

CSI - Ohio

The Common Sense Initiative

Business Impact Analysis

Agency Name: Ohio Environmental Protection Agency

Regulation/Package Title: Underground Injection Control 2014

Rule Number(s): 3745-34-01, 3745-34-02, 3745-34-04, 3745-34-05, 3745-34-06, 3745-34-07, 3745-34-08, 3745-34-10, 3745-34-12, 3745-34-13, 3745-34-14, 3745-34-15, 3745-34-19, 3745-34-22, 3745-34-23, 3745-34-24, 3745-34-29, 3745-34-30, 3745-34-32, 3745-34-33, 3745-34-34, 3745-34-35, 3745-34-37, 3745-34-39, 3745-34-40, 3745-34-50, 3745-34-51, 3745-34-52, 3745-34-53, 3745-34-54, 3745-34-55, and 3745-34-59.

Date: 4/14/2014

Rule Type:

New

5-Year Review

Amended

Rescinded

The Common Sense Initiative was established by Executive Order 2011-01K and placed within the Office of the Lieutenant Governor. Under the CSI Initiative, agencies should balance the critical objectives of all regulations with the costs of compliance by the regulated parties. Agencies should promote transparency, consistency, predictability, and flexibility in regulatory activities. Agencies should prioritize compliance over punishment, and to that end, should utilize plain language in the development of regulations.

Regulatory Intent

1. Please briefly describe the draft regulation in plain language.

Ohio EPA is proposing to amend, rescind, or propose several new rules in Chapter 3745-34 of the Ohio Administrative Code (OAC). The rules in this package regulate the underground injection of various waste streams. Changes include reorganizing various rules, eliminating redundant and outdated information, updating rule references, updating information (e.g., adding new definitions), and clarifying requirements.

77 SOUTH HIGH STREET | 30TH FLOOR | COLUMBUS, OHIO 43215-6117

CSIOhio@governor.ohio.gov

2. Please list the Ohio statute authorizing the Agency to adopt this regulation.

Division (B) of section 6111.043 of the Revised Code authorizes Ohio EPA to adopt these regulations.

3. Does the regulation implement a federal requirement? Is the proposed regulation being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal law or to participate in a federal program?

If yes, please briefly explain the source and substance of the federal requirement.

Yes, these regulations enable Ohio EPA to administer the Safe Drinking Water Act (SDWA), as well as retain primary enforcement authority from the Federal Government. These rules are used by Ohio EPA to prevent contamination of underground sources of drinking water. The federal counterpart to these rules can be found in Title 40 of the Code of Federal Regulations (C.F.R.), Parts 144 (Underground Injection Control Program) and 146 (Underground Injection Control Program: Criteria and Standards).

4. If the regulation includes provisions not specifically required by the federal government, please explain the rationale for exceeding the federal requirement.

OAC Rules 3745-34-13(E)(5), 3745-34-13(E)(6), 3745-34-14(K)(6), and 3745-34-15(R) are the only rules in this package that exceed the scope of the federal requirement. However, all of these provisions were previously established and are not impacted by this rule filing.

- a. OAC Rules 3745-34-13(E)(5) and 3745-34-13(E)(6) exceed the scope of their federal counterparts because Ohio EPA has chosen to be more specific and more clear about what to include in the map.
- b. OAC Rules 3745-34-14(B)(8) and 3745-34-14(C) exceed the scope of their federal counterparts. However, it is standard industry practice to include centralizers. OAC Rule 3745-34-14(C) adds clarity by specifying where the centralizers should be located and how many should be used. These rules are also necessary to ensure the quality of the cement layer and the mechanical integrity well.
- c. OAC Rule 3745-34-14(K)(6) relates to testing procedures for corrosiveness. The proposed OAC Rule 3745-34-15(H)(1) requires the submission of data related to the effects of corrosion. In order to submit the data in the permit to operate as required in OAC Rule 3745-34-15, the data has to be collected under the permit to drill issued per OAC Rule 3745-34-14. This allows Ohio EPA to know the data will be collected correctly.
- d. OAC Rule 3745-34-15(R) allows Ohio EPA to ensure all waste is disposed of according to applicable state laws and rules.

Ohio EPA's rules are also more stringent than 40 C.F.R. 146.65(d)(3) which allows the use of fluid seals instead of packer assemblies to ensure that waste does not migrate back up the well in the annulus space between the injection tubing and the outer casing. This type of construction has not been used or approved on a class I well in Ohio or nationally since the mid 1980's due to many failures. Therefore, Ohio EPA's rules are more stringent.

Ohio EPA's rules are also more stringent than 40 C.F.R. 146.62(d)(4) which allows the waiving of siting provisions. No such waiver has been needed or granted in the history of the UIC program.

5. What is the public purpose for this regulation (i.e., why does the Agency feel that there needs to be any regulation in this area at all)?

The Ohio-specific public policy goals (as stated in Ohio Revised Code section 6111.043) are to establish a program for regulation of the injection of sewage, industrial waste, hazardous waste, and other wastes into wells in order to control pollution of the waters of the state, to prevent contamination of underground sources of drinking water, and to satisfy all requirements of the SDWA. These rules are required for Ohio to maintain SDWA primacy. They aim to prevent the migration of contamination into underground sources of drinking water via underground injection and are, therefore, protective of human health.

6. How will the Agency measure the success of this regulation in terms of outputs and/or outcomes?

The Agency will base success of all of the rules in this package on compliance rates within the underground injection control program. Compliance is determined through plan review, inventory records, anonymous complaints, and inspections of facilities with underground injection control wells.

Development of the Regulation

7. Please list the stakeholders included by the Agency in the development or initial review of the draft regulation.

If applicable, please include the date and medium by which the stakeholders were initially contacted.

Stakeholders include underground injection control owners and operators, consultants, environmental organizations, other state agencies and the general public. The only measure someone has to take to be notified of DDAGW's potential rule activity is to request to be added to our electronic or hard-copy mailing list. Stakeholders can also sign themselves up for this notification directly from Ohio EPA's website.

Stakeholders were notified of DDAGW's plans to revise these rules on February 6, 2013 by electronic or regular mail in accordance with their preference.

In addition, DDAGW will be seeking comment from stakeholders during the division's interested party review period. The interested party review period occurs before the rules are filed with JCARR and is used to address any concerns or questions from staff and our stakeholders.

8. What input was provided by the stakeholders, and how did that input affect the draft regulation being proposed by the Agency?

Stakeholders did not provide any comments during early stakeholder outreach, held from February 6 – March 6, 2013. Any comments received during interested party review for these rules will be addressed accordingly.

9. What scientific data was used to develop the rule or the measurable outcomes of the rule? How does this data support the regulation being proposed?

Statutory authority for these rules is established in Chapter 6111 of the Revised Code. Ohio EPA promulgated these rules under OAC Chapter 3745-34. The federal counterparts are the foundation for these rules and include the latest revisions to the Federal Underground Injection Control Program Rules which are found in Title 40 of the C.F.R. Parts 144 and 146.

10. What alternative regulations (or specific provisions within the regulation) did the Agency consider, and why did it determine that these alternatives were not appropriate? If none, why didn't the Agency consider regulatory alternatives?

In order to retain primary enforcement authority, Ohio EPA is required to adopt the federal counterparts of rules. Therefore, Ohio EPA could not consider alternatives to rules in OAC Chapter 3745-34.

11. Did the Agency specifically consider a performance-based regulation? Please explain. *Performance-based regulations define the required outcome, but don't dictate the process the regulated stakeholders must use to achieve compliance.*

The rules in this package are performance-based and will demonstrate the overall effectiveness of properly constructed and maintained underground injection control wells at preventing the migration of contaminants into underground sources of drinking water.

12. What measures did the Agency take to ensure that this regulation does not duplicate an existing Ohio regulation?

Ohio EPA has reviewed internal regulations and determined there are no duplications. As part of the review process, Ohio EPA deleted various duplications that were previously in place.

13. Please describe the Agency’s plan for implementation of the regulation, including any measures to ensure that the regulation is applied consistently and predictably for the regulated community.

Ohio EPA implementation of this rule package includes the following:

- Notifying the facilities and additional stakeholder groups of the rule requirements.
- Providing guidance to the regulated community.
- Giving presentations on rule updates upon request.

Adverse Impact to Business

14. Provide a summary of the estimated cost of compliance with the rule. Specifically, please do the following:

a. Identify the scope of the impacted business community;

The cost of compliance of all rules in this rules package would fall upon facilities with underground injection wells.

b. Identify the nature of the adverse impact (e.g., license fees, fines, employer time for compliance); and

Compliance with these rules requires the submission of application fees for permits to drill, permits to operate, and modifications to permits to operate. Other monetary costs could include sampling, testing, and well maintenance. The rules necessitate time for compliance to satisfy record keeping requirements, maintaining the injection wells, calculating the area of review, and completing permit applications. Some facilities may also need to invest resources into conducting a mechanical integrity test and a seismic reflection data survey. Facilities with a class IV well may need to a submit closure plan or submit semi-annual reports. If corrective actions are necessary, the adverse impact would also include the time and money to complete the corrective actions and associated compliance schedule. Facilities wishing to install a class I well will need to ensure that the well includes the correct type of cement, the correct number of centralizers, and extends to the necessary depth.

c. Quantify the expected adverse impact from the regulation.

The adverse impact can be quantified in terms of dollars, hours to comply, or other factors; and may be estimated for the entire regulated population or for a “representative business.” Please include the source for your information/estimated impact.

There is no adverse impact associated with OAC Rules 3745-34-01, 3745-34-02, 3745-34-04, 3745-34-05, 3745-34-10, 3745-34-19, 3745-34-22, 3745-34-23, 3745-34-24, 3745-34-33, 3745-34-35, 3745-34-39, and 3745-34-50.

Language included in the rules in Table 1 has been relocated to other rules. The cost of compliance with these rules, if any, is discussed in the adverse impact of the new rule.

Table 1. Rule Language Proposed to be Moved to Different Rule	
Old Location	New Location
3745-34-02	3745-34-12
3745-34-29	3745-34-12
3745-34-37	3745-34-14
3745-34-51	3745-34-13 and 3745-34-15
3745-34-52	3745-34-32
3745-34-53	3745-34-13 and 3745-34-30
3745-34-54	3745-34-14
3745-34-55	3745-34-14 and 3745-34-15
3745-34-59	3745-34-13, 3745-34-14, and 3745-34-15

Requirements included in the old location in Table 2 are redundant with the rules listed in the new/existing location. The cost of compliance with these rules, if any, is described in the new/existing location if that rule is being filed with this package.

Table 2. Rule Language is Redundant with Other Rules	
Old Location	New/Existing Location
3745-34-05	3745-34-01
3745-34-06	3745-34-11(A)† and 3745-34-12(A)
3745-34-33	3745-34-13(D)(6), 3745-34-33(G), and 3745-34-13(D)(4)(h)
3745-34-39	3745-34-12, 3745-34-13, 3745-34-14, and 3745-34-15
3745-34-50	3745-34-51 and 3745-34-62†

†Not being filed with this rule package.

The cost of compliance with the following rules was estimated based on costs calculated from the U.S. EPA document “Geologic Carbon Dioxide Sequestration Technology and Cost Analysis,” November 2010. Costs were also estimated using Ohio EPA staff expertise.

*Note: Hourly pays included below that are marked with an asterisk were based on the average hourly pay for that position in the “Occupational Outlook Handbook” 2012-2013 edition released by the Bureau of Labor and Statistics in the U.S. Department of Labor. The remaining hourly pays (e.g., geologist, engineer) were

based on pays included in the U.S. EPA document “Geologic Carbon Dioxide Sequestration Technology and Cost Analysis,” November 2010.

OAC Rule 3745-34-07 and 3745-34-30:

A facility under corrective actions will need to prepare a compliance schedule and complete the corrective actions. The cost for completing the corrective actions will vary widely depending on the abatement option selected. For example, these actions may involve submitting permit applications. See OAC Rule 3745-34-12 for a description of the costs associated with permit applications.

OAC Rule 3745-34-08:

I. Personnel Costs

a. Closure Plan

Requirements for the closure plan can be found in paragraph (B)(1) of the proposed rule. Time estimated to complete the closure plan by an Engineer is 32 hours at an average rate of \$110.62 per hour. The costs incurred for the plan are estimated to be \$3,539.84.

b. Class IV Well Closure

Requirements regarding class IV well closure can be found in paragraph (B) of the proposed rule. Time estimated to properly abandon, dispose of, and manage material from a class IV well by a Construction Operator is 40 hours at an average rate of \$18.97* per hour. The costs incurred for the plan are estimated to be \$758.80.

c. Closure Report

Requirements regarding the closure report can be found in paragraph (B)(2) of the proposed rule. Time estimated to complete the report by an Engineer is 40 hours at an average rate of \$110.62 per hour. The costs incurred for the plan are estimated to be \$4,424.80.

d. Semi-Annual Report

Requirements regarding the semi-annual reports can be found in paragraph (C) of the proposed rule. Time estimated to complete the report by an Engineer is 40 hours at an average rate of \$110.62 per hour. The costs incurred for the plan are estimated to be \$4,424.80 per report or \$8,849.60 per year.

II. New Equipment or Other Capital Costs

All costs are estimates based on Agency staff experience. All costs treat the contaminated soil as hazardous waste. True costs will vary depending on the site specific circumstances.

a. Backhoe and operator costs

Backhoe rental: \$100.00/hour
Operator cost: \$50.00/hour
Mobilization cost: \$200.00
Number of estimated hours: 10 hours

Total cost for backhoe and operator: \$1,700.00

b. Decontamination costs

Decontamination pad: \$100.00
Steam cleaner: \$120.00
Containerizing and disposing of one drum of waste: \$100.00

Total cost of decontamination: \$320.00

c. Hauling and disposal of contaminated soil and material costs

Containerizing, transport and disposal of waste: \$100.00/drum
Number of drums: 10
Cost of analysis of drum contents: \$1,000.00 per site

Total cost of disposal: \$2,000.00 + \$1,000 per additional site

d. Clean fill to replace contaminated soil

Cost of clean fill: \$14.00/yard
Total yards of fill needed: 10

Total cost of fill: \$140.00

III. Operating/Indirect Central Service Costs

Operating/Indirect costs are calculated using the average cost at Ohio EPA (22.1% of direct costs). This cost should be similar to the average cost for private and governmental entities regulated by this rule. The total direct costs are calculated using the total of any personnel costs, new equipment or other capital costs, and any other costs (e.g., supplies/ mailing).

Total direct costs for the first year: \$21,748.04
Percent indirect costs of total direct costs: 22.1%
Total operating/indirect costs incurred complying with this rule during the first year: \$4,806.32

IV. Other Costs – Supplies/Mailing Costs

The closure plan, closure report, and semi-annual report will all need to be mailed to Ohio EPA. The costs associated with mailing include paper, envelopes, and

shipping. These costs are estimated to be approximately \$15.00 plus approximately \$2.00 for mailing of each of the semi-annual reports (i.e., \$4 per year) each subsequent year.

V. Total Costs for Complying with OAC Rule 3745-34-08:

a. Personnel Costs	
i. Closure Plan	\$3,539.84
ii. Class IV Well Closure	\$758.80
iii. Closure Report	\$4,424.80
iv. Semi-Annual Report Cost Per Year	\$8,849.60
b. New Equipment or Other Capital Costs	
i. Backhoe and Operator	\$1,700.00
ii. Decontamination	\$320.00
iii. Hauling and Disposal of Contaminated Soil and Material	\$2,000.00 + \$1,000.00 per additional site
iv. Clean Fill to Replace Contaminated Soil	\$140.00
c. Operating/Indirect Central Service Costs	\$4,806.32
d. Other Costs	
i. Supplies/Mailing	\$15.00 + \$4.00 for each subsequent year
TOTAL:	\$26,554.36 + \$4.00 for each subsequent year + \$1,000.00 per additional site

OAC Rule 3745-34-10:

This rule has been in effect since December 15, 1982. Over the course of this rule’s history it has never been used by Ohio EPA because the criteria discussed in the rule for authorizing less stringent requirements have never been satisfied. Therefore, the proposed rescission of this rule will have no impact on the cost to comply.

OAC Rule 3745-34-12:

I. Personnel Costs

a. General Information Report

This requirement is stated in paragraphs (F)(1) through (F)(6), (F)(8) through (F)(10), and (F)(14) of the proposed rule. Time estimated to complete this report by an Engineer is 8 hours at an average rate of \$110.62 per hour. The cost estimated to complete this report is \$884.96.

b. Survey of Well Location

This requirement is stated in paragraph (F)(7) of the proposed rule. The time estimated to complete this survey by a Registered Surveyor is 4 hours at an average rate of \$26.39* per hour. The cost estimated to complete the survey is \$105.56.

c. Drilling Waste Disposal Plan

This requirement is stated in paragraph (F)(11) of the proposed rule. Time estimated to complete the plan by an Engineer is 1 hour at an average rate of \$110.62 per hour. The cost estimated to complete this plan is \$110.62.

d. Chemical Composition of Injectate

This requirement is stated in paragraph (F)(12) of the proposed rule. Time estimated to complete the laboratory analyses by a Laboratory Technician is 4 hours at an average rate of \$22.18* per hour (for Chemical Technicians). The cost estimated to complete the analysis is \$88.72.

e. Topographic Map

This requirement is stated in paragraph (F)(13) of the proposed rule. The time estimated to complete this map by a Registered Surveyor is 8 hours at an average rate of \$26.39* per hour. The cost estimated to complete the map is \$211.12.

f. Plugging and Abandonment Plan

This requirement is stated in paragraph (F)(15) of the proposed rule. Time estimated for completing this plan by an Engineer is 4 hours at an average rate is \$110.62 per hour. The cost for completing this requirement is estimated to be \$442.48.

g. Permit Fees

This requirement is stated in paragraph (I) of the proposed rule. The cost per permit application submitted is \$3,000.

h. Testing, Drilling, and Construction Plan

This requirement is stated in paragraph (F)(16) of the proposed rule. Time estimated for completing this plan by an Engineer is 4 hours at an average rate is \$110.62 per hour. The cost for completing this requirement is estimated to be \$442.48.

i. Reporting and Record Keeping Specifications

This requirement is stated in paragraph (G) of the proposed rule. Time estimated for completing these specifications by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

II. New Equipment or Other Capital Costs

None applicable.

III. Operating/Indirect Central Service Costs

Operating/Indirect costs are calculated using the average cost at Ohio EPA (22.1% of direct costs). This cost should be similar to the average cost for private and governmental entities regulated by this rule. The total direct costs are calculated using the total of any personnel costs, new equipment or other capital costs, and any other costs (e.g., supplies/mailing).

Total direct costs: \$5,507.18

Percent indirect costs of total direct costs: 22.1%

Total operating/indirect costs incurred complying with this rule: \$1,217.09

IV. Other Costs

None applicable.

V. Total Costs for Complying with OAC Rule 3745-34-12:

a. Personnel Costs	
i. General Information Report:	\$884.96
ii. Survey of Well Location:	\$105.56
iii. Drilling Waste Disposal Plan:	\$110.62
iv. Chemical Composition of Injectate:	\$88.72
v. Topographic Map:	\$211.12
vi. Plugging and Abandonment Plan:	\$442.48
vii. Permit Fee Per Application	\$3,000.00
viii. Testing, Drilling, and Construction Plan:	\$442.48
ix. Reporting and Record Keeping Specifications:	\$221.24
b. Operating/Indirect Central Service Costs	\$1,217.09
TOTAL:	\$6,724.27

OAC Rule 3745-34-13:

I. Personnel Costs

a. Statement of Expertise

This requirement is covered under paragraph (A) of the proposed rule. Time estimated to complete this statement, by a water or wastewater treatment plant operator is 1 hour at an average rate of \$19.60* per hour. The cost of the statement of expertise is estimated to be \$19.60.

b. Report on Current Injection Activities

This requirement is covered in paragraphs (B) and (C) of the proposed rule. Time estimated to complete this report, by the Applicant is 1 hour at an average rate of \$19.60* per hour. The cost of completing the report is estimated to be \$19.60.

c. Area of Review of the Proposed Injection Well

This requirement is covered under paragraph (D)(1) of the proposed rule. Time estimated to complete the area of review calculation, by an Engineer is 4 hours at an average rate of \$110.62 per hour. The cost of the plan is estimated to be \$442.48.

d. Description of Wells Penetrating Injection Zone

This requirement can be found in paragraphs (D)(2), (D)(4) and (D)(5) of the proposed rule. Time estimated to complete the report, by an Engineer is 32 hours at an average rate of \$110.62 per hour. The costs incurred for the report are estimated to be \$3,539.84.

e. Corrective Action Plan

This requirement is for all injection wells improperly sealed, completed or abandoned, and is covered under paragraphs (D)(6) and (D)(7) of the proposed rule. Time estimated to complete the plan, by an Engineer is 4 hours at an average rate of \$110.62 per hour. The costs incurred for the report are estimated to be \$442.48.

f. Geologic Suitability of Area

This evaluation will identify the area's suitability for a proposed injection well location and the requirement can be found in paragraphs (D)(3), (E), and (F) of the proposed rule. Time estimated for completing this evaluation by an Engineer is 24 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$2,654.88.

h. Financial Assurance

This requirement will establish evidence of financial responsibility for operation and closure of the injection well. The requirement is covered in paragraph (G) of the proposed rule. Time estimated for compiling this information by an Accountant is 8 hours at an average rate of \$29.66* per hour. The cost for this information is estimated to be \$237.28.

II. New Equipment or Other Capital Costs

None applicable.

III. Operating/Indirect Central Service Costs

Operating/Indirect costs are calculated using the average cost at Ohio EPA (22.1% of direct costs). This cost should be similar to the average cost for private and governmental entities regulated by this rule. The total direct costs are calculated using the total of any personnel costs, new equipment or other capital costs, and any other costs (e.g., supplies/ mailing).

Total direct costs: \$7,456.16

Percent indirect costs of total direct costs: 22.1%

Total operating/indirect costs incurred complying with this rule: \$1,647.81

IV. Other Costs – Supplies/Mailing Costs

Several binders are needed to compile this information. The cost to purchase and mail these binders is estimated to be \$100.

V. Total Costs for Complying with OAC Rule 3745-34-13:

a. Personnel Costs	
i. Statement of Expertise:	\$19.60
ii. Report on Current Injection Activities:	\$19.60
iii. Area of Review of the Proposed Injection Well:	\$442.48
iv. Description of Wells Penetrating Injection Zone:	\$3,539.84
v. Corrective Action Plan:	\$442.48
vi. Geologic Suitability of Area:	\$2,654.88
vii. Financial Assurance:	\$237.28
b. Operating/Indirect Central Service Costs	\$1,647.81
c. Other Costs	
i. Supplies/Mailing	\$100.00
	TOTAL: \$9,103.97

OAC Rule 3745-34-14:

I. Personnel Costs

a. Design Specifications

Requirements regarding design specifications for class I wells are covered in paragraphs (A), (B), (C), (D), and (G) of the proposed rule. Time estimated for compiling and designing these specifications by an Engineer is 24 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$2,654.88.

b. Written Analysis of Corrosion Capability

Requirements regarding a corrosion control analysis are included in paragraph (E) of the proposed rule. Time estimated for completing this analysis by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

c. Well Schematics

Requirements for the well schematic are included in paragraph (F) of the proposed rule. Time estimated for completing this analysis by a Drafter is 2 hours at an average rate of \$23.02* per hour. The cost for completing this requirement is estimated to be \$46.04.

d. Proposed Stimulation Program Plan

Requirements for a proposed stimulation program plan are included in paragraph (H) of the proposed rule. Time estimated for completing this plan by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

e. Plan for Core Sample Collection and Analysis

Requirements for core sample collection and analysis are in paragraphs (I) and (J) of the proposed rule. Time estimated for completing this plan by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

f. Proposed Formation Testing

Requirements regarding the proposed formation testing program are in paragraph (K) of the proposed rule. Time estimated for completing this program by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

g. Plans for Collecting Logs and Conducting Testing and Surveys

Requirements for plans to conduct tests, logs, and surveys during drilling and construction are included in paragraph (L) of the proposed rule. Time estimated for completing this plan by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

h. Plans for Injectivity Testing

Requirements for plans to conduct injectivity testing are included in paragraph (M) of the proposed rule. Time estimated for completing this plan by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

i. Procedures, Forms, and Methods for Collecting Miscellaneous Information

Requirements for procedures, forms, and methods for collecting miscellaneous information relative to drilling, completion, and testing are included in paragraph (N) of the proposed rule. Time estimated for compiling this information by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

j. Proposed Schedule for Logging and Testing

The requirement to submit a proposed schedule for all logging and testing is included in paragraph (O) of the proposed rule. Time estimated for completing this schedule by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

II. New Equipment or Other Capital Costs

- a. Use of American Petroleum Institute Class A or equivalent cement specified in OAC Rule 3745-34-14(B)(8) is estimated to cost \$1,000.00 more than lesser cements.
- b. The centralizers discussed in OAC Rule 3745-34-14(C) cost approximately \$30 each. For an average well, the total cost for the centralizers would be approximately \$2,040.00.
 - i. A well 3500 feet deep will need 55 centralizers for the long string casing, which would cost approximately \$1,650.00.
 - ii. Assuming that the surface casing is 500 feet deep, the well would need 13 centralizers (one every other joint, which is one every 40 feet). This would cost approximately \$390.00.

III. Operating/Indirect Central Service Costs

Operating/Indirect costs are calculated using the average cost at Ohio EPA (22.1% of direct costs). This cost should be similar to the average cost for private and governmental entities regulated by this rule. The total direct costs are calculated using the total of any personnel costs, new equipment or other capital costs, and any other costs (e.g., supplies/ mailing).

Total direct costs: \$4,570.84

Percent indirect costs of total direct costs: 22.1%

Total operating/indirect costs incurred complying with this rule: \$1,010.16

IV. Other Costs – Supplies/Mailing Costs

Several binders are needed to compile this information. The cost to purchase and mail these binders is estimated to be \$100.00.

V. Total Costs for Complying with OAC Rule 3745-34-14:

a. Personnel Costs		
i. Design Specifications:		\$2,654.88
ii. Written Analysis of Corrosion Capability		\$221.24
iii. Well Schematics		\$46.04
iv. Proposed Stimulation Program Plan		\$221.24
v. Plan for Core Sample Collection and Analysis		\$221.24
vi. Proposed Formation Testing		\$221.24
vii. Plans for Collecting Logs and Conducting Testing and Surveys		\$221.24
viii. Plans for Injectivity Testing		\$221.24
ix. Procedures, Forms, and Methods for Collecting Miscellaneous Information		\$221.24
x. Proposed Schedule for Logging and Testing		\$221.24
b. New Equipment or Other Capital Costs		
i. Excess Cost of Class A Cement		\$1,000.00
ii. Centralizers in Typical Well		\$2,040.00
c. Operating/Indirect Central Service Costs		\$1,010.16
d. Other Costs		
ii. Supplies/Mailing		\$100.00
	TOTAL:	\$8,621.00

OAC Rule 3745-34-15:

I. Personnel Costs

a. Drilling and Completion Reports

Requirements for what to include in a class I permit to operate regarding drilling and completion reports are in paragraph (A) of the proposed rule. Time estimated for compiling this information by an Engineer is 8 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$884.96.

b. Formation Testing Program Data

Requirements for what to include in a class I permit to operate regarding the formation testing program are in paragraph (B) of the proposed rule. Time estimated for compiling this data by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

c. Report of Injectivity Testing Results

Requirements for what to include in a class I permit to operate regarding injectivity testing results are included in paragraph (C) of the proposed rule. Time estimated for completing this report by an Engineer is 3 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$331.86.

d. Formation Pressure Information and Contamination Potential

Requirements for what to include in a class I permit to operate regarding formation pressure and the potential for contamination are included in paragraph (D) of the proposed rule. Time estimated for compiling this information by an Engineer is 8 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$884.96.

e. Report of Logs and Tests

Requirements for what to include in a class I permit to operate regarding logs and tests are included in paragraph (E) of the proposed rule. Time estimated for completing this report by an Engineer is 8 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$884.96.

f. Siting Report

Requirements for what to include in a class I permit to operate regarding the well siting are included in paragraph (F) of the proposed rule. Time estimated for completing this report by a Geologist is 8 hours at an average rate of \$107.23 per hour. The cost for completing this requirement is estimated to be \$857.84.

g. USDW Report

Requirements for what to include in a class I permit to operate regarding underground sources of drinking water (USDW) are included in paragraph (G) of the proposed rule. Time estimated for completing this report by a Geologist is 4 hours at an average rate of \$107.23 per hour. The cost for completing this requirement is estimated to be \$428.92.

h. Description of Injected Fluids

Requirements for what to include in a class I permit to operate regarding injected fluids are included in paragraph (H) of the proposed rule. Time estimated for compiling this information by a Geologist is 4 hours at an average rate of \$107.23 per hour. The cost for completing this requirement is estimated to be \$428.92.

i. Plan for Passive Seismic Monitoring Program

Requirements for what to include in a class I permit to operate regarding a passive seismic monitoring program are included in paragraph (I) of the proposed rule. Time estimated for completing this plan by a Geologist is 4 hours at an average rate of \$107.23 per hour. The cost for completing this requirement is estimated to be \$428.92.

j. Proposed Injection Procedure

Requirements for what to include in a class I permit to operate regarding the proposed injection procedure are included in paragraph (J) of the proposed rule. Time estimated for completing this procedure by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

k. Contingency Plans

Requirements for what to include in a class I permit to operate regarding contingency plans are included in paragraph (K) of the proposed rule. Time estimated for completing this plan by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

l. Plan for Annual Review and Testing of Well

Requirements for what to include in a class I permit to operate regarding plans for annual review and testing of the well are included in paragraph (L) of the proposed rule. Time estimated for completing this plan by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

m. Plan for Monitoring Lowermost USDW

Requirements for what to include in a class I permit to operate regarding plans for monitoring the lowermost USDW are included in paragraph (M) of the proposed rule. Time estimated for completing this plan by a Geologist is 2 hours at an average rate of \$107.23 per hour. The cost for completing this requirement is estimated to be \$214.46.

n. Plan for Well Plugging and Abandonment

Requirements for what to include in a class I permit to operate regarding plans for plugging and abandonment of the well are included in paragraph (N) of the proposed rule. Time estimated for completing this plan by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

o. Plans and Maps for Meeting Testing Requirements

Requirements for what to include in a class I permit to operate regarding plans for meeting testing requirements are included in paragraph (O) of the proposed rule. Time estimated for completing these documents by an Engineer is 4 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$442.48.

p. Certification of Hazardous Waste Injection

Requirements for what to include in a class I permit to operate regarding hazardous waste injection certification are included in paragraph (P) of the proposed rule. Time estimated for completing this documentation by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

q. Procedures and Forms for Collecting and Submitting Required Information

Requirements for what to include in a class I permit to operate regarding the collection and submission of required forms and procedures are included in paragraph (Q) of the proposed rule. Time estimated for completing this requirement by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

r. Plan for Disposing of Waste

Requirements for what to include in a class I permit to operate regarding the disposal of any sludge, solid waste, or semi-solids or liquids generated in the treatment of any wastes received are included in paragraph (R) of the proposed rule. Time estimated for completing this requirement by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

II. New Equipment or Other Capital Costs

None applicable.

III. Operating/Indirect Central Service Costs

Operating/Indirect costs are calculated using the average cost at Ohio EPA (22.1% of direct costs). This cost should be similar to the average cost for private and governmental entities regulated by this rule. The total direct costs are calculated using the total of any personnel costs, new equipment or other capital costs, and any other costs (e.g., supplies/ mailing).

Total direct costs: \$7,658.20

Percent indirect costs of total direct costs: 22.1%

Total operating/indirect costs incurred complying with this rule: \$1,692.46

IV. Other Costs – Supplies/Mailing Costs

Several binders are needed to compile this information. The cost to purchase and mail these binders is estimated to be \$100.00.

V. Total Costs for Complying with OAC Rule 3745-34-15:

a. Personnel Costs	
i. Drilling and Completion Reports	\$884.96
ii. Formation Testing Program Data	\$221.24
iii. Report of Injectivity Testing Results	\$331.86
iv. Formation Pressure Information and Contamination Potential	\$884.96
v. Reports of Logs and Tests	\$884.96
vi. Siting Report	\$857.84
vii. USDW Report	\$428.92
viii. Description of Injected Fluids	\$428.92
ix. Plan for Passive Seismic Monitoring Program	\$428.92
x. Proposed Injection Procedure	\$221.24
xi. Contingency Plans	\$221.24
xii. Plan for Annual Review and Testing of Well	\$221.24
xiii. Plan for Monitoring Lowermost USDW	\$214.46
xiv. Plan for Well Plugging and Abandonment	\$221.24
xv. Plans and Maps for Meeting Testing Requirements	\$442.48
xvi. Certification of Hazardous Waste Injection	\$221.24
xvii. Procedures and Forms for Collecting and Submitting Required Information	\$221.24
xviii. Plan for Disposing of Waste	\$221.24
b. Operating/Indirect Central Service Costs	\$1,692.46
c. Other Costs	
i. Supplies/Mailing	\$100.00
TOTAL:	\$9,350.66

OAC Rule 3745-34-32:

I. Personnel Costs

Time estimated to calculate the area of review by an Engineer is 4 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$442.48.

II. New Equipment or Other Capital Costs

None applicable.

III. Operating/Indirect Central Service Costs

Operating/Indirect costs are calculated using the average cost at Ohio EPA (22.1% of direct costs). This cost should be similar to the average cost for private and governmental entities regulated by this rule. The total direct costs are calculated using the total of any personnel costs, new equipment or other capital costs, and any other costs (e.g., supplies/mailling).

Total direct costs: \$442.48

Percent indirect costs of total direct costs: 22.1%

Total operating/indirect costs incurred complying with this rule: \$97.79

IV. Other Costs

None applicable.

V. Total Costs for Complying with OAC Rule 3745-34-32:

a. Personnel Costs	\$442.48
b. Operating/Indirect Central Service Costs	\$97.79
TOTAL:	\$540.27

OAC Rule 3745-34-34:

The estimated cost of compliance with this rule is comprised of testing and reporting requirements associated with demonstrating mechanical integrity. This requirement generally applies to class I wells, which almost exclusively are larger private enterprises. It is important to note that Ohio school districts, counties, townships, and municipal corporations have historically only applied for class V permits, not class I permits. The cost to comply will not be affected by this rule filing.

I. Personnel Costs

a. Evaluating the Absence of Leaks

Requirements for evaluating the presence of leaks are included in paragraph (B) of the proposed rule. Time estimated for conducting this evaluation by an Engineer is 2 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$221.24.

b. Collecting a Temperature or Noise Log

Time estimated for collecting a temperature or noise log, as required in paragraph (C) of the proposed rule, by an Engineer is 8 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$884.96.

c. Additional Testing, If Necessary

If the results from the above testing do not satisfactorily demonstrate that the injectate is not moving into any USDW and vice-versa, the Director may require additional as described in paragraph (G) of the proposed rule. Time estimated for completing this testing by an Engineer is 4 hours at an average rate of \$110.62 per hour. The cost for completing this requirement is estimated to be \$442.48.

II. New Equipment or Other Capital Costs

None applicable.

III. Operating/Indirect Central Service Costs

Operating/Indirect costs are calculated using the average cost at Ohio EPA (22.1% of direct costs). This cost should be similar to the average cost for private and governmental entities regulated by this rule. The total direct costs are calculated using the total of any personnel costs, new equipment or other capital costs, and any other costs (e.g., supplies/ mailing).

Total direct costs: \$1,106.20 to \$1,548.68

Percent indirect costs of total direct costs: 22.1%

Total operating/indirect costs incurred complying with this rule: \$244.47 to \$342.26

IV. Other Costs

The cost for mailing this report is included in OAC Rule 3745-34-13.

V. Total Costs for Complying with OAC Rule 3745-34-34:

a. Personnel Costs	
i. Evaluating the Absence of Leaks	\$221.24
ii. Collecting a Temperature or Noise Log	\$884.96
iii. <i>Additional Testing, If Necessary</i>	\$442.48
b. Operating/Indirect Central Service Costs	\$244.47 to \$342.26
TOTAL:	\$1,350.67 to \$1,890.94

OAC Rule 3745-34-40:

The cost of compliance with this rule may vary significantly based on the effort needed to image and properly identify all known or unknown geologic features that may affect the well site. Estimates on the personnel costs are included below.

I. Personnel Costs

a. Conducting a Seismic Reflection Data Survey

Requirements for conducting the seismic reflection data survey are included in paragraph (A) of the proposed rule. Time estimated for conducting this survey by a Geologist is 80 hours at an average rate of \$107.23 per hour. The cost for completing this requirement is estimated to be \$8,578.40.

b. Completing a Work Plan

Requirements for completing a work plan are included paragraph (D) of the proposed rule. Time estimated for completing this plan by a Geologist is 8 hours at an average rate of \$107.23 per hour. The cost for completing this requirement is estimated to be \$857.84.

c. Re-Evaluating Seismic Data, If Necessary

Requirements for re-evaluating seismic data are included paragraph (C) of the proposed rule. This evaluation only needs to be conducted if there is a change in the area of review or there is a proposal for a new well. Time estimated for completing this evaluation by a Geologist is 4 hours at an average rate of \$107.23 per hour. The cost for completing this requirement is estimated to be \$428.92.

d. Submitting Additional Seismic Data, If Necessary

Requirements for submitting additional seismic data are included paragraph (C) of the proposed rule. This data only needs to be collected if the existing seismic data is inadequate. Time estimated for collecting and submitting this additional seismic data by a Geologist is 88 hours at an average rate of \$107.23 per hour. The cost for completing this requirement is estimated to be \$9,436.24.

e. Completing Seismic Reflection Data Survey Report

Requirements for the seismic reflection data survey report are included paragraph (E) of the proposed rule. Time estimated for completing this report by a Geologist is 4 hours at an average rate of \$107.23 per hour. The cost for completing this requirement is estimated to be \$428.92.

II. New Equipment or Other Capital Costs

None applicable.

III. Operating/Indirect Central Service Costs

Operating/Indirect costs are calculated using the average cost at Ohio EPA (22.1% of direct costs). This cost should be similar to the average cost for private and governmental entities regulated by this rule. The total direct costs are

calculated using the total of any personnel costs, new equipment or other capital costs, and any other costs (e.g., supplies/mailing).

Total direct costs: \$9,865.16 to \$19,730.32
Percent indirect costs of total direct costs: 22.1%
Total operating/indirect costs incurred complying with this rule: \$2,180.20 to \$4,360.40

IV. Other Costs

The cost for mailing the seismic reflection data survey report is included in OAC Rule 3745-34-13.

V. Total Costs for Complying with OAC Rule 3745-34-40:

a. Personnel Costs	
i. Conducting a Seismic Reflection Data Survey	\$8,578.40
ii. Completing a Work Plan	\$857.84
iii. <i>Re-evaluating Seismic Data, If Necessary</i>	\$428.92
iv. <i>Submitting Additional Seismic Data, If Necessary</i>	\$9,436.24
v. Completing Seismic Reflection Data Survey Report	\$428.92
b. Operating/Indirect Central Service Costs	\$2,180.20 to \$4,360.40
TOTAL:	\$12,045.36 to \$24,090.72

15. Why did the Agency determine that the regulatory intent justifies the adverse impact to the regulated business community?

The Agency considers the overall cost for complying with these regulations to be minor in comparison with ensuring that underground sources of drinking water are protected for public consumption.

Regulatory Flexibility

16. Does the regulation provide any exemptions or alternative means of compliance for small businesses? Please explain.

No exemptions or alternative means of compliance for small businesses have been written into this rules package.

17. How will the agency apply Ohio Revised Code section 119.14 (waiver of fines and penalties for paperwork violations and first-time offenders) into implementation of the regulation?

Ohio EPA does not assign fines and penalties for first-time offenders, and prefers to obtain compliance through outreach first and if needed, written notice of violations prior to any type of formal enforcement.

18. What resources are available to assist small businesses with compliance of the regulation?

The following resources are available:

- Ohio EPA's Office of Compliance Assistance and Pollution Prevention (OCAPP) is a non-regulatory program that provides information and resources to help small businesses comply with environmental regulations. OCAPP also helps customers identify and implement pollution prevention measures that can save money, increase business performance and benefit the environment. Services of the office include a toll-free hotline, on-site compliance and pollution prevention assessments, workshops/training, plain-English publications library and assistance in completing permit application forms. Additional information is available at <http://www.epa.ohio.gov/ocapp>.
- Ohio EPA also has a permit assistance web page (http://www.epa.ohio.gov/dir/permit_assistance.aspx) that contains links to several items to help businesses navigate the permit process, including the Permit Wizard, Answer Place, Ohio EPA's Guide to Environmental Permitting and eBusiness Center.
- Ohio EPA maintains the Compliance Assistance Hotline 800-329-7518, weekdays from 8:00 a.m. to 5:00 p.m.
- US. EPA Small Business Gateway also has information on environmental regulations for small businesses available at <http://www.epa.gov/smallbusiness/> and a Small Business Ombudsman Hotline 800-368-5883.
- Facilities can turn to members of Ohio EPA's Division of Drinking and Ground Waters' Underground Injection Control (UIC) Unit for technical assistance. UIC contacts include Chuck Lowe, Valerie Orr, Jess Stottsberry, and Lindsay Taliaferro. They can be reached by calling 614-644-2752. The UIC Unit also maintains a website which includes answers to many commonly asked questions (<http://epa.ohio.gov/ddagw/uic.aspx>).