

## **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.

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. Legal, managerial, technical, and clerical staff hours are shown; Column A presents the total unit burden for each activity.

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**

		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
<b>Initial/Startup Requirements (Per Permit Application)</b>											
<b>Requirements associated with permit applications</b>											
Read permit application directions.	One-time	0.0	0.25	0.25	0.0	0.5	\$33	\$0	8	4	\$266
Gather and submit description of activities requiring a permit, facility name and address, SIC codes, ownership and facility status, facility location, listing of relevant permits or construction approvals, description of the business.	One-time	3.0	2.0	9.0	6.0	20.0	\$1,051	\$0	8	160	\$8,408
In DI programs, gather and submit a list of landowners within one-quarter mile of the facility boundary.	One-time	4.0	0.0	0.0	1.2	5.2	\$399	\$0	3	13	\$1,016
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	\$394	\$23,082	8	56	\$187,810
Prepare and submit AoR protocol.	One-time	0.0	0.0	1.3	0.0	1.3	\$63	\$894	8	10	\$7,661
Prepare and submit maps/cross sections of local and regional geology, USDWs.	One-time	0.0	1.5	16.0	0.0	17.5	\$906	\$47,922	8	140	\$390,623
Develop formation testing and stimulation programs and injection procedures.	One-time	0.0	2.0	5.0	1.0	8.0	\$440	\$6,879	8	64	\$58,553
Prepare and submit contingency plans for shut-ins or well failures.	One-time	0.0	3.0	10.0	2.0	15.0	\$797	\$268	8	120	\$8,514
Prepare and submit ambient monitoring plan.	One-time	0.0	3.0	0.0	0.0	3.0	\$248	\$4,509	8	24	\$38,061
Prepare and submit Corrective Action Plan.	One-time	0.0	2.0	3.0	2.3	7.3	\$380	\$11,426	8	58	\$94,449
Prepare and submit descriptions of logs and tests, construction schematics & operating data.	One-time	0.0	2.0	8.0	5.0	15.0	\$700	\$5,732	8	120	\$51,460
Prepare and submit closure plan, including demonstration of financial responsibility.	One-time	0.0	1.0	3.0	2.6	6.6	\$304	\$1,689	8	53	\$15,947
Prepare and submit post-closure care plan.	One-time	0.0	1.4	2.0	1.4	4.8	\$254	\$2,079	8	38	\$18,663
Prepare and submit information to support an aquifer exemption request.	One-time	0.0	2.5	17.0	0.5	20.0	\$1,053	\$2,079	1.4	27	\$4,260

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

		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
<b>Requirements for active hazardous waste facilities</b>											
Gather and submit dates of well operation and specific waste information.	One-time	0.0	0.0	26.6	11.4	38.0	\$1,620	\$8,713	8	304	\$82,667
Gather and submit hazardous waste release information.	One-time	0.0	1.9	30.4	22.8	55.1	\$2,289	\$4,357	0	0	\$0
Develop waste analysis plan.	One-time	0.0	1.9	15.2	1.9	19.0	\$955	\$2,904	8	152	\$30,873
Prepare and submit schedule of construction logs and tests.	One-time	0.0	0.0	0.5	0.5	1.0	\$39	\$0	8	8	\$309
<b>Requirements associated with completion reports</b>											
Prepare and submit completion report.	One-time	0.0	0.0	1.5	2.5	4.0	\$144	\$0	8	32	\$1,153
Submit results of deviation checks, other logs and tests; sample formation fluids; test injection and confining zones.	One-time	0.0	0.0	6.0	1.0	7.0	\$321	\$35,158	8	56	\$283,829
Demonstrate mechanical integrity (i.e., casing pressure test, radioactive tracer survey of bottom-hole cement, and noise/temperature logs to check for movement along the borehole).	One-time	0.0	2.0	18.0	0.0	20.0	\$1,046	\$22,929	8	160	\$191,798
Submit information on the anticipated maximum pressure and flow rate.	One-time	0.0	0.0	2.0	0.0	2.0	\$97	\$153	8	16	\$2,003
Submit results of the injection zone and confining zone testing programs.	One-time	0.0	1.0	4.0	0.0	5.0	\$279	\$38,215	8	40	\$307,953
Submit actual injection procedure.	One-time	0.0	0.0	1.0	0.0	1.0	\$49	\$153	8	8	\$1,613
Demonstrate hydrogeologic compatibility/compatibility of well materials.	One-time	0.0	2.0	6.0	0.0	8.0	\$461	\$7,643	8	64	\$64,830
Prepare and submit information on the calculated AoR.	One-time	0.0	0.0	2.0	0.0	2.0	\$97	\$3,057	8	16	\$25,238
<b>No-migration petition requirements</b>											
Gather and submit waste information and present modeling data to demonstrate that wastes will not migrate from injection zone.	One-time	0.0	24.0	120.0	30.0	174.0	\$8,721	\$802,515	8	1,392	\$6,489,891
<b>Requirements associated with permit renewals/modifications and petition modifications</b>											
Submit updated components of permit application attachments.	Occasional	0.0	9.0	41.5	21.0	71.5	\$3,377	\$11,312	12	858	\$176,261
Prepare and submit request for Permit Modification.	One-time	0.0	2.0	6.0	2.0	10.0	\$518	\$6,573	5	50	\$35,453
Prepare and submit Petition Modification.	One-time	0.0	24.0	120.0	30.0	174.0	\$8,721	\$759,679	6	1,044	\$4,610,403

**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
<b>Monitoring/Testing Requirements (Per Facility)</b>											
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	\$20,474
Conduct chemical monitoring of injected wastes as prescribed in waste analysis plan.	As specified in WAP	0.0	0.0	38.0	0.0	38.0	\$1,852	\$4,586	295	11,200	\$1,897,589
Conduct additional chemical monitoring as specified by the Director.	Varies	0.0	0.0	7.6	0.0	7.6	\$370	\$917	29	224	\$37,952
Conduct casing pressure test and radioactive tracer survey of bottom-hole cement.	Annual	0.0	3.8	5.2	0.0	9.0	\$573	\$6,331	59	531	\$406,969
Conduct casing pressure test, radioactive tracer of bottom-hole cement, and noise/temperature logs to check for movement along the borehole.	Every 5 years	0.0	1.0	7.0	0.0	8.0	\$425	\$43,565	15	118	\$648,281
Conduct casing inspection log at workover.	Occasional	0.0	3.8	8.0	0.0	11.8	\$710	\$7,597	4	43	\$30,603
Conduct pressure fall-off test.	Annual	0.0	6.0	18.0	0.0	24.0	\$1,382	\$17,726	74	1,768	\$1,407,975
Conduct ambient monitoring.	Annual	0.0	0.4	1.9	0.0	2.3	\$125	\$6,114	74	168	\$459,716
<b>Reporting Requirements (Per Facility)</b>											
Prepare and submit report on maximum injection pressure, total injectate volume, and monitoring and testing results.	Quarterly	0.0	4.0	15.0	6.0	25.0	\$1,627	\$0	295	7,368	\$479,572
Prepare and submit report on mechanical integrity testing.	Annual	0.0	1.0	2.0	1.0	4.0	\$260	\$1,376	74	295	\$120,492
Notify Director within 24 hours of: planned physical changes to facility, changes that may result in noncompliance, compliance or noncompliance with a compliance schedule, any indication of possible endangerment of a USDW, or all other noncompliance.	Occasional	0.0	1.0	2.0	3.0	6.0	\$260	\$0	1	4	\$191
Prepare and submit revised plugging and abandonment cost estimate.	Annual	0.0	1.0	0.0	0.0	1.0	\$91	\$0	74	74	\$6,720
Prepare and submit report on: events exceeding operating parameters or triggering alarms; changes in annular fluid volume; workovers or other testing.	Occasional	0.0	1.0	1.0	1.0	3.0	\$161	\$0	4	11	\$594

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

Description of Requirement	Frequency (A)	Hours and Costs per Response							Total Hours and Costs		
		Legal	Managerial	Technical	Clerical	Unit Burden	Unit Labor Cost	Unit Non-labor Cost (B)	No. of Responses	Total Hours/Year	Total Cost/Year
<b>Recordkeeping Requirements (Per Facility)</b>											
Maintain monitoring information, calibration and maintenance records, required reports, application data, monitoring results, and most recent plugging and abandonment cost estimate.	3 years	0.0	0.0	0.0	5.0	5.0	\$142	\$0	74	368	\$10,461
<b>Closure Requirements (Per Well)</b>											
Prepare and submit notice of intent to close.	One-time	0.0	0.5	0.0	1.0	1.5	\$70	\$0	1	2	\$70
Prepare and submit closure report.	One-time	0.0	2.0	8.0	0.0	10.0	\$558	\$3,057	1	10	\$3,615
Conduct pressure fall-off test prior to well closure.	One-time	0.0	1.0	5.0	0.0	6.0	\$328	\$17,726	1	6	\$18,054
Demonstrate mechanical integrity (i.e., casing pressure test, radioactive tracer of bottom-hole cement, and noise/temperature logs to check for movement along the borehole) prior to closure.	One-time	0.0	2.0	18.0	0.0	20.0	\$1,046	\$28,615	1	20	\$29,660
Notify state or local zoning or drilling authorities and Regional Administrator following closure.	One-time	0.0	0.5	1.0	3.0	4.5	\$176	\$0	1	5	\$176
<b>TOTAL</b>									<b>1,375</b>	<b>27,723</b>	<b>\$ 18,769,130</b>

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**

Description of Requirement	Frequency (A)	Hours and Costs per Response			Total Hours and Costs		
		Unit Burden (B)	Unit Labor Cost	Unit Nonlabor Cost	Number of State Responses	Total State Hours/Year	Total State Cost/Year
<b>Initial/Start-up</b>							
<b>Permit Applications</b>							
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	\$1,657	\$0	5	218	\$9,036
Provide public notice of issuance of a draft permit or intent to deny.	One-time	1.0	\$41	\$0	5	5	\$226
Consider public comments.	One-time	6.0	\$249	\$0	5	33	\$1,355
Issue final permit decision.	One-time	2.0	\$83	\$0	5	11	\$452
Respond to comments.	One-time	7.0	\$290	\$0	5	38	\$1,581
Review notice of completion of construction.	One-time	2.0	\$83	\$0	5	11	\$452
Review information related to aquifer exemption requests and forward to EPA region.	One-time	1.0	\$41	\$0	1	1	\$38
<b>No-Migration Petitions</b>							
Review and respond to petition request.	One-time	18.0	\$746	\$0	5	98	\$4,066
Public notice/public comment.	One-time	10.0	\$414	\$0	5	55	\$2,259
Review and respond to petition modification request.	One-time	10.0	\$414	\$0	4	41	\$1,694
<b>Permit renewals/modifications</b>							
Review and respond to requests for permit modifications or re-issuance.	Occasional	30.0	\$1,243	\$0	8	245	\$10,165

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

Description of Requirement	Frequency (A)	Hours and Costs per Response			Total Hours and Costs		
		Unit Burden (B)	Unit Labor Cost	Unit Nonlabor Cost	Number of State Responses	Total State Hours/Year	Total State Cost/Year
<b>Monitoring/Testing</b>							
Review quarterly monitoring and testing results.	Quarterly	1.5	\$62	\$0	201	301	\$12,484
Review casing pressure test and radioactive tracer survey of bottom-hole cement.	Annual	4.0	\$166	\$0	40	161	\$6,658
Review casing pressure test, radioactive tracer survey of bottom-hole cement, and logs.	Every 5 years	4.0	\$166	\$0	10	40	\$1,664
Review pressure fall-off test.	Annual	2.0	\$83	\$0	39	77	\$3,204
<b>Other Reporting</b>							
Respond to periodic notifications by owners and operators.	Occasional	2.0	\$83	\$0	4	8	\$339
<b>Closure</b>							
Review closure and post-closure plans prior to approving plugging and abandonment.	One-time	2.0	\$83	\$0	1	2	\$83
Witness and review pressure fall-off test prior to authorizing closure.	One-time	24.0	\$994	\$0	1	24	\$994
<b>TOTAL</b>					<b>398</b>	<b>1,371</b>	<b>\$56,793</b>
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**

Description of Requirement	Frequency (A)	Hours and Costs per Response						Total Hours and Costs			
		Legal	Managerial	Technical	Clerical	Unit Burden	Unit Labor Cost	Unit Non-Labor Cost (B)	No. of Responses	Total Hours/Year	Total Cost/Year
<b>Initial/Startup Requirements (Per Permit Application)</b>											
<b>Requirements associated with permit applications</b>											
Read permit application directions.	One-time	0.0	0.25	0.25	0.0	0.5	\$33	\$0	14	7	\$465
Gather and submit description of activities requiring a permit, facility name and address, SIC codes, ownership and facility status, facility location, listing of relevant permits or construction approvals, relevant maps and cross sections, construction specifics, description of the business, proposed injection, formation testing, and stimulation	One-time	3.0	2.0	9.0	6.0	20.0	\$1,051	\$0	14	280	\$14,714
In DI programs, gather and submit a list of landowners within one-quarter mile of the facility boundary.	One-time	4.0	0.0	0.0	1.2	5.2	\$399	\$0	4	23	\$1,778
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	\$394	\$18,465	14	98	\$264,038
Prepare and submit maps/cross sections of local and regional geology, USDWs.	One-time	0.0	1.5	16.0	0.0	17.5	\$906	\$47,922	14	245	\$683,589
Prepare and submit descriptions of logs and tests, construction schematics and operating data.	One-time	0.0	2.0	8.0	2.5	12.5	\$629	\$5,732	14	175	\$89,061
Develop formation testing and stimulation programs and injection procedures.	One-time	0.0	2.0	7.0	1.0	10.0	\$538	\$6,879	14	140	\$103,833
Prepare and submit contingency plans for shut-ins or well failures.	One-time	0.0	3.0	10.0	2.0	15.0	\$797	\$268	14	210	\$14,899
Prepare and submit ambient monitoring plan.	One-time	0.0	3.0	3.0	3.0	9.0	\$484	\$4,509	14	126	\$69,906
Prepare and submit Corrective Action Plan.	One-time	0.0	2.0	3.0	2.3	7.3	\$380	\$8,789	14	102	\$128,370
Prepare and submit closure plan, including demonstration of financial responsibility.	One-time	0.0	1.0	3.0	2.6	6.6	\$304	\$1,689	14	92	\$27,907
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
<b>Requirements associated with completion reports</b>											
Prepare and submit completion report.	One-time	0.0	0.0	1.5	2.5	4.0	\$144	\$0	14	56	\$2,018
Prepare and submit a report of deviation checks and other logs and tests during	One-time	0.0	0.0	6.0	1.0	7.0	\$321	\$35,158	14	98	\$496,702
Demonstrate mechanical integrity (i.e., casing pressure test and noise/temperature logs to	One-time	0.0	2.0	3.5	0.0	5.5	\$339	\$9,936	14	77	\$143,848



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

Description of Requirement	Frequency (A)	Hours and Costs per Response						Total Hours and Costs			
		Legal	Managerial	Technical	Clerical	Unit Burden	Unit Labor Cost	Unit Non-Labor Cost (B)	No. of Responses	Total Hours/Year	Total Cost/Year
Submit information on the anticipated maximum pressure and flow rate.	One-time	0.0	0.0	2.0	0.0	2.0	\$97	\$153	14	28	\$3,505
Submit results of the formation testing program.	One-time	0.0	1.0	4.0	0.0	5.0	\$279	\$38,215	14	70	\$538,918
Submit actual injection procedure.	One-time	0.0	0.0	1.0	0.0	1.0	\$49	\$153	14	14	\$2,823
Demonstrate hydrogeologic compatibility/compatibility of well materials.	One-time	0.0	2.0	6.0	0.0	8.0	\$461	\$7,643	14	112	\$113,453
<b>Requirements associated with permit renewals/modifications</b>											
Submit updated components of permit application attachments.	Occasional	0.0	8.0	11.0	2.0	21.0	\$1,266	\$5,350	20	420	\$132,327
Prepare and submit request for permit modification.	Occasional	0.0	2.0	6.0	0.0	8.0	\$461	\$3,822	9	72	\$38,541
<b>Monitoring/Testing Requirements (Per Facility)</b>											
Analyze injected fluids.	Per permit	0.0	0.0	38.0	0.0	38.0	\$1,852	\$3,057	1,484	56,400	\$7,286,951
Monitor injection pressure, flow rate and volume, and annulus pressure.	Continuous	0.0	0.0	5.7	0.0	5.7	\$278	\$0	371	2,115	\$103,103
Demonstrate mechanical integrity (i.e., casing pressure test and noise/temperature logs to check for movement along the borehole).	Every 5 years	0.0	1.0	8.0	0.0	9.0	\$474	\$18,878	74	668	\$1,436,148
Conduct pressure fall-off test.	Annual	0.0	8.0	16.0	0.0	24.0	\$1,453	\$17,726	371	8,905	\$7,116,437
Conduct ambient monitoring.	Annual	0.0	0.4	1.5	0.0	1.9	\$106	\$6,114	371	705	\$2,308,124
<b>Reporting Requirements (Per Facility)</b>											
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	12.0	16.0	\$536	\$0	1,484	23,747	\$795,137
Report results of ambient monitoring and pressure fall-off test.	Annual	0.0	2.0	6.0	4.0	12.0	\$574	\$1,266	371	4,453	\$682,759

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

Description of Requirement	Frequency (A)	Hours and Costs per Response							Total Hours and Costs		
		Legal	Managerial	Technical	Clerical	Unit Burden	Unit Labor Cost	Unit Non-Labor Cost (B)	No. of Responses	Total Hours/Year	Total Cost/Year
Notify Director within 24 hours of: planned physical changes to facility, changes that may result in noncompliance, compliance or noncompliance with a compliance schedule, any indication of possible endangerment of a	Occasional	0.0	1.0	2.0	3.0	6.0	\$267	\$0	19	111	\$4,951
Submit periodic updates of financial responsibility for closure that account for inflation.	Occasional	0.0	1.0	0.0	0.0	1.0	\$84	\$0	124	124	\$10,409
Report results of: any required mechanical integrity tests, other required tests, and well workovers.	Occasional	0.0	1.0	2.0	1.0	4.0	\$210	\$1,376	4	15	\$5,884
<b>Recordkeeping Requirements (Per Facility)</b>											
Maintain monitoring information, calibration and maintenance records, required reports, application data, and monitoring results.	At least 3 years	0.0	0.0	0.0	4.0	4.0	\$114	\$0	371	1,484	\$42,144
<b>Closure Requirements (Per Well)</b>											
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	0.5	0.0	1.0	1.5	\$70	\$0	1	2	\$70
<b>TOTAL</b>									<b>5,319</b>	<b>101,222</b>	<b>\$ 22,662,812</b>

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
<b>Initial/Start-up</b>							
<b>Permit applications</b>							
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	\$828	\$0	1	19	\$791
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	\$1,657	\$0	9	344	\$14,231
Provide public notice of issuance of a draft permit or intent to deny.	One-time	1.0	\$41	\$0	10	10	\$395
Consider public comments.	One-time	6.0	\$249	\$0	10	57	\$2,372
Issue final permit decision.	One-time	2.0	\$83	\$0	10	19	\$791
Respond to comments.	One-time	7.0	\$290	\$0	10	67	\$2,767
Review notice of completion of construction.	One-time	2.0	\$83	\$0	10	19	\$791
Review information related to aquifer exemption requests and forward to EPA region.	One-time	1.0	\$41	\$0	2	2	\$67
<b>Permit renewals/modifications</b>							
Review and respond to requests for permit modifications or re-issuance.	Occasional	30.0	\$1,243	\$0	14	409	\$16,942

**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		
<b>Monitoring/Testing</b>									
Review casing pressure test and logs.	Every 5 years	4.0	\$166	\$0	51	202	\$8,382		
Review pressure fall-off test.	Annual	2.0	\$83	\$0	253	506	\$20,955		
Review monitoring data submitted by operators.	Quarterly	2.0	\$83	\$0	1,012	2,023	\$83,819		
<b>Other Reporting</b>									
Respond to periodic notifications by owners and operators.	Occasional	1.0	\$41	\$0	7	7	\$282		
<b>Closure</b>									
Review plugging and abandonment report.	One-time	1.0	\$41	\$0	1	1	\$41		
<b>TOTAL</b>					<b>1,396</b>	<b>3,685</b>	<b>\$152,627</b>		

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 would probably 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 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 will be 224 hours per permit. (This unit burden incorporates the above assumptions about customary business practices.) 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 will be 49 hours per facility. The burden to perform specific activities related to completion reports 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 hazardous Class I 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.

### 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 25 hours per report (100 hours annually) for quarterly monitoring reports, and 4 hours to report on the results of MITs. In addition, EPA assumes that 5 percent of operators will spend 3 to 6 hours annually submitting various occasional reports (e.g., on changes to the facility; planned workovers; noncompliance or anticipated noncompliance; or events triggering alarms or shutdown devices). 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 add 110.6 hours to the customary business activities of Class I nonhazardous facility operators. 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 is 32.5 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 are presented in Column A of Table A-1B.

### Permit Renewals/Modifications

As with hazardous facility operators, EPA assumes that applicants for 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 (i.e., five-year MIT).

### Reporting and Recordkeeping

Operators will spend 16 hours per facility reporting quarterly on the chemical and physical characteristics of injectate, flow rate, and volume. Class I nonhazardous facility operators will spend 12 hours per facility reporting on the results of ambient monitoring and the pressure fall-off test.

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 4 to 6 hours submitting additional reports (e.g., of changes to the facility, planned workovers, noncompliance or anticipated noncompliance, or events triggering an alarm or shutdown).

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. EPA or state primacy agencies will deny applications that do not meet construction standards, and others will be withdrawn by owners.

The average burden for preparing permit application forms and the supporting documentation is approximately 67 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 fill out 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:

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

**Table A-2  
Annual Paperwork Burden and Costs Associated with Class II Wells: Operators**

Description of Requirement	Frequency	Hours and Costs per Response							Total Hours and Costs		
		Legal	Managerial	Technical	Clerical	Unit Burden	Unit Labor Cost	Unit Non-Labor Cost	No. of Responses	Total Hours/Year	Total Cost/Year
<b>Initial/Start-up Requirements</b>											
<b>Requirements associated with permit applications (Per Permit Application)</b>											
Read permit application directions.	One-time	0.0	0.0	0.5	0.5	1.0	\$39	\$0	8,983	8,983	\$346,479
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	\$69	\$0	8,983	13,474	\$621,844
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	\$47	\$193	351	421	\$83,883
Prepare and submit plugging and abandonment plan.	One-time	0.0	0.6	4.8	0.6	6.0	\$302	\$0	8,983	53,897	\$2,708,506
Show evidence of financial responsibility for closure.	One-time	0.0	5.0	5.0	10.0	20.0	\$948	\$0	8,983	179,655	\$8,519,807
Prepare and submit proposed Corrective Action Plan.	One-time	0.0	0.3	2.9	0.2	3.4	\$172	\$0	898	3,054	\$154,770
Prepare and submit revised Corrective Action Plan.	One-time	0.0	1.0	9.6	0.7	11.3	\$572	\$0	180	2,030	\$102,766
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	\$38	1,997	1,997	\$173,665
Prepare and submit Area of Review map and study.	One-time	0.0	0.1	2.9	2.0	5.0	\$206	\$208	1,694	8,512	\$702,802
Prepare and submit proposed operating data.	One-time	0.0	0.1	1.8	0.1	2.0	\$99	\$0	8,983	17,966	\$889,314
Prepare and submit geological data on the injection and confining zone.	One-time	0.0	0.5	8.0	1.0	9.5	\$460	\$0	8,983	85,336	\$4,136,207
Prepare and submit name and depth to bottom of USDWs.	One-time	0.0	0.1	2.3	0.1	2.5	\$123	\$229	8,983	22,457	\$3,167,918
Prepare and submit schematic of the well.	One-time	0.0	0.0	2.8	0.2	3.0	\$142	\$0	8,983	26,948	\$1,277,123
Prepare and submit information to support an aquifer exemption request.	One-time	0.0	2.5	17.0	0.5	20.0	\$1,053	\$0	269	5,390	\$283,849
For operators in DI states performing HF using diesel fuels, prepare and submit information recommended in DFHF Guidance (e.g., planned fracture extent, geologic information, AoR, construction information).	One-time	0.5	9.5	50.0	20.0	80.0	\$3,850	\$764	30	2,400	\$138,441

**Table A-2  
Annual Paperwork Burden and Costs Associated with Class II Wells: Operators**

		Hours and Costs per Response							Total Hours and Costs		
		A	B	C	D	E	F				
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
<b>Requirements associated with completion reports (Per Well)</b>											
Prepare and submit completion report.	One-time	0.0	0.0	1.5	2.5	4.0	\$144	\$0	8,585	34,340	\$1,237,181
Perform and report on appropriate logs and other tests during construction.	One-time	0.0	0.2	1.9	0.2	2.4	\$121	\$4,586	1,318	3,163	\$6,201,871
Demonstrate mechanical integrity.	One-time	0.0	0.0	7.0	0.0	7.0	\$341	\$206	8,585	60,095	\$4,701,158
<b>Requirements associated with permit reviews/modifications (Per Permit/Per Operator)</b>											
Respond to issues raised during permit review.	Every 5 years	0.0	0.5	2.0	0.5	3.0	\$154	\$0	1,765	5,295	\$271,432
Prepare and submit request for permit modification.	Occasional	0.0	0.4	2.8	0.8	4.0	\$193	\$0	2,648	10,591	\$510,680
<b>Monitoring/Testing Requirements (Per Operator)</b>											
Monitor the nature of injected fluids.	As necessary to obtain	0.0	0.0	2.0	0.0	2.0	\$97	\$46	70,606	141,213	\$10,121,799
Record injection pressure, flow rate, and cumulative volume.	At least every 30 days.	0.0	0.0	0.6	0.3	0.8	\$35	\$0	212,179	178,231	\$7,479,262
Demonstrate mechanical integrity.	Every 5 years	0.0	0.0	3.0	0.0	3.0	\$146	\$2,064	47,659	142,978	\$105,320,229
<b>Reporting Requirements (Per Operator)</b>											
In DI programs, gather and submit groundwater monitoring data, analyses of injected fluids, a description of geologic strata, and other items as requested.	Occasional	0.0	3.0	22.0	5.0	30.0	\$1,467	\$0	33	991	\$48,479
In DI programs, notify Regional Administrator 30 days prior to MIT.	Every 5 years	0.0	0.0	0.5	0.5	1.0	\$39	\$0	79	79	\$3,053
Notify Director of (1) any planned physical changes to facility; (2) changes that may result in noncompliance, (3) permit transfers, (4) compliance or noncompliance with compliance schedules, (5) possible endangerment to a USDW.	Occasional	0.0	1.0	1.5	2.5	5.0	\$228	\$0	1,059	5,295	\$241,754
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	\$210	\$0	17,682	88,408	\$3,708,752
Report MIT results.	Annual	0.0	0.0	1.0	0.0	1.0	\$49	\$0	17,682	17,682	\$861,954

**Table A-2  
Annual Paperwork Burden and Costs Associated with Class II Wells: Operators**

		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
<b>Recordkeeping Requirements (Per Operator)</b>											
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	\$134	\$0	17,652	70,606	\$2,364,125
<b>Closure Requirements (Per Operator)</b>											
In DI programs, notify director of revisions to plugging and abandonment plan.	One-time	0.0	0.5	2.5	1.0	4.0	\$192	\$0	0	2	\$78
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	\$141	\$0	1,044	3,132	\$147,146
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	\$262	\$275	41	245	\$21,888
<b>Other Requirements (Per Operator)</b>											
In DI programs, submit revised demonstration of financial responsibility.	Occasional	0.0	0.5	0.5	1.0	2.0	\$95	\$0	69	138	\$6,535
<b>TOTALS</b>									<b>485,967</b>	<b>1,195,002</b>	<b>\$ 166,554,749</b>
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
<b>Initial/Start-up</b>							
<b>Permit applications (Per Permit Application)</b>							
Review permit application and supporting documentation and prepare draft permit.	One-time	6.0	\$249	\$0	8,632	51,793	\$2,145,463
Consider public comments.	One-time	2.0	\$83	\$0	8,632	17,264	\$715,154
Issue final permit decision.	One-time	2.0	\$83	\$0	8,632	17,264	\$715,154
Respond to comments.	One-time	4.0	\$166	\$0	8,632	34,528	\$1,430,308
Review operator's AoR map and study.	One-time	5.0	\$207	\$0	1,628	8,139	\$337,159
Review operator's AoR map and perform AoR study.	One-time	2.5	\$104	\$0	1,997	4,992	\$206,807
Review completion report.	One-time	2.0	\$83	\$0	8,250	16,500	\$683,488
Review information related to aquifer exemption requests and forward to EPA region.	One-time	1.0	\$41	\$0	247	247	\$10,252
<b>Permit reviews/modifications (Per Operator)</b>							
Review each permit to determine whether it should be modified, revoked and reissued, or terminated.	Every 5 years	1.0	\$41	\$0	1,696	1,696	\$70,266
Review request for permit modification or re-issuance.	Occasional	4.0	\$166	\$0	2,544	10,178	\$421,595
<b>Monitoring/Testing (Per Operator)</b>							
Review mechanical integrity test data submitted by operators.	Every 5 years	0.5	\$21	\$0	45,799	22,900	\$948,589
Review monitoring data submitted by operators.	Annual	0.3	\$10	\$0	16,963	4,241	\$175,665
<b>Recordkeeping</b>							
Maintain administrative record in DI programs.	One-time	1.0	\$41	\$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
<b>Other Reporting (Per Operator)</b>							
Respond to periodic notifications by owners and operators.	Occasional	2.0	\$83	\$0	1,018	2,036	\$84,319
<b>Closure (Per Operator)</b>							
For DI programs, review plugging and abandonment report.	One-time	1.0	\$41	\$0	0	0	\$0
<b>TOTAL</b>					<b>114,710</b>	<b>191,778</b>	<b>\$7,944,220</b>
Note: Numbers may not add due to rounding							

Based on previous studies of state AoR practices and requirements, EPA projects that state primacy agencies and EPA Regions will determine that a complete AoR 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.

Previous 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 projects 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.<sup>2</sup> 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 the historical incidence of corrective action, 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 for each new Class II well. 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 4 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 projects 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.

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<sup>2</sup> 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.

Additionally, operators of production wells in DI states performing hydraulic fracturing (HF) using diesel fuels (DF) that are issued permits as recommended in the DFHF Guidance will submit the same types of information required of Class II well owners or operators, along with additional information to afford an evaluation of the proposed HF operation, such as information about the formation(s) to be fractured and the extent and orientation of the planned fracture network, seismic history, and baseline geochemical data. The guidance also recommends that owners or operators identify a site-specific AoR; demonstrate that the well is constructed appropriately; perform a pre-HF MIT; and demonstrate financial responsibility. EPA estimates that each of these operators will incur 80 hours to apply for a UIC permit and provide this information to the EPA DI Program.

Following permitting, owners or operators of wells following the DFHF Guidance recommendations will monitor injection pressure, flow rate and cumulative volume during HF operations, perform an MIT if needed, monitor ground water quality if directed, and perform the same reporting and recordkeeping activities as other Class II owners or operators, as described below.

#### 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 well ownership or 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 for 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 (1 hour per well) 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, Class II operators spend about 5 hours to prepare annual monitoring reports. These reports include summaries of monthly or weekly observations of flow, pressure, and cumulative volume. In addition, 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, progress in achieving compliance milestones, and noncompliance or malfunctions which may endanger a USDW. EPA estimates that approximately 6 percent of operators submit one of these occasional reports each year. Operators will spend an average of 5 hours to prepare each report.

Operators of rule-authorized wells in DI states may be required to gather and submit groundwater monitoring data, analyses of injected fluids, a description of geologic strata, and other items as requested. EPA projects that each request will take 30 hours to prepare. In addition, operators of rule-authorized wells will spend one hour per operator to notify the Region prior to performing MITs.

Each operator will spend about 4 hours annually to maintain records on permitting, monitoring, and testing.

### Closure

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, 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 four 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 132 hours to prepare a new permit application form and the required attachments. Reading the directions and filling out the application form account for 11 hours of the total. 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:

- 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;
- 16 hours to prepare monitoring plans;
- 14 hours to prepare proposed corrective action plans;
- 9 hours to prepare proposed operating data, formation testing and stimulation programs, and injection procedures;
- 8 hours to prepare plugging and abandonment plans;
- 5 hours to prepare schematics of the wells; and
- 3.5 hours to demonstrate financial responsibility.

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 completing wells must perform a two-part MIT and submit a completion form. The burden associated with preparing completion reports is difficult to determine. Operators of Class III facilities, especially uranium mining facilities, typically develop their projects in multiple phases under the same area permit. Based on conversations with operators and states, EPA estimates that operators of Class III wells will spend an average of 4 hours to prepare a completion report, 10 hours to demonstrate mechanical integrity, and 2.4 hours to perform and 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 have 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 semi-monthly, 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.<sup>3</sup> 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 semi-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 identify potential excursions from the injection zone. EPA assumes that UIC requirements increase the monitoring burden to these operators by about 30.5 hours per monitoring period.

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<sup>3</sup> Some operators may be allowed to submit cementing records in lieu of performing temperature or noise logs.  
*Underground Injection Control Program – Information Collection Request*

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

		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
<b>Initial/Start-up Requirements</b>											
<b>Requirements associated with permit applications (Per Permit Application)</b>											
Read permit application directions.	One-time	0.0	0.0	0.5	0.5	1.0	\$39	\$0	32	32	\$1,234
Gather and submit the following information: (1) a description of activities requiring a permit, (2) facility name and address, (3) SIC codes, (4) ownership and facility status, (5) facility location, (6) listing of relevant permits or construction appro	One-time	0.5	2.0	4.7	2.8	10.0	\$523	\$0	32	320	\$16,721
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	\$47	\$193	23	27	\$5,429
Prepare and submit plugging and abandonment plan.	One-time	0.0	0.0	6.4	1.6	8.0	\$357	\$0	32	256	\$11,438
Show evidence of financial responsibility for closure.	One-time	0.0	0.5	1.0	2.0	3.5	\$148	\$0	32	112	\$4,724
Prepare and submit proposed Corrective Action Plan.	One-time	0.0	2.0	10.0	2.0	14.0	\$713	\$0	32	448	\$22,803
Prepare and submit revised Corrective Action Plan.	One-time	0.0	1.0	8.0	1.0	10.0	\$503	\$0	6	64	\$3,216
Prepare and submit AoR map and study.	One-time	0.0	3.2	25.5	3.4	32.0	\$1,606	\$1,139	32	1,024	\$87,820
Prepare and submit maps and cross-sections of USDWs within AoR, local geology, and regional geology.	One-time	0.0	0.0	18.0	4.0	22.0	\$991	\$229	32	704	\$39,051
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	\$489	\$0	32	288	\$15,654
Prepare and submit schematic of the well.	One-time	0.0	0.0	4.2	0.8	5.0	\$227	\$0	32	160	\$7,279
Prepare and submit monitoring plan.	One-time	0.0	0.0	12.0	4.0	16.0	\$699	\$0	32	512	\$22,354
<b>Requirements associated with completion reports (Per Well)</b>											
Prepare and submit completion form and supporting documentation (7520-9).	One-time	0.0	0.0	1.5	2.5	4.0	\$144	\$0	21	84	\$3,026
Prepare and submit appropriate logs and tests during construction.	One-time	0.0	0.2	1.9	0.2	2.4	\$121	\$5,246	1	3	\$5,810
Demonstrate mechanical integrity.	One-time	0.0	1.0	8.0	1.0	10.0	\$503	\$4,586	21	210	\$106,855
Prepare and submit information to support an aquifer exemption request.	One-time	0.0	2.5	17.0	0.5	20.0	\$1,053	\$0	0.2	4	\$221
<b>Requirements associated with permit reviews/renewals/modifications (Per Permit/Per Facility)</b>											
Respond to issues raised during permit review.	Every 5 years	0.0	3.0	1.0	0.0	4.0	\$301	\$0	34	137	\$10,301
Prepare and submit request for permit modification.	Occasional	0.0	2.0	22.0	4.0	28.0	\$1,354	\$0	24	672	\$32,505
<b>Monitoring/Testing Requirements (Per Facility)</b>											
Monitor the nature of injected fluids.	As necessary to obtain representative	0.0	0.0	6.0	2.0	8.0	\$349	\$0	47	375	\$16,389
Monitor injection pressure and flow rate or volume of injected fluids, or meter and record injected and produced fluid volumes.	Semi-monthly/ Continuous	0.0	0.0	3.3	1.3	4.6	\$199	\$0	4,446	20,607	\$884,720
Demonstrate mechanical integrity.	Every 5 years	0.0	16.1	128.7	16.1	160.9	\$8,084	\$73,771	9	1,510	\$768,167
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	\$1,426	\$0	271	8,272	\$386,678

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

Description of Requirement	Frequency	Hours and Costs per Response						Total Hours and Costs			
		Legal	Managerial	Technical	Clerical	Unit Burden	Unit Labor Cost	Unit Non-Labor Cost	No of Responses	Total Hours/Year	Total Cost/Year
<b>Reporting Requirements (Per Facility)</b>											
Notify Director of (1) planned physical changes to the facility, (2) anticipated noncompliance, (3) permit transfers, (4) progress in meeting compliance schedule in permit, (5) possible endangerment to a USDW.	Occasional	0.0	1.0	3.0	2.0	6.0	\$287	\$0	17	103	\$4,911
Report to the Director on required monitoring, mechanical integrity tests, and other required tests.	Quarterly	0.0	1.0	10.0	19.0	30.0	\$1,111	\$0	684	20,520	\$760,020
<b>Recordkeeping Requirements (Per Facility)</b>											
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	\$105	\$0	171	581	\$17,901
<b>Closure Requirements (Per Facility)</b>											
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	\$123	\$0	2	4	\$245
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	1	1	\$42
<b>Other Requirements (Per Facility)</b>											
In DI programs, submit revised demonstration of financial responsibility.	Occasional	0.0	0.5	0.5	1.0	2.0	\$95	\$0	77	155	\$7,328
<b>TOTALS</b>									<b>6,176</b>	<b>57,184</b>	<b>\$ 3,242,842</b>

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			
<b>Program Oversight Activities</b>	<b>Frequency</b>	<b>Unit Burden</b>	<b>Unit Labor Cost</b>	<b>Unit Non-Labor Cost</b>	<b>Number of Responses</b>	<b>Total Hours/Year</b>	<b>Total Cost/Year</b>
<b>Initial/Start-up</b>							
<b>Permit applications (Per Permit Application)</b>							
Consider the permit application, area of review, relevant maps and cross sections, fluid injection rate and volume, proposed contingency plans, monitoring plans, and	One-time	20.0	\$828	\$0	13	260	\$10,770
Consider the permit application, area of review, relevant maps and cross sections, fluid injection rate and volume, proposed contingency plans, monitoring plans, and	One-time	40.0	\$1,657	\$0	18	720	\$29,825
Provide public notice of issuance of a draft permit or intent to deny.	One-time	2.0	\$83	\$0	48	96	\$3,977
Consider public comments.	One-time	8.0	\$331	\$0	48	384	\$15,907
Issue final permit decision.	One-time	10.0	\$414	\$0	48	480	\$19,884
Respond to comments.	One-time	15.0	\$621	\$0	48	720	\$29,825
Review completion report.	One-time	2.0	\$83	\$0	21	42	\$1,740
Review information related to aquifer exemption requests and forward to EPA region.	One-time	1.0	\$41	\$0	0.2	0.2	\$9

**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			
<b>Program Oversight Activities</b>	<b>Frequency</b>	<b>Unit Burden</b>	<b>Unit Labor Cost</b>	<b>Unit Non-Labor Cost</b>	<b>Number of Responses</b>	<b>Total Hours/Year</b>	<b>Total Cost/Year</b>
<b>Permit reviews/modifications (Per Facility)</b>							
Review each permit to determine whether it should be modified, revoked and reissued, or terminated.	Every 5 years	4.0	\$166	\$0	18	71	\$2,931
Review request for permit modification or re-issuance.	Occasional	20.0	\$828	\$0	23	460	\$19,055
<b>Monitoring/Testing (Per Facility)</b>							
Review mechanical integrity test data submitted by operators.	Every 5 years	0.5	\$21	\$0	18	9	\$366
Review monitoring data submitted by operators.	Quarterly	0.25	\$10	\$0	354	88	\$3,663
<b>Other Reporting (Per Facility)</b>							
Respond to periodic notifications by owners and operators.	Occasional	4.0	\$166	\$0	18	72	\$2,983
<b>Recordkeeping (Per Facility)</b>							
Maintain administrative record (DI).	One-time	4.0	\$166	\$0	0	0	\$0
<b>Closure (Per Facility)</b>							
Review plugging and abandonment report (DI only).	One-time	4.0	\$166	\$0	0	0	\$0
<b>TOTAL</b>					<b>674</b>	<b>3,402</b>	<b>\$ 140,934</b>
Note: Numbers may not add due to rounding.							



## Reporting and Recordkeeping

Operators of Class III facilities will incur a burden of 30 hours per facility per quarter for quarterly reporting on monitoring and any MITs performed. About 10 percent of operators will spend 6 hours per year on occasional reporting activities. 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 in DI programs will spend one hour to submit a plugging and abandonment report.

### *Burden on Primacy Agencies Associated with Class III Wells*

For the Class III Program, 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 the operator burden associated with this one-time requirement to submit a plugging and abandonment report will be 10 hours per 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 and permitting and/or closure of motor vehicle waste disposal wells (MVWDWs) and large-capacity cesspools.

### Inventory Activities

Recent 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 0.5 hours to prepare and submit inventory information to the appropriate Regional or state primacy agency.

### Activities Required Under the Class V Rule

Under the Class V Rule, facilities that wish to continue operating motor vehicle waste disposal wells must seek waivers from the ban on existing motor vehicle waste disposal wells and apply for permits. As a condition of the permit, facilities must submit all monitoring reports to the UIC Director. Owners of MVWDWs and large-capacity cesspools that close are required to submit pre-closure notifications.

Note: While the Class V Rule required that all closure or permitting activities be completed by January 2007 (the latest date by which operators with state-granted extensions would be required to have closed or applied for a permit), EPA assumes that existing wells will continue to be located and permitted or closed. Thus, some permitting/closure burden is included in this ICR.

### *Operators of Large-Capacity Cesspools*

Operators of facilities with large-capacity cesspools will need to become familiar with the Class V requirements and prepare and submit a pre-closure notification to their primacy agencies. EPA assumes that each facility will require a total of 4.5 hours to complete these activities.

### *Operators of Motor Vehicle Waste Disposal Wells*

All operators of facilities with MVWDWs must read the regulations and contact their primacy agencies to determine if their wells are located in a source water protection area (SWPA) or other sensitive ground water area. These activities will require 4 hours. If a well is located within one of these areas, the owner/operator will either close the well or seek a waiver and apply for a permit.

- If they choose to close their wells, owners of MVWDWs must notify the UIC Program Director at least 30 days prior to well closure, sample their injectate, and submit a pre-closure notification form (Form 7520-17 or a state equivalent). These operators would incur a burden of 3 hours.

**Table A-4  
Annual Paperwork Burden and Costs Associated with Class IV/Endangering Class V Wells: Operators**

		A B C						D E F			
								Total Hours and Costs			
Description of Requirement	Questions	Frequency	Managerial	Technical	Clerical	Unit Burden	Unit Labor Cost	Unit Non-labor Cost	No. of Responses	Total Hours/Year	Total Cost/Year
<b>Closure Requirements (Per Well)</b>											
Submit a plugging and abandonment report within 60 days after plugging a well.		One-time	0	7.5	2.5	10.0	\$238	\$0	990	9,900	\$235,165
<b>TOTAL</b>									<b>990</b>	<b>9,900</b>	<b>\$235,165</b>

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
<b>Closure</b>							
Review closure plan.	One-time	1.0	\$41	\$0	758	758	\$31,399
<b>TOTAL</b>					<b>758</b>	<b>758</b>	<b>\$31,399</b>
Note: Numbers may not add due to rounding.							

**Table A-5  
Annual Paperwork Burden and Costs Associated with Class V Wells: Operators**

		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
<b>Inventory Requirements</b>											
In DI programs, submit inventory information prior to commencing injection.	One-time	0.0	0.0	0.0	0.5	0.5	\$10	\$0	24,860	12,430	\$237,462
<b>Class V Rule Requirements for Owners/Operators of Large-Capacity Cesspools</b>											
Read regulations.	One-time	0.0	0.0	3.0	0.0	3.0	\$76	\$0	7	20	\$506
Prepare and submit pre-closure notification (Form 7520-17).	One-time	0.0	0.5	0.8	0.3	1.5	\$54	\$0	7	10	\$357
<b>Class V Rule - Startup Requirements for Owners / Operators of Motor Vehicle Waste Disposal Wells</b>											
Contact state or local agency to determine requirements.	One-time	0.0	0.0	1.0	0.0	1.0	\$25	\$0	33	33	\$843
Read regulations.	One-time	0.0	0.0	3.0	0.0	3.0	\$76	\$0	33	100	\$2,530
For wells that will close, sample injectate and maintain record.	One-time	0.0	0.0	1.0	0.5	1.5	\$35	\$706	32	48	\$23,467
Prepare and submit pre-closure notification (Form 7520-17).	One-time	0.0	0.5	0.8	0.3	1.5	\$54	\$0	32	48	\$1,695
For wells obtaining a waiver, conduct initial sampling.	One-time	0.0	0.0	1.0	0.5	1.5	\$35	\$706	2	3	\$1,235
For wells obtaining a waiver, prepare and submit permit application.	One-time	0.0	8.0	25.0	21.0	54.0	\$1,510	\$0	2	90	\$2,517
<b>Class V Rule - Ongoing Activities for Owners / Operators of Motor Vehicle Waste Disposal Wells</b>											
Conduct quarterly injectate sampling.	Quarterly	0.0	0.0	1.0	0.5	1.5	\$35	\$706	5,916	8,874	\$4,384,165
Conduct annual sludge sampling (concurrent with injectate sampling).	Annual	0.0	0.0	1.0	0.5	1.5	\$35	\$1,847	1,479	2,219	\$2,782,598
Annual reporting and recordkeeping of all monitoring results.	Annual	0.0	0.0	3.0	1.0	4.0	\$95	\$0	1,479	5,916	\$140,529
<b>TOTAL</b>									<b>33,881</b>	<b>29,789</b>	<b>\$7,577,905</b>

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**

Description of Requirement	Frequency	Hours and Costs per Response			Total Hours and Cost		
		Unit Burden (A)	Unit Labor Cost	Unit Nonlabor Cost	Number of Responses	Total Hours/Year	Total Cost/Year
<b>Initial/Startup</b>							
Review inventory information.	One-time	0.5	\$21	\$0	16,154	8,077	\$334,573
<b>Primacy State Activities Associated With the Class V Rule</b>							
Provide technical assistance to owners/operators (at start-up).	One-time	1.0	\$41	\$0	78	78	\$3,230
Review and file pre-closure notifications.	One-time	1.3	\$52	\$0	75	93	\$3,869
Review, approve, and file waivers/permit applications.	One-time	8.3	\$344	\$0	3	27	\$1,117
Review and file annual monitoring reports.	Annual	0.8	\$33	\$0	961	769	\$31,848
<b>TOTAL</b>					<b>17,271</b>	<b>9,044</b>	<b>\$ 374,637</b>

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.

- The specific information required in a permit application will be defined by the States or EPA regions. For purposes of this analysis, EPA assumes that the permit requirements will be similar to those required in existing UIC permit applications (40 CFR 144.31) including: a description of activities requiring a permit, inventory information, topographic maps, and a brief description of the business. These operators will also sample their injectate. The burden for these activities is estimated to be 55.5 hours, the majority of which is for preparing the permit application.

Operators of MVWDWs that are granted permits will be required to sample their injectate quarterly and sludge annually and submit these results once per year. These operators will incur an annual burden of 7 hours.

#### *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, processing permit applications and pre-closure notifications, and reviewing and responding to monitoring data submitted by operators 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. EPA estimates that states will review permit applications and pre-closure notifications submitted by operators of facilities with motor vehicle waste disposal wells and large-capacity cesspools. State primacy agencies will also review annual monitoring reports submitted by operators (details are presented in Table A-5).

#### **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.

Table A-6									
Annual Paperwork Burden and Costs Associated with Class VI Wells: Operators									
Description Of Requirement	Frequency	Hours and Costs Per Response					Total Hours and Costs		
		Technical 1 (Engineer)	Technical 2 (Geologist)	Unit Burden	Unit Labor Cost	Unit Non-Labor Cost (A)	Number of Responses	Total Hours/ Year	Total Cost/Year
<b>Initial/Startup Requirements (Per Permit Application)</b>									
<b>Requirements Associated with Permit Applications</b>									
Prepare and submit Class VI permit application, including attachments and the testing and monitoring plan, emergency and remedial response, injection well plugging, and post-injection site care and site closure plan.	One-Time	240	300	540	\$58,524	\$546,184	3.3	1,800	\$2,015,694
Conduct 3D seismic survey to identify faults and fractures; obtain and analyze seismic history.	One-Time	0	180	180	\$19,074	\$605,365	3.3	600	\$2,081,463
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	\$17,012	\$140,292	3.3	530	\$524,346
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	\$4,705	\$0	3.3	148	\$15,683
Take initial samples to develop a geochemical baseline for injection zones and confining zones.	One-Time	0	10	10	\$1,060	\$18,276	3.3	33	\$64,453
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	\$25,432	\$0	3.3	800	\$84,774
Demonstrate financial responsibility to ensure funds will be available for required future actions.	One-Time	40	0	40	\$4,456	\$0	3.3	133	\$14,852
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	\$47,385	\$101,646	3.3	1,467	\$496,770
Perform complex modeling of CO2 fluid flow and migration (reservoir simulations) and prepare AoR and corrective action plan.	One-Time	724	1,200	1924	\$207,809	\$0	3.3	6,413	\$692,698
Compile and submit information to support an injection depth waiver application.	One-Time	100	200	300	\$32,333	\$0	1.0	300	\$32,333



<b>Table A-6</b>									
<b>Annual Paperwork Burden and Costs Associated with Class VI Wells: Operators</b>									
Description Of Requirement	Frequency	Hours and Costs Per Response					Total Hours and Costs		
		Technical 1 (Engineer)	Technical 2 (Geologist)	Unit Burden	Unit Labor Cost	Unit Non- Labor Cost (A)	Number of Responses	Total Hours/ Year	Total Cost/Year
<b>Requirements Associated with Injection Well Construction</b>									
Design and install equipment for injection wells to measure: injected volumes, pressure, flow rates, and annulus pressure.	One-Time	0	0	0	\$0	\$399,518	3.3	0	\$1,331,726
Install check/shut-off valve on injection well.	One-Time	0	0	0	\$0	\$2,759	3.3	0	\$9,197
Construct monitoring wells.	One-Time	0	0	0	\$0	\$2,370,318	3.3	0	\$7,901,061
Design and install equipment for monitoring wells to measure: pressure, temperature, resistivity, salinity, CO2, and any other required parameters.	One-Time	0	0	0	\$0	\$169,956	3.3	0	\$566,522
<b>Monitoring/Testing Requirements (Per Operator)</b>									
Analyze injectate stream and perform corrosion monitoring.	Quarterly	62	0	62	\$6,851	\$16,303	13.3	820	\$ 308,715
Operate and maintain monitoring wells and the monitoring equipment within them.	Annual	13	0	13	\$1,395	\$462,195	3.3	42	\$1,545,301
Conduct periodic monitoring of groundwater quality and geochemistry.	Monthly	21	0	21	\$2,339	\$10,906	40.0	840	\$529,816
Conduct external mechanical integrity tests	Annual	0	0	0	\$0	\$181,804	3.3	0	\$606,013
Conduct pressure fall-off testing.	Every Five Years	0	0	0	\$0	\$34,268	0.7	0	\$22,845
Conduct 3D seismic survey to track movement of the CO2 plume and pressure front.	Every Five Years	0	0	0	\$0	\$1,194,570	0.7	0	\$796,380
<b>Activities Associated with Area of Review Reevaluations</b>									
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	\$124,536	\$0	0	0	\$0

<b>Table A-6</b>									
<b>Annual Paperwork Burden and Costs Associated with Class VI Wells: Operators</b>									
		Hours and Costs Per Response					Total Hours and Costs		
A	B	C	D	E	F				
Description Of Requirement	Frequency	Technical 1 (Engineer)	Technical 2 (Geologist)	Unit Burden	Unit Labor Cost	Unit Non- Labor Cost (A)	Number of Responses	Total Hours/ Year	Total Cost/Year
<b>Reporting and Recordkeeping Requirments (Per Operator)</b>									
Report to regulators; maintain records of data from all data gathering activities.	Semi-Annual	33	0	33	\$3,676	\$0	6.7	220	\$24,506
<b>Plugging, Post-Injection Site Care, and Site Closure Requirements (Per Operator)</b>									
Demonstrate financial ability (accounting for inflation) to close site.	Injection, One-Time	8	0	8	\$891	\$0	0	0	\$0
Perform a MIT prior to plugging the injection well.	Injection, One-Time	0	0	0	\$0	\$34,776	0	0	\$0
Conduct ground water monitoring - operate and maintain monitoring wells and the monitoring equipment within them.	Post- Injection, Annual	0	0	0	\$0	\$531,971	0	0	\$0
Track the CO2 plume and pressure front.	Post- Injection, Every 5	0	0	0	\$0	\$1,194,570	0	0	\$0
Submit results of post-injection monitoring.	Injection, Every 5	40	0	40	\$4,456	\$0	0	0	\$0
<b>TOTAL</b>							<b>112.3</b>	<b>14,146</b>	<b>\$ 19,665,149</b>
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							
Description Of Requirement	Frequency	A	B	C	D	E	F
		Hours and Costs Per Response			Total Hours and Costs		
		Unit Burden	Unit Labor Cost	Unit Non-Labor Cost (A)	Number of Responses	Total Hours/ Year	Total Cost/Year
<b>Initial/Startup Requirements (Per Permit Application)</b>							
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	\$32,311	\$0	0.33	260.0	\$10,770
Review financial responsibility demonstration.	One-time	100	\$4,142	\$0	0.33	33.3	\$1,381
Determine and specify tubing, packing, casing, and cementing requirements based on review of information submitted by operator.	One-time	140	\$5,799	\$0	0.33	46.7	\$1,933
Witness logging and testing.	One-time	20	\$828	\$0	0.33	6.7	\$276
Review applications for waivers to inject above the lowermost underground source of drinking water.	One-time	200	\$8,285	\$0	0.33	66.7	\$2,762
<b>Monitoring and Recordkeeping</b>							
Review reports submitted by operators; recordkeeping of data from all data gathering activities.	Annual	40	\$1,657	\$0	0	0	\$0
Review mechanical integrity test data.	Annual	14	\$559	\$0	0	0	\$0
<b>Area of Review Reevaluation</b>							
Review updated AoR modeling and updated plans.	Every 5 years	150	\$6,214	\$0	0	0	\$0
<b>Site Closure</b>							
Review relevant data prior to granting approval for plugging and abandonment of a well.	One-time	40	\$1,657	\$0	0	0	\$0
<b>Project-Independent Activities</b>							
Prepare and submit primacy application.	One-time	1,040	\$43,081	\$0	2.3	2,427	\$100,522
<b>TOTAL</b>					<b>4.0</b>	<b>2,840</b>	<b>\$ 117,644</b>
Notes:							
Numbers may not add due to rounding.							

### Initial Permitting/Start-up

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 aquifers (including all USDWs), and the confining zone in the AoR (44 hours).
- 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).
- Perform complex modeling (reservoir simulations) of carbon dioxide flow and fluid migration to delineate the AoR (1,924 hours).

### 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 groundwater 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

There are two closure and post-injection site care activities for which operators incur burden. It is estimated that operators will require 8 hours to demonstrate financial ability (accounting for inflation) to properly close the site. This occurs once at the beginning of the post-injection period. Subsequently, operators are assumed to report monitoring results to regulators every five years during the post-injection site care period, which is estimated to require 40 hours per operator, every five years.

### *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. Due to the potentially long life spans of injection operations, no AoR reevaluations or closure and post-injection site care activities are anticipated to occur during the ICR clearance period. 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 2.2 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 20 hours per review.

### **States as Respondents**

State burden associated with program oversight and compiling and reporting data using the 7520 forms and the UIC measures reporting process is presented in Column A of Table A-7. The burden on states associated with completing the 7520 forms ranges from 2 to 6 hours per form. States will also report annually to EPA on the UIC Program measures via an online reporting system. EPA estimates the annual burden associated with this effort will be 60 hours per state primacy agency. States will also report inventory information annually to EPA. The burden associated with the oversight activities for the UIC Program well inventory includes compiling the number of each Class of well, and reporting to an EPA online inventory. EPA estimates the annual burden associated with this effort will be 60 hours per primacy agency.

EPA estimates that the annual recordkeeping burden on state primacy agencies associated with the 7520 forms and the inventory form will be 40 hours per agency. EPA estimates that maintenance of inventory data will account for the bulk of the recordkeeping burden.

EPA estimates that, in each primacy program, one-half of an 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.

#### *State Activities Associated with the National UIC Database*

EPA Headquarters deployed the National UIC database in December 2007. States are able to transfer the data needed to generate the information they currently report via the 7520 forms, the inventory, and the measures data to Headquarters. (Once they set up this data transfer process, States will no longer be required to complete the 7520 forms, report UIC inventory or measures data, or retain records.) Appendix B describes the data transfer activities in detail, EPA's burden and cost estimates, and the burden and cost savings to states associated with the national UIC database.

Start-up costs for states that have UIC databases include the costs associated with developing the data to transfer to the National UIC Database and setting up the data flow process. EPA estimates that, on average, the total "data development" burden to these programs is about 310 hours. Annualizing the effort over the estimated 6-year phase-in schedule, this equals 51.6 hours per program annually, of which 10 hours will be conducted by state staff (the remaining work will be performed by contractors).

States with existing data bases will also need to set up a data flow (i.e., data mapping, conversion to Extensible Markup Language, and setting up the data transfer through EPA's Central Data Exchange). The total data flow burden is estimated to be 210 hours per program. Annualized over 6 years, this equates to 35 hours per year per program, of which 25 hours are state burden.

To assist states without a UIC data base, EPA Headquarters developed an Access database. Because the database would be designed to the needs of the National UIC Database and Headquarters would perform the basic programming, the start-up effort for states without a UIC data base is assumed to be less intensive than for those states that already have a database. EPA estimates the start-up burden to these state programs is 250 hours/ program (state and contractor labor), or 41.6 hours per year, annualized over 6 years. Of this, 8 hours will be state burden.

Following establishment of a data flow, states will need to enter UIC data into their data bases; EPA estimated that states will spend 40 hours annually on this ongoing effort. States will also submit their data to the National UIC Database and respond to QA and data validation issues. EPA estimates that these tasks will require 4 hours, and be incurred twice annually (8 hours total).

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

Description of Requirement	Frequency	Hours and Costs per Response			Total Hours and Cost		
		Unit Burden	Unit Labor Cost	Unit Nonlabor Cost	Number of Responses	Total Hours/Year	Total Cost/Year
<b>Program Oversight</b>							
Oversee and implement UIC program in the State, for example, update regulations or guidances as needed.	Ongoing	1,040	\$43,081	\$0	58	60,320	\$2,498,696
<b>7520 Forms Reporting</b>							
Complete and submit Permit Review and Issuance Form (7520-1)	Annual	4.5	\$186	\$0	18	83	\$3,417
Complete and submit Compliance Evaluation Form (7520-2A)	Semi-annual	6.0	\$249	\$0	37	220	\$9,113
Complete and submit Compliance Evaluation for Significant Non-Compliance Form (7520-2B)	Semi-annual	5.5	\$228	\$0	37	202	\$8,354
Complete and submit Mechanical Integrity Tests/Remedial Action Form (7520-3)	Annual	5.0	\$207	\$0	18	92	\$3,797
Complete and submit Quarterly Exceptions List Form (7520-4)	Quarterly	2.0	\$83	\$0	73	147	\$6,076
<b>Inventory and Measures Reporting</b>							
Conduct inventory-related activities, e.g., review operator data and report to EPA's online inventory data system.	Annual	60	\$2,485	\$0	18	1,100	\$45,566
Report on UIC Measures to Headquarters	Annual	60	\$2,485	\$0	18	1,100	\$45,566
<b>Activities related to populating the National UIC Database</b>							
<b>Start-up activities (per program)</b>							
Develop data to meet UIC database needs (programs with UIC databases)	One-time	10	\$428	\$ 3,782	7	76	\$30,870
Build data flow through data node (programs with UIC databases)	One-time	25	\$1,036	\$ 2,082	7	183	\$22,866
Build data flow through data node (programs without databases)	One-time	8	\$345	\$ 4,219	5	42	\$22,822
<b>Ongoing activities (per program)</b>							
Enter UIC data into state database	Ongoing	40	\$1,657	\$0	40	1,587	\$65,726
Data flow and QA checks	Semi-annual	4	\$166	\$0	79	317	\$13,145
<b>Recordkeeping</b>							
Maintain records of 7520 forms	Ongoing	40	\$1,657	\$0	18	733	\$30,378
					<b>435</b>	<b>66,201</b>	<b>\$2,806,393</b>
Notes: There may be more than one agency per state with Primacy authority. EPA assumes that once states transition to electronic reporting, they will no longer complete 7520 forms or submit inventory and measures data to EPA. See Appendix B. 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, e.g., 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.

### **Class I**

EPA inventory data indicate that there are 845 Class I wells, of which 140 inject hazardous waste, and 705 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 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 705 Class I nonhazardous waste wells at 371 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 well 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 176,516 Class II wells. EPA assumes that the typical Class II facility has approximately 10 wells, thus there are approximately 17,652 Class II facilities.

EPA anticipates that, collectively, EPA regional offices and primacy states will receive approximately 8,983 permit applications for Class II wells 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.

Based on previous studies of state AoR practices and requirements, EPA projects that state primacy agencies and EPA Regions will determine that a complete AoR 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 898 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 269 Class II 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. EPA also estimates that 30 owners or operators of production wells in DI states will perform HF using diesel fuels and be subject to the permitting and monitoring and reporting recommendations in the DFHF Guidance.

Prior to obtaining approval to begin injection, operators must demonstrate mechanical integrity and submit completion reports for an estimated 8,585 new Class II wells each year.

EPA estimates that approximately 88,258 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 2,648 Class II operators will submit requests for permit modifications.

EPA projects that 17,682 Class II well owners or operators will perform annual MITs and sample ground water and report the results to the permitting authority each year.

EPA projects that, each year, approximately 1,044 operators will plug and abandon their wells. In addition, EPA assumes that approximately one operator in a DI program will elect to plug its wells in a manner different from the one specified in its plugging and abandonment plan, triggering a revision to the plugging and abandonment plan.

### **Class III**

EPA estimates that there are approximately 171 facilities with Class III wells (10 uranium mining, 47 salt solution mining, and 114 brine mining/other sites). A typical uranium facility has approximately 2,072 Class III wells, a typical salt mining facility has 19 wells, and a typical brine mining/other facility has 2 wells.

EPA regional offices and state primacy agencies expect to receive 32 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 171 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 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 measures data reported by the states in 2003, EPA anticipates that 990 Class IV wells and endangering Class V wells will close each year. EPA estimates 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 479,838 wells. This number is imprecise, and it is estimated that perhaps 3 to 5 times as many Class V wells actually exist. EPA anticipates that approximately 24,860 operators of Class V facilities will submit inventory information each year over the life of this ICR, based on trends in the UIC program inventory.

### *Facilities Subject to the Class V Rule*

The Class V rule required that all large-capacity cesspools be closed and that all motor vehicle waste disposal wells (MVWDWs) either close their well or obtain a permit by 2007 (the burden associated with these activities was estimated in previous UIC Program ICRs). EPA assumes that most facilities affected by the Class V Rule will have closed their wells or obtained a permit by this time; however, a limited number of large-capacity cesspools and MVWDWs are expected to be identified during the course of inspections or other activities. EPA understands that primacy agencies have focused their efforts on closing MVWDWs and not issuing permits. Thus, this ICR assumes that some permitting and closure activities associated with Class V Rule will occur during this clearance period.

EPA estimates, based on data from the states, that operators of 20 large-capacity cesspools need to close their facilities during the clearance period (an average of 7 per year). In addition, EPA estimates that operators of 285 MVWDWs (95/year) will close and 15 MVWDW operators (5/year) will apply for a permit during the clearance period. Furthermore, operators of 1,479 MVWDWs that have opted to obtain a permit will conduct quarterly injectate sampling and annual sludge sampling, as required under the Class V rule.

## **Class VI**

EPA estimates that, over the clearance period, 10 owners or operators will apply for a Class VI permit. Of these, 9 will be in DI states, and the other will be in a primacy state (and one will be accompanied by an application for an injection depth waiver). On an annualized average basis, this equates to primacy states processing 0.33 permit applications per year and DI states reviewing 3 permit applications per year.

Permit application reviews and the subsequent drilling procedures take up to a few years to complete. Thus, EPA assumes that by the end of the clearance period, 10 wells will be in operation, with most beginning operations in the second and third years of the clearance period. EPA does not anticipate that any Class VI well owners or operators will perform AoR reevaluations or post-injection site care /site closure activities during the clearance period. EPA estimates that 7 states will apply for Class VI primacy during the clearance period.

## **States as Respondents**

EPA assumes that 58 primacy agencies in 40 states and two tribes (Navajo and Fort Peck) will report UIC data to EPA, either electronically or on paper forms. 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).

Because of the effort involved in initiating data transfer to the National UIC database EPA assumes that states will accomplish this at varying paces, depending on many variables including available funding and staff. This results in a phased-in schedule for populating the National UIC Database. EPA estimates that, at the beginning of this information collection, 14 programs will have transitioned to electronic reporting. Fifteen (15) additional programs are expected to transition to e-reporting in 2015; 10 programs are expected to do so in 2016; and the remaining 12 programs are expected to transition in 2017.