them to the primacy agency for review and approval. Each operator is estimated to incur 1,118 hours of burden once every five years for AoR reevaluations, which is assumed to include burden incurred by operators to respond to issues raised during a review of the Class VI permit, which is required every five years, per 40 CFR 144.36.

Reporting and Recordkeeping

Operators of Class VI wells will spend 33 hours every six months (or 66 hours per year) to report the results of required monitoring and testing and keep records of all data-gathering activities.

Closure and Post-Injection Site Care (PISC)

During the post-injection phase, Class VI well operators will spend 8 hours to update their financial demonstrations to account for inflation at the beginning of the post-injection period. Operators will also perform an MIT prior to plugging the injection well (incurring non-labor costs only). Operators will perform ground water monitoring and carbon dioxide plume tracking as described in their PISC and Site Closure Plan. EPA assumes that this monitoring will be performed by contractors and there will be no labor burden, but owners or operators will incur an annual burden of 40 hours to report monitoring results to regulators during the post-injection site care period. Finally, prior to receiving authorization to perform site closure activities, Class VI well operators must submit a demonstration that, based on monitoring and other site-specific data, the project does not pose an endangerment to USDWs.

Burden on Primacy Agencies Associated with Class VI Wells

State primacy agencies' burden associated with Class VI wells includes reviewing and responding to permit applications, monitoring and testing data, AoR reevaluations, and closure and post-injection site care information submitted by operators. State burden associated with each activity involved in the oversight of Class VI programs is presented in Column A of Table A-6.

EPA estimates that states will incur 1,040 burden hours per permit application to review Class VI permit applications and all supporting information, including reviewing geologic information and well schematics; evaluating the AoR modeling; and reviewing the draft project plans and financial responsibility cost estimates and instruments. State primacy agencies will incur an estimated 40 hours of burden annually per operator reviewing reports and data records submitted by operators. Every year, they will also incur approximately 13.5 hours of burden per operator reviewing MIT results. State primacy agencies will review modeling updates to the AoR and other revised plans submitted by operators every five years, requiring approximately 150 hours per review.

Primacy agencies will incur burden to review post-injection monitoring results. These activities include: reviewing data prior to granting approval for plugging the well (20 hours); reviewing post-injection monitoring data (15 hours annually); and reviewing non-endangerment demonstrations and authorizing the performance of site closure activities (40 hours).

States as Respondents

State burden associated with program oversight and compiling and reporting summary program data and inventory information is presented in Column A of Table A-7. The burden on states associated with reporting summary information ranges from 2 to 6 hours. States will also report inventory information annually to EPA, and the burden associated with compiling the number of wells by class, and reporting to an EPA online inventory will be 60 hours per primacy agency.

EPA estimates that the annual recordkeeping burden on state primacy agencies will be 8 hours per agency. EPA expects that the online web-based reporting systems will reduce state recordkeeping burden.

EPA estimates that, in each primacy program, 0.5 FTE (1,040 hours) is devoted to implementing the state UIC Program. Implementation activities states may perform include updating state regulations as needed to reflect new federal rules or providing guidance, training, or other information to well operators.

Table A-7
Annual State Burden and Cost for Program Oversight and Reporting

		A	B	C	D	E	F
		Hours and Costs per Response			Total Hours and Cost		
Description of Requirement	**Frequency**	**Unit Burden**	**Unit Labor Cost**	**Unit Nonlabor Cost**	**Number of Responses**	**Total Hours/Year**	**Total Cost/Year**
Program Oversight							
Oversee and implement UIC program in the State, for example, update regulations or guidances as needed.	Ongoing	1,040	$45,460	$0	59	61,360	$2,682,168
7520 Forms Reporting							
Report on Permit Review and Issuance (7520-1)	Annual	4.5	$197	$0	59	266	$11,606
Report on Compliance Evaluation (7520-2A)	Semi-annual	6.0	$262	$0	118	708	$30,948
Report on Compliance Evaluation for Significant Non-Compliance (7520-2B)	Semi-annual	5.5	$240	$0	118	649	$28,369
Report on Mechanical Integrity Tests/Remedial Action (7520-3)	Annual	5.0	$219	$0	59	295	$12,895
Report on Quarterly Exceptions (7520-4)	Quarterly	2.0	$87	$0	236	472	$20,632
Inventory Reporting							
Conduct inventory-related activities, e.g., review operator data and report to EPA's online inventory data system.	Annual	60	$2,623	$0	59	3,540	$154,740
Recordkeeping							
Maintain records of 7520 forms	Ongoing	8	$350	$0	59	472	$20,632
Total					**767**	**67,762**	**$2,961,991**

Notes:

There may be more than one agency per state with Primacy authority.

Numbers may not add due to rounding.

A.2 Estimating the Respondent Universe

In this section, EPA describes the number of respondents subject to each paperwork activity in this ICR. The number of responses for each activity is shown in Column D of Tables A-1 through A-7. This number, known as the respondent universe, is based on EPA's assumptions of the number of permittees subject to each paperwork requirement, i.e., the number of permit applications or well closures expected, or the percent of permittees subject to monitoring or reporting requirements and the frequency with which they must comply with those requirements. The frequency at which each activity is performed is also presented in Tables A-1 through A-7, along with EPA's description of each activity. Specific assumptions about the respondent universe for each well class are described below. Assumptions about Class I, II, III, and V wells are based on the UIC FY 2016 inventory; the number of Class IV/endangering Class V wells closing is based on Program Activity Measure SDW-08, and estimates about Class VI activities are based on consultations with UIC program staff.

Class I

EPA inventory data indicate that there are 828 Class I wells, of which 140 inject hazardous waste, and 688 inject nonhazardous waste.

Class I Hazardous

According to EPA's inventory, there are 140 Class I hazardous waste wells, with an average of 1.9 wells at each facility. EPA estimates that 8 new Class I hazardous waste facility operating permits will be issued each year (6 for one new well at an existing facility, and the remaining two for newly constructed facilities). EPA further anticipates that 12 Class I hazardous facility operators will renew their permits each year; 5 will modify their permits each year, and 6 operators will modify their petitions each year. EPA estimates that, on average, 1.4 owners or operators of a Class I hazardous waste well will apply for aquifer exemptions each year, and that all of these will constitute non-substantial revisions to their state's UIC program. All operators of Class I hazardous waste facilities must monitor and report at various frequencies (see Table A-1A). EPA expects that one Class I hazardous well will close during each year of the life of this ICR.

Class I Nonhazardous

EPA estimates that there are 688 Class I nonhazardous waste wells at 362 facilities, an average of 1.9 wells per facility. The Agency estimates that 14 new nonhazardous waste injection permits will be issued each year. EPA anticipates that 20 Class I nonhazardous facility operators will renew their permits each year, and 9 Class I nonhazardous facility operators will modify their permits each year. EPA estimates that, on average, 2.4 owners or operators of Class I nonhazardous waste wells will apply for aquifer exemptions each year, and that all of these will constitute non-substantial revisions to their state's UIC program. Every operator of a Class I nonhazardous waste facility must monitor and report at various frequencies, as shown in Table A-1B. Based on past data, EPA anticipates that one Class I nonhazardous well in a primacy state will close each year.

Class II

The UIC inventory includes 180,199 Class II wells. EPA assumes that the typical Class II facility has approximately 10 wells, thus there are approximately 18,020 Class II facilities.

EPA anticipates that approximately 1,289 Class II permit applications will be submitted to permitting authorities each year during the life of this ICR. Details of the numbers of Class II operators subject to each paperwork requirement are presented in Column D of Table A-2.

EPA estimates that state primacy agencies and EPA Regions will determine that a complete AoR study is not necessary for approximately 80 percent of permit applications, and the remaining applicants will submit an AoR map and an AoR study as part of the permit application. EPA estimates that 129 applicants will submit corrective action plans to address specific problems identified by the AoR study, and that EPA regional or state primacy staff will require 20 percent of these owners or operators to revise their corrective action plans.

EPA estimates that 39 owners or operators of Class II wells will apply for aquifer exemptions each year, and that all of these will constitute non-substantial revisions to their state's UIC program.

Prior to obtaining approval to begin injection, operators must demonstrate mechanical integrity and submit completion reports for an estimated 1,258 new Class II wells each year.

EPA estimates that approximately 90,200 Class II wells (50 percent of the inventory) are permitted, and that 20 percent of operators will undergo permit reviews each year, and half of these will need to respond to issues raised during the reviews. In addition, EPA expects that 2,703 Class II operators will submit requests for permit modifications.

EPA anticipates that 18,050 owners or operators of Class II wells will perform annual MITs and sample ground water and report the results to the permitting authority each year. EPA also estimates that, each year, approximately 1,044 operators will plug and abandon their wells.

Class III

EPA estimates that there are approximately 225 facilities with Class III wells (14 uranium mining, 62 salt solution mining, and 149 brine mining/other sites). A typical uranium facility has approximately 2,000 Class III wells, a typical salt mining facility has about 20 wells, and a typical brine mining/other facility has 2 wells.

EPA regional offices and state primacy agencies expect to receive an average of 18.3 permit applications from Class III operators each year. EPA estimates that, on average, 0.2 Class III owners or operators will apply for aquifer exemptions each year, and that all of these will constitute non-substantial revisions to their state's UIC program.

Operators of all 225 Class III facilities will monitor injection pressure, flow rate, or volume of injected fluids semi-monthly, or meter injected and produced fluid volumes continuously. EPA anticipates that operators of salt solution mining facilities will submit analyses of their injectate once each year, and operators of salt solution mining facilities will perform two-part MITs on all of their wells every five years. All uranium mining well operators monitor water quality in the injection zone and overlying freshwater aquifers either semi-monthly or monthly. EPA estimates that approximately 2 Class III operators will close their projects annually.

Class IV/Endangering Class V

Based on UIC data reported by the states from 2013 to 2016, EPA anticipates that 659 Class IV wells and endangering Class V wells will close each year. EPA estimates that 23 percent of Class IV and endangering Class V wells are in DI states.

Class V

The current EPA inventory of Class V wells includes 495,517 wells. EPA anticipates that approximately 19,276 operators of new Class V facilities will submit inventory information each year over the life of this ICR, based on trends in the UIC program inventory. EPA estimates that 10 Class V permit applications will be submitted each year and all of these will be in primacy states.

EPA estimates that 1,479 operators of motor vehicle waste disposal wells that have opted to obtain a permit will conduct quarterly injectate sampling and annual sludge sampling, as required by the Class V Rule.

Class VI

EPA estimates that, over the clearance period, 1 owner or operator of a Class VI well in a primacy state and 2 Class VI owners or operators in a DI program (an average of 1 operator per year) will apply for a permit (and they will not be accompanied by injection depth waiver applications).

EPA also estimates that one owner or operator will inject carbon dioxide into a Class VI well throughout the clearance period, and that a second owner or operator will begin injection operations in the third year of the period covered by this ICR (an average of 1.33 wells in operation each year over the life of the ICR). One of these operators (an average of 0.3/year) will perform an AoR reevaluation during the three years covered by the ICR. Additionally, another owner or operator will perform post-injection monitoring throughout the clearance period. EPA estimates that 2 states will apply for Class VI primacy during the ICR clearance period.

States as Respondents

EPA assumes that 59 primacy agencies in 42 states, three territories, and two tribes (Navajo and Fort Peck) will report UIC information (e.g., summary and inventory data) to EPA. This number reflects the fact that, in some states, more than one agency oversees UIC activities (e.g., states typically regulate Class II wells through agencies other than those overseeing other classes of wells for which they have primacy).