

Environmental Protection Agency

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Part IV

**Environmental
Protection Agency**

40 CFR Parts 9, 144, 145, and 146
Underground Injection Control
Regulations for Class V Injection Wells,
Revision; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 9, 144, 145 and 146

[FRL-6482-2]

RIN 2040-AB83

Revisions to the Underground Injection Control Regulations for Class V Injection Wells

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Today the Environmental Protection Agency (EPA) is promulgating revisions to the Class V Underground Injection Control (UIC) regulations. This rule adds new requirements for two categories of endangering Class V wells to ensure protection of underground sources of drinking water. In particular, it: bans existing motor vehicle waste disposal wells in ground water protection areas

and other sensitive ground water areas with a provision that allows well owners and operators to seek a waiver from the ban and obtain a permit; and bans new motor vehicle waste disposal wells and new and existing large-capacity cesspools nationwide. The preamble also discusses EPA's decision to postpone finalization of new requirements for the industrial well category as defined in the proposed rule. EPA believes it would be worthwhile to further study this well category and will finalize the rule for industrial wells at a later date.

DATES: This rule will be effective April 5, 2000.

ADDRESSES: The rule and supporting documents, including public comments and EPA responses, are available for review in the UIC Class V W-98-05 Water Docket at the U.S. Environmental Protection Agency; 401 M Street, SW., EB57, Washington, D.C. 20460. For information on how to access Docket materials, please call (202) 260-3027

between 9 a.m. and 3:30 p.m. Eastern Time, Monday through Friday.

FOR FURTHER INFORMATION CONTACT: For general information, contact the Safe Drinking Water Hotline, phone 800-426-4791. The Safe Drinking Water Hotline is open Monday through Friday, excluding federal holidays, from 9 a.m. to 5:30 p.m. Eastern Time. For technical inquiries, contact Robyn Delehanty, Underground Injection Control Program, Office of Ground Water and Drinking Water (mailcode 4606), EPA, 401 M Street, SW., Washington, DC, 20460. Phone: 202-260-1993. E-mail: delehanty.robyn@epamail.epa.gov.

SUPPLEMENTARY INFORMATION: *Regulated Entities:* Although certain clarifications to the UIC regulations apply to owners or operators of any type of Class V well, the entities regulated by additional requirements are owners or operators of Class V motor vehicle waste disposal wells and large-capacity cesspools. Potentially regulated categories and entities include:

Category	Examples of regulated entities (if they have a Class V well)
Industry and Commerce	<i>Motor Vehicle Facilities:</i> gasoline service stations, new and used car dealers, any facility that does any vehicle repair work (e.g., body shops, transmission repair shops, and muffler repair shops). <i>Large-Capacity Cesspools:</i> residential or commercial facilities such as campgrounds, multi-unit residences, churches, schools.
State and Local Government	<i>Motor Vehicle Facilities:</i> road facilities, fire stations. <i>Large-Capacity Cesspools:</i> campgrounds, rest stops.
Federal Government	Any Federal Agency that owns or operates one of the above entities.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities, of which EPA is currently aware, that are potentially regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether your injection well is regulated by this action, you should carefully examine the applicability criteria in §§ 144.81 and 144.85 of the rule. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Table of Contents

- I. Format and Scope of Rule
- II. Background
 - A. Statutory and Regulatory Framework
 - B. History of this Rulemaking
 - 1. 1994 Consent Decree With the Sierra Club
 - 2. 1995 Proposed Rule
 - 3. 1997 Modified Consent Decree
 - 4. 1998 Proposed Rule
- III. Actions Taken After Close of the Public Comment Period
 - A. Public Comment

- B. National Drinking Water Advisory Council
- C. Notice of Data Availability
 - 1. Class V Study
 - 2. Region II and VIII Data
 - 3. Contaminant Occurrence Report
- IV. Description of Today's Action
 - A. Definitions/Terminology
 - 1. Ground Water Protection Areas
 - 2. Sensitive Ground Water Areas
 - 3. Point of Injection
 - 4. Motor Vehicle Waste Disposal Wells
 - B. Industrial Waste Disposal Wells
 - C. Coverage of the Rule
 - 1. Large-Capacity Cesspools
 - 2. Motor Vehicle Waste Disposal Wells
 - D. Ban of Large-Capacity Cesspools
 - E. Requirements for Motor Vehicle Waste Disposal Wells
 - 1. Ban New Wells and Require Existing Wells to Either Close or Get a Permit
 - 2. MCLs at the Point of Injection
 - 3. Reclassification of Certain Motor Vehicle Wells
 - 4. Stormwater Wells at Motor Vehicle Waste Disposal Sites
 - F. Compliance Period
 - G. Deadlines for Delineations of Covered Areas
 - 1. Drinking Water Source Assessment Program Not Completed On Time
 - 2. Sensitive Ground Water Areas Not Delineated on Time

- 3. Assessments for Ground Water Protection Areas Completed Before UIC Primacy Revisions are Approved
- H. Pre-closure Notification
- I. Exclusion Criteria for Cesspools and Septic Systems
- J. Other Amendments
 - 1. Categories of Class V Wells
 - 2. Sections 144.3 and 146.3—Definitions
 - 3. Sections 144.6 and 146.5—Classification of Wells
 - 4. Existing Regulations Being Reiterated or Replaced in 40 CFR Part 144, Subpart G
 - 5. Part 145—State UIC Program Requirements
 - 6. Sections 144.23 and 146.10—Class IV Wells
- V. Cost of the Rule
 - A. Methodology Overview
 - 1. Revised Estimates of the Numbers of Affected Wells
 - 2. Phase-in Assumptions
 - 3. Higher Closure Costs
 - B. National Cost of the Rule
 - C. Facility Impacts
- VI. Effect on States With Primacy
- VII. Administrative Requirements
 - A. Executive Order 12866
 - B. Children's Health Protection and Executive Order 13045
 - C. Paperwork Reduction Act
 - D. Regulatory Flexibility Act (RFA), as amended by the Small Business

- Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 USC 601 *et seq.*
- E. Executive Order 13132: Federalism
- F. Executive Order 13084: Consultation and Coordination with Indian Tribal Governments
- G. Unfunded Mandates
- H. National Technology Transfer and Advancement Act
- I. Environmental Justice
- J. Congressional Review Act

I. Format and Scope of Rule

Today's notice consolidates Class V UIC regulations in a new Subpart G to 40 CFR Part 144. This subpart is written in a simple-to-understand, plain-English format. Before reading the rest of this preamble, Class V well owners/operators should review the final regulation that presents the enforceable legal requirements they need to know about. This preamble does not repeat many of the requirements contained in the final rule, but rather provides background and additional rationale not included in the regulation.

II. Background

A. Statutory and Regulatory Framework

Class V wells are regulated under the authority of Part C of the Safe Drinking Water Act (SDWA or the Act) (42 U.S.C. 300h *et seq.*). The SDWA is designed to protect the quality of drinking water in the United States, and Part C specifically mandates the regulation of underground injection of fluids through wells. The Agency has promulgated a series of underground injection control (UIC) regulations under this authority.

Section 1421 of the Act requires EPA to propose and promulgate regulations specifying minimum requirements for State programs to prevent underground injection that endangers drinking water sources. EPA promulgated administrative and permitting regulations, now codified in 40 CFR parts 144 and 146, on May 19, 1980 (45 FR 33290), and technical requirements in 40 CFR part 146 on June 24, 1980 (45 FR 42472). The regulations were subsequently amended on August 27, 1981 (46 FR 43156), February 3, 1982 (47 FR 4992), January 21, 1983 (48 FR 2938), April 1, 1983 (48 FR 14146), July 26, 1988 (53 FR 28118), December 3, 1993 (58 FR 63890), June 10, 1994 (59 FR 29958), December 14, 1994 (59 FR 64339), and June 29, 1995 (60 FR 33926).

Section 1422 of the Act provides that States may apply to EPA for primary enforcement responsibility to administer the UIC program; those States receiving such authority are referred to as "Primacy States." Where States do not seek this responsibility or

fail to demonstrate that they meet EPA's minimum requirements, EPA is required by regulation to prescribe a UIC program for such States. These direct implementation (DI) programs regulations were issued in two phases, on May 11, 1984 (49 FR 20138) and November 15, 1984 (49 FR 45308). For the remainder of this preamble, references to the UIC Program "Director" mean either the Director of the EPA program (where the program is implemented directly by EPA) or the Director of the Primacy State program (where the State is responsible for implementing the program). Also, currently all Class V UIC Programs in Indian Country are directly implemented by EPA. Therefore, for the remainder of this preamble, references to DI Programs include Class V programs in Indian Country.

B. History of This Rulemaking

1. 1994 Consent Decree With the Sierra Club

On August 31, 1994, EPA entered into a consent decree with the Sierra Club that required that no later than August 15, 1995, the EPA Administrator sign a notice to be published in the **Federal Register** proposing regulatory action that fully discharges the Administrator's rulemaking obligation under section 1421 of the SDWA, 42 U.S.C. 300h, with respect to Class V injection wells.

2. 1995 Proposed Rule

On August 15, 1995, the Administrator signed a notice of proposed rulemaking that proposed a regulatory determination and minor revisions to the UIC regulations for Class V injection wells (60 FR 44652, August 28, 1995). In this notice, EPA proposed not to adopt additional federal regulations for any types of Class V wells. Instead, the Agency proposed to address the risks posed by certain wells using existing authorities and a Class V management strategy designed to (1) speed up the closure of potentially endangering wells and (2) promote the use of best management practices to ensure that other Class V wells of concern do not endanger underground sources of drinking water (USDWs). Several factors led EPA to propose this approach, including: (1) The wide diversity in the types of fluids being injected, ranging from high risk to not likely to endanger; (2) the large number of facilities to be regulated; and (3) the nature of the regulated community, which consists of a large proportion of small businesses.

EPA received many comments that supported the Agency's proposal to not

impose more regulations for Class V wells. However, EPA also received a number of comments that raised concerns about the proposal. In particular, several commentors questioned whether a UIC program without additional requirements for relatively high-risk well types would prevent endangerment to drinking water sources as required by the SDWA. Others questioned whether the proposal was really the best EPA could do given the known threat to USDWs that some wells present.

3. 1997 Modified Consent Decree

Based on comments received on the 1995 proposal, EPA decided to reconsider that proposed approach. Because this reconsideration would extend the time necessary to complete the rulemaking for Class V wells, EPA and the Sierra Club entered into a modified consent decree on January 28, 1997 (D.D.C. No. 93-2644) that extended the dates for rulemaking that had been in the 1994 decree. The modified decree requires three actions.

First, by no later than June 18, 1998, the EPA Administrator was required to sign a notice to be published in the **Federal Register** proposing regulatory action that fully discharges the Administrator's rulemaking obligation under section 1421 of the SDWA with respect to those types of Class V injection wells presently determined to be high risk for which EPA does not need additional information. A thirty-day extension was granted; the Administrator signed the notice on July 17, 1998. The Administrator is required to sign a final determination for these endangering Class V wells by no later than October 29, 1999, although the decree provides the Administrator with discretion to exercise another 30-day extension.

Second, by no later than September 30, 1999, EPA must complete a study of all Class V wells not included in the first rulemaking on endangering Class V injection wells. EPA has completed this study. Based on this study, EPA may find that some of these other types of Class V wells also pose an endangerment to drinking water.

Third, by no later than April 30, 2001, the EPA Administrator must sign a notice to be published in the **Federal Register** proposing to discharge the Administrator's rulemaking obligations under section 1421 of the SDWA with respect to all Class V injection wells not included in the first rulemaking for Class V injection wells. The Administrator must sign a final determination for these remaining Class V wells by no later than May 31, 2002.

4. 1998 Proposed Rule

On July 29, 1998 (63 FR 40586), in response to the first action required under the modified consent decree, EPA proposed revisions to the Class V UIC regulations that would add new requirements for three categories of Class V wells that were believed to endanger drinking water. According to this proposal, Class V motor vehicle waste disposal wells in ground water protection areas (as defined in Section IV.A.1 of the preamble) would either be banned or would have to get a permit that requires fluids released in those wells to meet the drinking water maximum contaminant levels (MCLs) and other health-based standards at the point of injection. Class V industrial waste disposal wells in ground water protection areas also would be required to meet the MCLs and other health-based standards at the point of injection, and large-capacity cesspools in such areas would be banned.

EPA discussed the 1998 proposal with several stakeholders and small entity representatives. During January and February of 1998, EPA convened three stakeholder meetings to inform potentially affected entities of the requirements under consideration and to solicit feedback. In addition, as required by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), EPA conducted outreach to representatives of small entities affected by the rule. In consultation with the Small Business Administration, EPA identified 17 representatives of small entities that were most likely to be affected by the proposal.

A Small Business Advocacy Review Panel met for 60 days in 1998 to identify small entity concerns with the proposed rulemaking. The 1998 proposal incorporated all recommendations on which the Panel reached consensus (see 63 FR 40590, July 29, 1998).

III. Actions Taken After Close of the Public Comment Period

A. Public Comment

The 1998 proposed rule was initially open for public comment for 60 days. In response to a request to extend the comment period, EPA published a notice in the **Federal Register** (63 FR 51882) which reopened the comment period for an additional 60 days.

Ninety-seven commentors addressed the proposal. EPA has developed a response to comment document addressing all public comments received on motor vehicle waste disposal wells and large-capacity cesspools, which are the well types

addressed in this rulemaking. This document is available at the Water Docket. In addition, some comments are discussed in today's preamble. Public comment received regarding regulation of industrial wells will be considered and addressed when the final determination for those wells is published.

B. National Drinking Water Advisory Council

The National Drinking Water Advisory Council (NDWAC) was established by the SDWA Section 1446 to provide practical and independent advice, consultation, and recommendations to the Agency on the activities, functions and policies related to the SDWA. At its April 1997 meeting, NDWAC decided to form a Federal Advisory Committee Act (FACA) working group to address the Class V Underground Injection Control and Source Water Protection Program integration issues.

The EPA UIC and Source Water working group represents a broad range of public interests including: State, federal and local government representatives; public interest groups, including environmental organizations; universities; industry; and utility operators. The group met twice in 1999 to discuss the proposed Class V regulation, as well as issues addressed in public comment.

The full NDWAC council considered the working group's conclusions during their May 1999 meeting. The full council then made formal recommendations to the Administrator.

C. Notice of Data Availability

EPA published a notice of data availability (NODA) and further request for comment related to the 1998 proposed rule on May 21, 1999 (64 FR 27741). A total of 14 public comment letters were received in response to this request.

The NODA was published in response to additional information received during and after the close of the comment period. It outlined additional data and issues EPA was considering in developing the final rule, including the following information that is discussed in separate sections below: contamination incident information and injectate quality data from the Class V study; a draft report on contaminant occurrence in public water systems; and injectate quality and contamination incident data from EPA Regions II and VIII. Two other categories of information presented in the NODA, Class V well closure cost data from Penske Truck Leasing Company and

Source Water Assessment Plans submitted to EPA, are discussed in section V.A of today's preamble relating to the economic impact analysis.

The following sections only address the NODA as it pertains to motor vehicle waste disposal wells and large-capacity cesspools targeted in today's rule. As discussed in more detail in section IV.B of this preamble, several public commentors on the 1998 proposal questioned the basis for regulating all industrial wells in the same manner, given the diversity of wells that exist within that category as it was proposed and the Agency has decided not to go final with the 1998 proposal for industrial wells at this time.

1. Class V Study

EPA has completed a study of Class V injection wells to meet the requirements of a modified consent decree in *Sierra Club v. Browner* (D.D.C. Mo. 93-2644). This consent decree required the Agency to study Class V wells not included in today's rulemaking. The information was collected from both State and EPA Regional offices using survey questionnaires and selected site visits, and from other sources, such as trade associations, research institutions and universities. Information from the study will be used to determine if additional Class V regulations are needed to protect USDWs from Class V injection wells not regulated by today's rulemaking. The focus of the study consisted of an information collection effort for 23 subclasses of Class V wells.

Through the study, States and EPA Regional offices were also asked to supply information on the three well types addressed in the proposed rule: motor vehicle waste disposal wells; industrial waste disposal wells and large-capacity cesspools. Before the study was completed and the final methods and results were fully documented, information received on the three well types targeted by the proposed Class V rule were compiled in a single notebook and made available through the NODA. The data was presented in three sections. The first section provided the latest State inventory information for each of the three well types as reported in survey responses. The second provided information on contamination incidents identified by the States. The third contained injectate quality data collected from motor vehicle and industrial waste disposal wells.

In the NODA, EPA stated its plan to use this new information to help assess the threat posed by the different well

types and to better project the number of affected entities. Below, EPA describes how the recently obtained injectate quality and contamination case information presented in the NODA supports the Agency's regulatory determination in today's final rule-making. The new inventory data presented in the NODA is discussed in Section V of this preamble.

As part of the Class V Study EPA received limited injectate sampling data for motor vehicle waste disposal wells. In "Analyses from Sampling at Class V Industrial and Motor Vehicle Waste Disposal Wells," A. Melcer and N. Wisner, USEPA Region 5, examined the analytical results of liquid and sludge injectate taken from 26 motor vehicle waste disposal wells in Indiana, Michigan, and Minnesota. Approximately 50 percent of the liquid samples collected exceeded MCLs and approximately 19 percent of the samples exceeded toxicity characteristic (TC) hazardous waste limits. Approximately 80 percent of the sludge leachate samples analyzed exceeded MCLs and 30 percent qualified as hazardous waste. Laboratory results submitted by another motor vehicle facility indicated that some organic constituents in the injectate were above MCLs. As a result, the permit for the Class V UIC well was denied. A database containing thirty cases of soil and/or ground water contamination caused by the operation of such wells was also submitted as part of the Study. Most of the contamination cases are for service stations in New York but the database does not provide specific details.

Six public commentors said this information did not support the Agency's proposed high-risk conclusion and a ban for motor vehicle waste disposal wells. These commentors believed the information shows that motor vehicle wells can be safely operated under certain circumstances, that the contamination cases are few in number and possibly not representative of today's operating practices, and that the information is too vague and anecdotal to support informed decision making.

2. Region II and VIII Data

The Region II and VIII data provide additional evidence that fluids released in motor vehicle waste disposal wells commonly exceed MCLs and that these wells have been linked with environmental contamination. For example, one report shows that out of 38 motor vehicle facilities in the State of New York, 20 had injectate above MCLs entering drywells and 19 had injectate above MCLs entering septic

systems. Out of 27 case study files reviewed in Region II, nine had documented incidents of ground water and/or soil contamination. Region VIII submitted both laboratory reports from motor vehicle waste disposal facilities in Montana and two reports from South Dakota which included injectate sampling data. All facilities exceeded primary drinking water standards in one or more sampling events for volatile organic compounds (VOCs) and/or heavy metals. For example, benzene was detected in some samples at 1.1 to 22 times the MCL. Tetrachloroethylene levels were seen ranging from 1.1 to 38 to 280 times MCL and methylene chloride at 96 times the MCL. Some metals were found to exceed the hazardous waste toxicity characteristic levels.

Only one commentor addressed these data specifically. This commentor believed the data support their contention that motor vehicle wells cannot be categorically classified as high risk. The commentor noted that less than one percent of all Class V well contamination cases in Region II involved ground water contamination.

EPA believes the injectate data and contamination cases cited in the NODA from the study and Regions II and VIII support the 1998 proposal that motor vehicle waste disposal wells warrant additional federal regulation. The additional information confirm that samples of injectate exceed the MCLs for volatile organic compounds and metals. In some cases, contaminants exceeded RCRA toxic characteristic levels. This data is consistent with information collected to support the proposed rule making and supports EPA concerns about potential endangerment of drinking water by these wells. However, the Agency recognizes that there may be situations in which an owner or operator of a Class V motor vehicle waste disposal well could implement best management practices (BMPs) and/or install treatment measures such that the waste injected would not exceed the MCL or other health based standards and could therefore remain open without endangering USDWs. For that reason, today's rule allows owners and operators of existing Class V motor vehicle waste disposal wells to seek a waiver from the ban and apply for a permit.

3. Contaminant Occurrence Report

This report summarizes occurrence data from finished water collected from 14 different State databases for public drinking water systems. In total, the data include over 10 million analytical

results from over 25,000 public water systems. Only contaminants that were tested in a significant number of systems (e.g., several hundred or more) in at least one of the State databases were evaluated in the report. Twenty-three contaminants known or believed to be associated with motor vehicle waste disposal wells were selected for analysis. Each of the 23 contaminants were detected in ground water based systems at concentrations greater than the MCL.

The results of the analysis show that contaminants associated with Class V wells occur in public drinking water systems across the nation. Contaminant occurrence varied widely from State to State. For example, 12.8% and 19.4% of the ground water systems in certain States detected trichloroethene and 1,1,1-trichloroethane, respectively. Furthermore, all contaminants were detected at levels that exceeded the MCL. In certain States, 2.0% of ground water systems exceeded the MCL for mercury and 5.7% of ground water systems exceeded the MCL for tetrachloroethylene (PCE). Determining the source of the contamination was beyond the scope of this report, but the occurrence data clearly demonstrates that contaminants known to be associated with Class V wells occur nationally in public water systems.

IV. Description of Today's Action

Today EPA is finalizing additional requirements for motor vehicle waste disposal wells and large capacity cesspools, to embrace priorities and help achieve goals defined under the 1996 Amendments to the SDWA, and to fulfill the first phase of the Agency's requirements under the 1997 consent decree with the Sierra Club.

Class V wells are currently authorized by rule as long as (1) they do not endanger USDWs, and (2) the well owners or operators submit basic inventory and assessment information. If a Class V well may endanger USDWs, UIC Program Directors can require the owner/operator to apply for a permit, order preventive actions (including closure of the well) to prevent the violation, require remediation to assure USDWs are protected, or take enforcement action. These, and other existing federal requirements and authorities will continue as basic elements of EPA's Class V strategy, applicable to all Class V wells in all areas.

Consistent with the 1997 decree, EPA is taking a step-wise approach to supplement the existing program and ensure Class V injection wells do not endanger USDWs. This approach

consists of (1) an initial rule creating additional requirements for some of the Class V well types determined by EPA, as an initial matter, to be higher risk, and (2) further study of other types of Class V wells not covered in the initial rule to provide the factual basis for further regulatory action, as necessary.

As the first step of its Class V strategy, EPA is today finalizing additional requirements for two categories of Class V injection wells determined by EPA to be a source of endangerment to drinking water. Specifically, the rule covers: (1) Existing motor vehicle waste disposal wells located in ground water protection areas delineated for community water systems and non-transient non-community water systems that use ground water as a source and other sensitive ground water areas as delineated by States; and, (2) new and existing large-capacity cesspools and new motor vehicle waste disposal wells nationwide. The conclusion that these Class V wells pose an endangerment is based on substantial information and the combined professional judgment of EPA and State geologists and engineers that are responsible for implementing the Class V UIC program.

In the case of motor vehicle waste disposal wells, today's rule has been developed to use and promote linkages between the Class V UIC program and EPA's State Drinking Water Source Assessment and Protection Program. Both programs are authorized by the SDWA. The UIC Program is designed to protect all current and potential USDWs from contamination by injection wells. The State Drinking Water Source Assessment and Protection Program is structured to identify all potential sources of contamination within areas that provide short-term recharge to public water supply wells and surface water intakes.

The focus on ground water protection areas and other State delineated sensitive ground water areas is a key element for the protection of current and future drinking water sources. Areas delineated under the State Drinking Water Source Assessment and Protection Program represent, at a minimum, areas designated to receive top priority for the protection of existing public drinking water supplies. Sensitive ground water areas are ground water areas identified by the State as needing additional protection from Class V wells with injectate likely to endanger drinking water. Consistent with this prioritization, this rule uses a phased-in approach that targets motor vehicle waste disposal wells in ground water protection areas first, and State designated sensitive ground water areas

at a later date. This allows States to prioritize critical ground water areas initially and phase-in other priority protection areas at a later time.

The decision to regulate motor vehicle waste disposal wells is based on the high potential for these wells to endanger USDWs. Motor vehicle waste disposal wells are located throughout the country—mainly in populated areas—at a variety of facilities, such as automobile service stations, car dealerships, automotive repair shops, and specialty repair shops (e.g., transmission shops, muffler shops, body shops). They tend to be shallow, with injection occurring into or above USDWs. They also tend to be uncased, which could allow contaminated fluids to move more easily into USDWs. Given all of these factors, the quality of fluids they inject becomes very important in determining whether these wells are a threat to USDWs.

Although the development and use of BMPs by the automotive industry have improved recycling and waste disposal practices over the past decade, EPA is concerned about motor vehicle-related facilities which inject fluids with little or no treatment. These fluids, which may be injected intentionally for waste disposal or accidentally as a result of spills or leaks, include spilled gasoline and oil, waste oil, grease, engine cleaning solvents, brake and transmission fluids, and antifreeze. Such fluids contain potentially harmful contaminants, often in high concentrations. For example, fluids containing waste oils or gasoline generally include benzene, toluene, xylenes, and other volatile contaminants. Waste oils and antifreeze also contain some priority pollutant heavy metals, such as barium, cadmium, chromium, and lead. Other contaminants that may be injected include methylene chloride, a compound found in many degreasers, and ethylene glycol, a component of antifreeze. All of these contaminants can be toxic above certain levels. Some, such as benzene and toluene, have the potential to cause cancer.

Data collected for the 1987 Report to Congress and from later EPA Regional investigations indicate that fluids being injected may exceed health-based limits for contaminant levels in water by 10 to 100 times (see p. 5–19 of the August 1989 Class V Task Force Report available in the docket). These data were confirmed for a number of motor vehicle service stations during the implementation of a 1991 National Administrative Order addressing failures to submit inventory information required under 40 CFR 144.26 and

146.52(a). Analyses of fluids disposed at a group of facilities subject to this order found a total of 13 contaminants present in concentrations above the drinking water MCL, although not all contaminants exceeded the MCL in every sample at every facility (see Data from the National Administrative Order on Motor Vehicle Waste Disposal Wells, March 16, 1998, available in the docket). For example, benzene concentrations exceeded the drinking water MCL at 19 of the 20 facilities tested and in 32 of 35 samples analyzed. The highest measured benzene concentration was 40 times the MCL. Similarly, arsenic exceeded the MCL at 11 of 17 facilities and in 18 of 30 samples, with the highest arsenic concentration being 31 times the MCL.

The injection of used petroleum products may leave behind an oily residue within the wells. A 1995 report on natural bioattenuation of hazardous organic compounds in the subsurface states: "Most organic contaminants, however, enter the subsurface as an oily liquid, such as a fuel spill or release of chlorinated solvent. Groundwater moving through the material dissolves a small portion of the contaminant, which becomes a plume of groundwater contamination. Because the contaminant mass in the oily material is much greater than that dissolved in the groundwater, the spill can continue to maintain the plume more or less indefinitely. As the plume moves away from its source natural biological processes may attenuate the contamination in the groundwater."¹

Examples of instances where motor vehicle waste disposal wells have endangered USDWs include a case in Missoula, Montana, a sole-source aquifer area, where investigations starting in June of 1988 discovered that PCE from operating drainage wells at auto service stations had contaminated community wells serving approximately 45,000 people.^{2,3} Three community wells were closed and another 15 have elevated levels of PCE. In Gilford, New Hampshire, a March 1988 assessment of a site with a garage, a tire center, auto body shop, and a U.S. Army Reserves maintenance shop discovered that operating floor drains had contaminated

¹ Anderson, William, *Innovative Site Technology, Bioremediation*, Chapter 3.4, page 1, 1995

² Background Paper prepared by Alan English, Missoula City-County Health Department for U.S. EPA Underground Injection Control Program, February 1992.

³ An Investigation of the Volatile Organic Content of Sludges, Soils and Liquids Entering the Missoula Aquifer from Selected Sources," prepared by the Missoula City-County Health Department, Environmental Health Division, Contributors: Tom Barger and Alan English, July 27, 1990.

the ground water, the soil, and an on-site water supply with PCE.⁴ In Exton, Pennsylvania, trichloroethylene (TCE), PCE, and 1,1,1-trichloroethane from a stone bed drain field connected to floor drains of an auto repair/body shop operating until 1984, contaminated ground water that supplies drinking water to about 76,700 people.⁵ In Liberal, Kansas, solvents disposed in a septic system by an engine repair shop resulted in volatile organic compound (VOC) contamination of several water supply wells in 1982; concentrations of VOCs in the septic system were as high as 32,000 ug/l.⁶ As presented in Section III.C, additional data from Region II, Region VIII and the Class V study show exceedences of the MCLs for volatile organic compounds and metals in Class V motor vehicle waste disposal well injectate.

EPA believes many of the industries that operate motor vehicle waste disposal wells are making efforts to implement best management practices, waste minimization techniques, and recycling to reduce their impact on the environment and lower operating costs. However, more recent information presented in the NODA and EPA's experience implementing Class V programs across the country indicate that contamination of drinking water supplies from endangering motor vehicle waste disposal wells is a problem that still needs to be addressed.

Some commentators opposed the proposed approach for motor vehicle waste disposal wells. They felt motor vehicle waste disposal wells did not pose a risk to USDWs when located in ground water protection areas and should not be banned. They contended that the industry has instituted BMPs and recycling, and therefore, are no longer disposing of motor vehicle wastes in these wells. While EPA agrees that the use of BMPs and recycling have improved, motor vehicle waste disposal wells in ground water protection areas and sensitive ground water areas still pose a potential endangerment to USDWs. However, there are indications that with treatment, BMPs and recycling, facilities can meet MCLs and continue to use their wells. Therefore, existing motor vehicle waste disposal

wells are banned in ground water protection areas and other sensitive ground water areas, but owners and operators can seek a waiver from the ban and obtain a permit. Additionally, EPA is banning new motor vehicle waste disposal wells statewide. The Agency will also issue guidance on conversion of motor vehicle wells to another type of Class V well if owners and operators take certain steps to prevent motor vehicle waste from entering the well. EPA has also extended the compliance time from 90 days to one year to enable owners and operators to explore all options available for compliance.

Large-capacity cesspools have a high potential to contaminate USDWs because: they are not designed to treat sanitary waste; they frequently exceed drinking water MCLs for nitrates, total suspended solids and coliform bacteria; and, they may contain other constituents of concern such as phosphates, chlorides, grease, viruses, and chemicals used to clean cesspools such as trichloroethane and methylene chloride. Pathogens in untreated sanitary waste released into large-capacity cesspools could contaminate the water supply sources such as transient systems and pose an "acute" risk if consumed (meaning there could be a serious health risk with a single exposure given the nature of contamination). This is a particular concern for Class V cesspools located in hydrogeologic settings that would permit pathogens to migrate to a ground water supply well that serves a transient system with inadequate disinfection of the water or individual wells. To further limit the acute risk associated with large-capacity cesspools, EPA expanded today's large-capacity cesspool requirements nationwide.

EPA proposed additional requirements for industrial waste disposal wells to meet the MCLs and other health based standards at the point of injection. Many commentators questioned why the Agency chose to regulate a wide range of industries with different disposal practices with one approach. Some commentators suggested requirements similar to those proposed for motor vehicle waste disposal wells, to either ban industrial wells or require site specific permits. Still others felt the industrial category was too diverse and types of industrial waste streams should be regulated based on their specific characteristics and risks. After consideration of these comments, EPA agrees that the industrial category is diverse and represents a variety of waste streams. For this reason, EPA is not including requirements for industrial

waste disposal wells in today's final rule. Industrial waste disposal wells will be studied further and addressed in a future rule making.

EPA underscores that this initial rule targets certain ground water protection areas for the purpose of prioritizing national policy. The rule does not establish differential levels of protection for different areas, but rather proposes specific measures EPA believes are necessary to ensure that potentially problematic Class V wells do not endanger USDWs in the highest priority areas. The prohibition against endangerment of USDWs, found in § 144.12 of the existing UIC regulations, continues to apply to all Class V wells and all areas, whether or not a State has completed its State Drinking Water Source Assessment and Protection Program. Section 144.12(a) in particular provides that no injection-related activity may be conducted "in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 142 or may otherwise adversely affect the health of persons." Similarly, § 144.12(c) and (d) authorize a variety of actions if a Class V well may cause a violation of primary drinking water regulations or otherwise adversely affect the health of persons.

In addition to § 144.12, other existing UIC authorities continue to be available to control Class V wells on a case-by-case basis, as needed to protect USDWs in any area. These can include requiring a permit under §§ 144.25 and/or requiring submission of additional inventory information under § 144.26. In States with EPA-administered programs, the inventory requirements under § 144.26 can be supplemented by additional information requirements, including ground water monitoring, analysis of injected fluids, or submission of geologic information under § 144.27.

EPA expects and strongly encourages States to use these existing authorities to take whatever measures are needed to ensure Class V wells are not endangering USDWs in any other areas beyond ground water protection areas and sensitive ground water areas. If believed to be necessary, States should apply the same requirements in this rule to these and other areas and/or to other Class V wells. Nothing in this rule precludes a State or local government from promulgating more stringent requirements above and beyond the existing UIC authorities.

⁴ Background information titled "5X28 Service Station, Gilford, NH" available in the docket. This background information was obtained from U.S. EPA Region 1 staff in May 1990.

⁵ Superfund Site Fact Sheet, A.I.W. Frank/Mid-County Mustang Site, Pennsylvania, EPA ID# PAD004351003, Last Update: March 1998. <http://www.epa.gov/reg3hwmd/super/aiwfrank/pad.htm>.

⁶ Site Description Printout for the Panhandle Eastern Pipeline Site, from Teresa Hattan, Kansas Department of Health and Environment, July 15, 1998.

A. Definitions/Terminology

1. Ground Water Protection Areas

At § 144.85, the proposal specified that only those owners or operators of motor vehicle waste disposal wells and large-capacity cesspools that are located in delineated source water protection areas for community or non-transient non-community water systems that use ground water as a source must meet the requirements of the rule. However, EPA's Final Guidance for Source Water Assessments and Protection Programs (8/97), does not require States to call their delineated areas "Source Water Protection Areas" and the State Drinking Water Source Assessment and Protection Programs submitted to EPA to date indicate that States may identify these areas by other names (e.g., source water assessment areas, ground water areas). Therefore, to avoid the confusion these terms may cause, the term "ground water protection areas" will be used in this rule to identify areas delineated and assessed under section 1453 of the Safe Drinking Water Act for community and non-transient non-community water systems that use ground water as a source, and are therefore subject to this rule. In cases where the State delineates zones or areas representing various levels of protection, the State would determine which areas correspond to ground water protection areas for the purposes of this rule.

2. Sensitive Ground Water Areas

The phrase "sensitive ground water area" was not used in the proposed Class V rule. However, the proposal recognized that areas beyond ground water protection areas might warrant additional protection and requested public comment on whether the new Class V regulations should apply beyond these areas, possibly statewide, to ensure protection of USDWs.

EPA received many comments recommending that the rule requirements extend beyond ground water protection areas in order to protect future sources of drinking water and to protect the public health of persons using individual wells. EPA agrees with those commentors and expanded the requirements to owners or operators of motor vehicle waste disposal wells located in additional sensitive ground water areas, as designated by the program director. The phrase "sensitive ground water areas" in this rule refers to ground water areas that are critical for public health protection because of hydrogeologic and other features that would cause USDWs to be vulnerable to contamination from

the well-types regulated by this action. A general definition of other "sensitive ground water areas" has been included in the final rule at § 144.86. This definition should act as a guide to regulators when delineating sensitive ground water areas. At § 145.23 EPA requires States, as part of their Class V program revision, to submit a plan for delineating other sensitive ground water areas (unless the State chooses to implement the program statewide). Program revisions are subject to public review and, therefore, the public will have the opportunity to comment on the States approach to delineating other sensitive ground water areas. EPA is not requiring States to submit a plan for ground water protection areas as part of their program revision because, as required under 1453 of the Safe Drinking Water Act, each State's Drinking Water Source Assessment and Protection Program outlines the States plan for conducting ground water protection area assessments and has already undergone public review and is undergoing EPA review. EPA also intends to provide States with further guidance on delineating sensitive ground water areas. Guidance documents will be made available from EPA Regional Offices or through the Safe Drinking Water Hotline.

3. Point of Injection

In the proposed Class V rule, the phrase "point of injection" was used at § 144.88 to establish where fluids injected into a well would be required to meet MCLs and other health-based standards. The proposal, however, did not define the term "point of injection."

Several commentors requested that this term be defined to avoid confusion. Other commentors expressed concern about where the "point of compliance" would be and suggested various points to measure compliance, ranging from "point of use" to the property boundary. Others recommended not defining the point of injection, because a highly prescriptive definition of the "point of injection" would be difficult to implement due to the many different engineering configurations of Class V wells.

To resolve this issue, EPA sought public comment in the May 21, 1999, NODA on the need for the final Class V regulation to clearly define the "point of injection." The majority of the commentors on the NODA supported defining the point of injection for Class V wells as the distribution box (for the case of septic systems) or the end of the pipe for injection wells. One commentor stressed the need to give UIC Directors

the authority to determine the point of injection on a case by case basis.

In response to public comment, EPA has decided to define "point of injection." Taking into account the difficulties of applying a specific definition to a variety of wells, "point of injection" is defined as, "the last accessible sampling point prior to waste fluids being released into the subsurface environment," at § 144.3. For septic systems, the last accessible sampling point might be the distribution box, for injection wells the last accessible point prior to injection would be the end of the pipe. This definition, in addition to a guidance document, should act as a guide to regulators and Class V well owners and operators, regardless of well configuration, when determining the most appropriate sampling point to determine compliance.

4. Motor Vehicle Waste Disposal Wells

In its proposal, EPA determined that injection wells located in ground water protection areas that receive waste fluids from the servicing of motor vehicles pose an endangerment to underground sources of drinking water. Motor vehicle waste disposal wells are defined at § 144.81 (16) as follows "Motor vehicle waste disposal wells receive or have received fluids from vehicular repair or maintenance activities, such as an auto body repair shop, automotive repair shop, new and used car dealership, specialty repair shop (e.g., transmission and muffler repair shop), or any facility that does any vehicular repair work."

B. Industrial Waste Disposal Wells

In the July 29, 1998 notice, EPA proposed additional requirements for the group of Class V wells categorized as "industrial" when located in ground water protection areas because these well types may pose an endangerment to underground sources of drinking water. The proposed industrial well category included a wide range of industries disposing of wastes from such various industries as animal hospitals, environmental laboratories, dry cleaners, and oil refineries. In addition to representing a wide range of industrial discharges, these wells vary in construction, depth, and operation. The Agency solicited comment on the appropriateness of designating industrial wells as high risk and regulating them under this rule.

Based on public comment, EPA now believes that, although these wells may pose high risks to underground sources of drinking water, the well category as defined in the proposal may be too diverse to follow the same regulatory

approach. EPA believes that more information is needed to formulate an effective program for these wells and wastestreams. As a result, EPA has decided to defer finalization of the 1998 proposal for this category of wells.

C. Coverage of the Rule

1. Large-Capacity Cesspools

The proposed rule banned large-capacity cesspools in ground water protection areas. However, in the preamble to the proposed rule, the Agency recognized that there may be instances where pathogens in untreated sanitary waste released from Class V large-capacity cesspools could pose an acute health risk (*i.e.*, a person could become ill by taking one drink from an affected drinking water supply) and sought comment on the merits of broadening the coverage of the rule to include ground water protection areas for transient public water systems and possibly statewide. Many commentors supported the idea of extending the ban on large-capacity cesspools, due to concerns over one-time exposure to pathogens in drinking water. Some commentors supported extending the ban to ground water protection areas delineated for transient non-community systems that use ground water as a source, but the majority of commentors supported statewide coverage, primarily because of the acute risk these wells pose, the nature of the contaminants and the on-site disposal alternatives available to owners or operators.

Based on these public comments, EPA has decided to ban new and existing large-capacity cesspools nationwide. EPA believes that extending the rule's coverage is the most appropriate course of action given that many States already ban new large-capacity cesspools, the acute nature of the risks posed by these wells, and the relative ease of developing alternative means to dispose of sanitary waste on-site.

2. Motor Vehicle Waste Disposal Wells

The proposal would have regulated motor vehicle waste disposal wells in ground water-based community and non-transient, non-community ground water protection areas, but encouraged States to use existing UIC authorities to ensure Class V wells are not endangering USDWs beyond those areas. However, the proposal recognized that additional areas might warrant additional protection and requested public comment on whether the new Class V regulations should apply to motor vehicle waste disposal wells beyond ground water protection areas.

One-third of the commentors on this issue opposed expanding the rule. These commentors believed existing authority adequately protected USDWs outside of ground water protection areas, EPA would be exceeding its authority, limited resources and the need for State flexibility would inhibit implementation of the rule in additional areas, and additional regulatory burden would be placed on well owners or operators outside ground water protection areas.

About one-half of the commentors on this subject favored expanding the requirements for motor vehicle waste disposal wells beyond ground water protection areas. A number of these commentors specified additional areas where the regulation should apply, including impaired ground water areas, critical aquifer protection areas, sole-source aquifers, aquifer storage and recovery areas, sand/gravel/karst aquifers, national parks, possible future USDWs, rural areas with private wells, and the entire State. Some commentors suggested phasing in additional sensitive ground water areas over time.

Commentors supporting expansion sought to ensure protection of all USDWs and uniform application of the regulations. Others believed that expansion of the rule is needed to protect future sources of drinking water, private drinking wells, and other sensitive ground water areas not included in ground water protection areas.

The NODA requested comment on an approach to expand the rule beyond ground water protection areas to other sensitive ground water areas that the State identified and phasing in the implementation of the rule in these additional areas. Eleven commentors addressed the addition of sensitive ground water areas and nine commentors addressed the phased approach to implementation. For expansion of the rule beyond ground water protection areas, seven commentors supported the need to protect additional areas with two of the commentors recommending statewide coverage of the rule. Three commentors opposed expansion, stating that limiting the rule to ground water protection areas adequately protected USDWs. Seven commentors supported phasing in the regulations beyond ground water protection areas. They agreed that the given time frame allowed adequate time for owners/operators and States to implement the rule, and the phase in would assist States in prioritizing areas for implementation of the rule. Two commentors opposed the phasing in of

any additional sensitive ground water areas.

EPA agrees with those commentors suggesting additional areas need to be covered by this rulemaking. The State Source Water Protection Program provides protection for areas directly around public drinking water supplies and does not consider or protect drinking water sources that are not currently being used. In addition, limiting the rule to ground water protection areas does not take into consideration factors such as contaminants that could readily migrate to existing water supplies, sole source aquifers, and individual well fields. Therefore, the Agency feels it is important to extend the rule beyond ground water protection areas to fulfill its mandate to protect current and future drinking water sources. Thus, EPA, at § 144.85, regulates existing motor vehicle wells in both ground water protection areas and other sensitive ground water areas, as delineated by the Director and bans new motor vehicle waste disposal wells nationwide. In delineating sensitive ground water areas, both Primacy States and EPA Regions (for DI States) should evaluate the hydrogeologic setting and consider such factors as: the presence or absence of karst topography, fractured bedrock, sandstone, and/or confining layers; the depth to ground water; significance as a drinking water source; and future uses of the land. Primacy States and EPA Regions (for DI States) must implement the rule for existing motor vehicle waste disposal wells in ground water protection areas within one year of the completion of the local assessments, and must delineate sensitive ground water areas by January 1, 2004 and implement the rule in these areas by January 1, 2007.

D. Ban of Large-Capacity Cesspools

As discussed in section IV of this preamble, concerns over "acute" health risks have led EPA to extend the ban of large-capacity cesspools to all large-capacity cesspools nationwide. Separate from this issue of the rule coverage, however, is whether large-capacity cesspools should be banned.

The majority of commentors supported the ban. The prevailing opinion among these commentors was that strong steps need to be taken to keep pathogens from these wells from entering drinking water sources. The use of new large-capacity cesspools is recognized as an inferior method of disposing of waste that can be remedied by the installation of a septic system and has already been banned by many States. Thus, in response to the many

concerns expressed regarding acute contaminants in cesspools, EPA has banned new and existing large-capacity cesspools nationwide.

E. Requirements for Motor Vehicle Waste Disposal Wells

1. Ban New Wells and Require Existing Wells To Either Close or Get a Permit

EPA co-proposed a ban and a ban with a waiver for existing motor vehicle waste disposal wells. The alternative allowing a waiver for existing wells would include a permit requiring waste fluids to meet MCLs and other health-based standards at the point of injection, owners or operators to adopt practices such as BMPs, and provide injectate and sludge monitoring.

Half of the commentors opposed the idea of waivers, believing a ban was necessary to prevent endangerment of current and future drinking water sources. Commentors' concerns with a permit program included: inadequacy of monitoring and sampling; limited technical knowledge on the part of many owners/operators to ensure that USDWs are not being threatened; and the burden on regulating agencies to satisfactorily implement and enforce a permit program. Pointing to the vulnerability of motor vehicle waste disposal wells to accidental spills of motor vehicle fluids, some commentors thought that any well left open would violate the existing non-endangerment provision in 40 CFR 144.12(a) of the UIC regulations. Some of these commentors recommended that if the waiver option was chosen, the permit must: (1) include sampling to determine the baseline quality of ground water; (2) specify that injection of waste must not degrade the current quality of the ground water, or must meet MCLs, whichever is more stringent; (3) include continued ground water sampling; (4) specify, based on the baseline quality of ground water, that no new substances can be introduced; and (5) specify that MCLs, other health-based standards, or Best Available Technologies (BATs) are utilized, whichever is most stringent.

Some of the commentors favored the waiver option, viewing a ban to be unnecessary and supporting the additional flexibility a waiver would allow States and industry. Commentors suggested a range of permit requirements including monitoring, sampling, training, and technology requirements. Some States expressed concern with sampling costs, site-specific criteria, and compliance assurance.

EPA believes there is a high potential for endangerment of drinking water

sources from motor vehicle waste disposal wells located in ground water protection areas and other sensitive ground water areas. However, EPA recognizes that treatment technologies and BMPs, if properly implemented, could allow wastewater to meet MCLs and other health-based standards at the point of injection. Therefore, today's final rule promulgates a ban with a waiver option for existing motor vehicle waste disposal wells. UIC Directors should use their best judgment when issuing waivers from the ban, and consider factors such as cost effectiveness, maintenance of treatment systems, potential for impacting water systems, a facility's compliance history, and records showing waste recycling.

The specific permit requirements could vary from one well to the next, but would have to include the following three conditions at a minimum. First, owners or operators would have to make sure fluids released in their wells meet the primary drinking water MCLs and other appropriate health-based standards at the point of injection. Second, owners or operators would have to follow specified BMPs for motor vehicle-related facilities. Third, owners or operators would have to monitor the quality of their injectate and sludge (if present in dry wells or tanks holding injectate) both initially and on a continuing basis in order to demonstrate compliance with the MCLs. The rule, however, does not specify monitoring requirements that must be followed, leaving those instead to the discretion of the Director to specify in the permit.

When all of these requirements are put together, EPA believes the permit would specify the following kinds of monitoring requirements, but recognizes that States will design monitoring requirements appropriate to the situation. As a first step, owners or operators might be required to characterize the quality of their injectate and any sludge. If liquid from the sludge has chemical concentrations below the MCLs, owners or operators might be required to analyze the injectate quarterly for the first three years and then annually if it is consistently below the MCLs. They also might be required to analyze their sludge annually. If the injectate is below the MCLs but liquid from the sludge is above the MCLs, then owners or operators might have to follow the same monitoring requirements as above plus pump and properly dispose of their sludge. Finally, if the injectate is above the MCL and the liquid from the sludge is above the MCL, then the owner or operator would need to: (1) Install treatment to meet permit requirements to meet MCLs

and other health based standards at the point of injection; (2) pump and properly dispose of their sludge; (3) perform quarterly sampling of injectate for the first three years and then annually if consistently below the MCLs; (4) perform annual sampling of the sludge; and (5) other requirements established by the Director to protect USDWs.

Although the rule envisions that States will issue individual permits, States are not precluded from issuing a general permit to a group of facilities that have similar characteristics. For instance, there may be a number of service stations in an area that have similar waste streams, BMP's, good compliance histories and for which the permit conditions would be identical. Another example could be a group of facilities owned by a municipality that are used for a similar purpose, have similar waste streams and follow that same procedure, including BMPs. General permits would have to specify the initial and ongoing monitoring requirements, BMPs, and that MCLs and other health based standards must be met at the point of injection. State regulations would have to include provisions for these general permits, including their conditions and where they could apply.

2. MCLs at the Point of Injection

Under the ban with a waiver option proposed for existing motor vehicle waste disposal wells, such wells would be allowed to stay open subject to a permit that, among other things, requires waste fluids to meet MCLs and other health-based standards at the point of injection. As discussed in the preamble to the proposed rule, some members of the Small Business Advocacy Review Panel thought that EPA should allow MCLs to be exceeded (e.g., by 10 or 100 times) for certain contaminants under certain conditions. These Panel members pointed out that metals and some other contaminants are attenuated as they migrate through soil prior to reaching the water table and are diluted within an aquifer prior to reaching a drinking water withdrawal well.

The majority of commentors supported the proposal to meet MCLs and other health-based standards at the point of injection. In general, these commentors believed that allowing injection at levels above the MCL would be the same as providing "a permit to pollute," and that it would be illogical for EPA to use the MCLs as cleanup benchmarks at Superfund sites, yet allow new ground water contamination by permitting injection above the MCLs.

Several of these commentors also believed it was not realistic to expect small businesses that own or operate motor vehicle waste disposal wells to be able to determine whether their site-specific conditions were suitable to safely allow injection at levels higher than the MCLs.

A few commentors were concerned that MCLs at the point of injection was not protective enough, believing instead that background concentrations in ground water should be used as the standard or that the rule should prohibit the introduction of any potentially hazardous chemical into USDWs, even when present in concentrations below MCLs. About a third of the commentors opposed the proposed requirement, believing that it was unnecessary to protect USDWs where contaminant dilution and/or attenuation was expected to be significant and that it would impose an undue burden on well owners or operators.

Based on these public comments, today's final rule requires fluids released into motor vehicle waste disposal wells to meet MCLs and other appropriate health-based standards at the point of injection, as one of the permit conditions that have to be met when such wells remain open under the waiver option. EPA also believes that developing a set of conditions within which a motor vehicle waste disposal well could release fluids that exceed drinking water standards without endangering USDWs is not a viable option for most small businesses and regulatory authorities because of the difficulty and expense involved in collecting the site-specific hydrologic, geologic, and soil information needed to determine that injection above the MCLs does not endanger USDWs. EPA believes that requiring MCLs and other health based standards to be met at the point of injection is necessary to ensure that motor vehicle waste disposal wells meet the non-endangerment provision in § 144.12(a). In future rulemaking, the regulatory controls needed to prevent endangerment from other types of Class V wells will be evaluated on a case by case basis. House Report 13002 (July 10, 1974) stated that the UIC endangerment standard should be "liberally construed so as to effectuate the preventive and public health protective purposes" of the SDWA (A Legislative History of the Safe Drinking Water Act, Committee Print, February, 1982, at 564). More specifically, in defining endangerment, the House Report states that "actual contamination of drinking water is not a prerequisite either for the establishment of regulations or permit

requirements or for the enforcement thereof." *Id.*

3. Reclassification of Certain Motor Vehicle Wells

The proposed rule did not address specific conditions or requirements for converting a Class V motor vehicle waste disposal well to another kind of Class V well. The preamble to the proposed rule, however, did discuss how a motor vehicle service facility might continue to operate its Class V well if all motor vehicle waste fluids generated at the facility were segregated and only other liquids, such as stormwater, ice melt, and wastewater from carwashes, were allowed to enter the injection well. The preamble to the proposed rule suggested actions that could result in a well being converted, including performing motor vehicle maintenance in areas that do not drain into the Class V well, or installing a semi-permanent plug (also known as a plumber's plug) in the sump outlet leading to the injection well.

The proposal advised that for the use of a semi-permanent plug to be acceptable, the plug would truly have to be semi-permanent. It could not be easily removed, as this would create the potential for the well to remain open and subject to abuse. Because of these concerns, the proposal specifically requested comment on the use of semi-permanent plugs, particularly on their limitations and on circumstances where their use is or is not appropriate.

Most of the public comment received on motor vehicle waste disposal well conversions addressed the use of semi-permanent plugs, with the majority opposing their use. Concerns included potential for improper disposal of wastes, economic incentives to dispose of automotive wastes in the well, and the regulatory program's inability to maintain an adequate field presence to ensure such plugs are being properly used. The majority of these commentors preferred permanent closure of the well.

Supporters of semi-permanent plugs maintained that inappropriate wastes would not enter the drain, adding that the flexibility to inject appropriate fluids while avoiding the costs of well closure is an important option for small businesses. Commentors suggested provisions be added to ensure abuse does not occur.

EPA agrees with commentors concerned with the potential misuse and/or abuse of floor drains in motor vehicle-related facilities. However, because of the need expressed by small businesses, EPA will allow motor vehicle waste disposal well conversions at the UIC Directors' discretion as long

as no motor vehicle waste can enter the well. The Director must ensure that all motor vehicle fluids are physically segregated from the fluid being injected and the unintentional or illicit discharge of motor vehicle waste is unlikely based on a facility's compliance history and records showing proper waste disposal. Based on the concerns expressed through public comment, the use of semi-permanent plugs will not be considered as a viable means to segregate waste. EPA believes that in order to meet the requirements for well conversion, owners or operators of converted Class V wells in motor vehicle related facilities will need to implement BMPs. In addition, in order to meet the requirements for well conversion, owners and operators must take measures to ensure that motor vehicle waste fluids are physically segregated from the injection well. EPA plans to develop a guidance document for the conversion of motor vehicle waste disposal wells.

4. Storm Water Wells at Motor Vehicle Waste Disposal Sites

During stakeholder meetings and through public comment, commentors expressed concern over the classification of storm water drainage wells located at motor vehicle facilities. In the proposed rule, EPA solicited comment on ways of defining storm water wells and distinguishing them from motor vehicle waste disposal and industrial wells. While this final rule does not address industrial or storm water injection wells, it is important to clarify EPA's position regarding storm water wells located at motor vehicle facilities.

Storm water drainage wells located at motor vehicle facilities that are intended for storm water management but that also may receive insignificant amounts of fuel due to unintentional small volume leaks, drips, or spills at the pump are not considered motor vehicle waste disposal wells and are not subject to this rule. The Agency will develop guidance to assist owners/operators in determining if their well is a motor vehicle waste disposal or drainage well.

F. Compliance Period

At § 144.87, the proposed regulation provided 90 days after the local assessment for ground water protection areas is completed for owners/operators of existing motor vehicle waste disposal wells in those areas to either close their wells or submit an application for a waiver, if allowed. The UIC Program Director would have the flexibility of extending the 90-day deadline for up to one year.

While one commentator supported the proposed compliance period, the majority of the commentators opposed the 90-day deadline. Reasons for opposition included the burden on small businesses and States, as well as potential difficulties in disseminating information and finding alternative means for wastewater disposal within that time frame. These commentators recommended that the deadline be extended anywhere from 180 days to two years, with the majority suggesting a one-year compliance period.

EPA agrees with the majority of the commentators that a 90-day compliance period may not be sufficient to comply with the new requirements. Therefore, EPA has extended the compliance period to one year after completion of the local assessment for ground water protection areas. However, EPA strongly encourages owners and operators who wish to apply for a waiver to do so within 90 days of the completion of their local assessment for ground water protection areas to insure they are operating under permit conditions within the one year compliance period. The additional time will allow State UIC staff to conduct outreach and will provide owners and operators additional time to achieve compliance. In addition, as proposed, the UIC Director may grant a one-year extension if the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technologies.

G. Deadlines for Delineations of Covered Areas

1. Drinking Water Source Assessment Program Not Completed On Time

The proposed rule, at § 144.87(b), states that if a State does not complete its EPA approved Drinking Water Source Assessment Program for its community water systems and non-transient non-community water systems by May 2003, the regulations will apply statewide permanently. This deadline was chosen because it assumed all States would meet the deadlines in Section 1453 of the SDWA and that EPA would approve an eighteen month extension for States to complete assessments, which would be in May of 2003. The proposal requested comments on alternative approaches.

About one quarter of the commentators on this issue agreed that the requirements should apply statewide if a State's Drinking Water Source Assessment Program is not complete by May 2003, noting that this option would maintain consistency throughout each State.

The remaining commentators on this issue opposed either permanent statewide application of the rule or the May 2003 deadline. Many of those opposed were concerned with the burden on owners and operators. A few commentators asserted that statewide implementation would exceed EPA's authority under the SDWA, that States do not need an added incentive to complete Drinking Water Source Assessment Programs, or that permanent statewide application of the rule would discourage partnerships between States and owners or operators.

Several commentators suggested variations on the statewide proposal, such as: phased implementation linked to Drinking Water Source Assessment completion; exempting wells on a case-by-case basis from a statewide ban; and, exempting areas of the State where delineations were completed but Drinking Water Source Assessments were not.

Commentors who opposed the proposal also expressed concern that the pressure to complete a State's Drinking Water Source Assessment Program by the May 2003 deadline may hinder a State's effort to develop an effective program. Other commentators supported an extension in May 2003 if a State could show significant progress on its Drinking Water Source Assessments or utilizing financial incentives to encourage States to complete their Drinking Water Source Assessment Program on time.

In response to many of these comments, for purposes of this rule EPA has extended the deadline. The final rule specifies at § 144.87 (b) that the rule applies statewide on January 1, 2004 if the local ground water assessments for community water systems and non-transient non-community water systems under an EPA approved Drinking Water Source Assessment Program are not completed. The extra time accounts for possible modifications to State programs submitted during EPA's review process. Further, the later date provides additional time for affected owners and operators to be informed of the application of this rule to their facilities and come into compliance. In addition, States can apply to the EPA for an extension to up to one year if they have made reasonable progress in completing their assessments for ground water protection areas. States must apply to EPA for an extension by June 1, 2003.

EPA retained statewide implementation, if a State Drinking Water Source Assessment Program is not completed because this is the only preventive approach practical given that it would be difficult to ascertain which

areas are most vulnerable if assessments are not completed. At the same time, EPA believes that all States will complete assessments for community water systems and non-transient non-community water systems before the January 1, 2004 deadline. There are approximately 170,000 public water systems for which States must develop source water assessments. Of those systems 40,820 are community water systems, 18,660 are non-transient non-community water systems and 87,870 are transient water systems. Thus, for the purposes of this rule, States must complete less than half of their assessments by this deadline and EPA believes that if a State does encounter difficulties it will prioritize its efforts and complete the community and non-transient non-community systems first. In addition, many States have received early approval of their programs and have begun their assessments ahead of schedule. In addition, a review of the State's Source Water Assessment Plans, which have been submitted to EPA for approval, indicate that many States intend to use their EPA approved Well Head Protection Program as the basis for developing their ground water protection areas. Approved Well Head Protection Programs include two of the three steps required to complete the ground water portion of a State Source Water Protection Plan. States that adopt their existing Well Head Protection Plan will have met the majority of the requirements for the ground water portion of the State Drinking Water Source Assessment and Protection Program. Therefore, if a State fails to complete all local assessments for ground water protection areas by January 1, 2004 (or January 1, 2005 with an extension) the rule will apply statewide for existing motor vehicle waste disposal wells.

2. Sensitive Ground Water Areas Not Delineated on Time

Both Primacy States and EPA Regions (for DI States) must delineate sensitive ground water areas by January 1, 2004. If States have not delineated their other "sensitive ground water areas" by that time, the regulations affecting motor vehicle waste disposal wells will apply statewide permanently by January 1, 2007. Existing motor vehicle waste disposal wells (in delineated sensitive ground water areas but outside of ground water protection areas) in Primacy States and EPA Regions (for DI States) must achieve compliance by January 1, 2007.

The January 1, 2004 date was chosen as a deadline for delineation of sensitive ground water areas to allow States time

to delineate these areas. EPA is confident that States will delineate sensitive ground water areas well before the January 2004 deadline. States can delineate sensitive ground water areas based on existing information such as State specific geologic and hydro-geologic maps. An assessment and inventory of contaminant sources within these areas will not have to be completed. In addition, States already have knowledge of these areas, and some States and EPA Regions (for direct implementation States) have already mapped sensitive ground water areas. Phased implementation will allow resources to be spent on sensitive ground water areas once the rule has already been implemented in ground water protection areas. However, States may apply to the EPA for an extension for up to one year to complete delineations for sensitive ground water areas if they are making reasonable progress in identifying these areas. States must apply for this extension by June 1, 2003. EPA will consider and decide the merits of the extension requests separately for completing assessments for ground water protection areas and for identifying other sensitive areas.

3. Assessments for Ground Water Protection Areas Completed Before UIC Primacy Revisions Are Approved

EPA believes that, based on the current status of States in developing State Drinking Water Source Assessment and Protection Programs and EPA in approving them, most programs will likely be approved by the end of 1999. Once approved, States will begin to complete their local assessments for ground water protection areas. It is likely, therefore, that some local assessments will be completed before certain Primacy States have had an opportunity to revise and receive EPA approval for their updated Class V UIC programs. In this case, owners and operators of existing motor vehicle waste disposal wells (located in a ground water protection area with a completed assessment) have one year from the date of EPA's approval of their State's Class V UIC program revision to comply with the new Class V requirements.

H. Pre-Closure Notification

The proposal, at § 144.88 (table), required owners or operators of large-capacity cesspools and motor vehicle waste disposal wells in States where the UIC Program is directly implemented by EPA to notify the Program Director of their intent to close their well at least 30 days prior to closure.

These requirements were proposed for DI programs based on the need to track high-priority well closures in EPA-administered programs. In the interest of flexibility, the proposal did not require State-administered UIC programs to adopt the same pre-closure notification. EPA solicited comments on the merits and potential impacts on Primacy States of requiring pre-closure notification.

The majority of commentors were in favor of requiring pre-closure notification in Primacy States, as this would allow for a more accurate inventory, and would provide a mechanism for State oversight of well closures.

For these reasons, EPA has decided to extend pre-closure notification for large-capacity cesspools and motor vehicle waste disposal wells to Primacy States in all areas covered by the rule at § 144.88 (table).

I. Exclusion Criteria for Cesspools and Septic Systems

EPA proposed to revise the exclusion criteria for septic systems and cesspools receiving solely sanitary wastes to exclude from the UIC regulations both septic systems and cesspools with the capacity to serve fewer than 20 persons per day and those serving individual or single family residences. The proposal eliminated the distinction between residential and non-residential systems and set the exclusion criteria at systems with the capacity to serve fewer than 20 people per day. While most commentors supported the 1995 proposal, the vast majority of people addressing this issue added that the 20 persons-per-day threshold should be changed. These commentors, many of which were States, generally favored a criterion that was based on waste flow rate or septic tank size. However, it was not clear to EPA if any of the alternative criteria that were suggested could be adopted on a national level without significantly disrupting many State programs nor that such a change was needed to improve USDW protection.

To shed further light on this issue, the 1998 proposal asked for further comments on whether the criterion needed to be changed to fix a significant problem. In general, the comments received were similar to those received for the 1995 proposal. The majority of the commentors suggested EPA use a flow rate (ranging from less than 400 to 20,000 gallons per day). Some commentors thought the 20 persons criterion was too low and should be set at 25. Still others suggested that there is less waste per person from industrial/commercial sites than residential sites.

EPA recognizes that the current criterion as written in § 144.1(g) has weaknesses. However, because no commentor recommended an alternative criterion that would not disrupt existing State programs or that was necessary to ensure better protection of USDWs, today's rule retains the criterion at § 144.1(g). Under this criterion, non-residential cesspools, septic systems or similar waste disposal systems are covered under the UIC program if they are used solely for the disposal of sanitary waste, and have the capacity to serve 20 or more persons a day. Residential large-capacity cesspools and septic systems are covered by the UIC program if they are used by a multiple dwelling, community or regional system for the injection of waste.

EPA will re-evaluate this issue in the context of a future Class V rulemaking, using information collected during the Class V Study of all wells not covered by today's rule, including septic systems.

J. Other Amendments

EPA is finalizing other minor revisions originally proposed in the August 28, 1995 notice, in order to provide a complete and coherent picture of all Class V UIC changes being contemplated. These revisions address (1) a few definitions in §§ 144.3 and 146.3, and (2) the classification of radioactive waste disposal wells in §§ 144.6 and 146.5. In addition, certain existing Class V requirements are being reiterated in or moved to the plain-English version of the consolidated Class V regulations in 40 CFR 144 Subpart G.

1. Categories of Class V Wells

In the 1995 and 1998 Class V proposals, EPA solicited comment on a proposed reclassification scheme for all Class V well subtypes. Some commentors objected to the new classification scheme. Additionally, preliminary information gathered as a part of the Class V study indicates the proposed categorization scheme may not appropriately group the Class V subtypes and could be a source of confusion to Class V owners and operators in future rules.

In response to the public comment, EPA will retain the current Class V well type definitions found in § 146.5 (e) with one exception. The current list of Class V wells at § 146.5 does not include a definition of Motor Vehicle Waste Disposal wells. Therefore, EPA is finalizing the definition for Motor Vehicle Waste Disposal wells at §§ 146.5 (e)(16) and 144.81 as it was proposed.

2. Sections 144.3 and 146.3—Definitions

The regulation adds new definitions for “cesspool,” “drywell,” “improved sinkhole,” “point of injection,” “sanitary waste,” “septic system,” and “subsurface fluid distribution system.” The rule also revises the existing definitions for “well” and “well injection.”

An “improved sinkhole” is defined as a type of injection well regulated under the UIC program. Today’s definition codifies EPA’s interpretation that the intentional disposal of waste waters in natural depressions, open fractures, and crevices (such as those commonly associated with the cooling of lava flows or weathering of limestone) fits within the statutory definition of underground injection. A “subsurface fluid distribution system,” which is a term used in the new definition of “septic system,” is defined with a standard engineering description. The definition of “well” has been revised to clarify that a “well” includes improved sinkholes and subsurface fluid distribution systems.

The definition of “well injection” has been revised to eliminate a redundancy and simply state that well injection means the subsurface emplacement of fluids through a well.

3. Sections 144.6 and 146.5—Classification of Wells

The regulation revises § 144.6(a) and § 146.5(a) by adding a paragraph (3) to move Class V radioactive waste disposal wells injecting below all USDWs into the Class I category. Such Class V wells, in fact, are similar to Class I wells in terms of their design, the nature of fluids that they inject, and their potential to endanger USDWs. In particular, like Class I wells, such radioactive waste injection wells inject below all USDWs and warrant the same level of control.

The Agency believes that all of these wells are located in Texas, which already regulates them as Class I wells. Existing Class V radioactive waste disposal wells, therefore, should not be subject to any additional regulatory requirements. However, the Agency believes that Class I requirements related to permitting, construction, operating, monitoring, reporting, mechanical integrity testing, area of review, and plugging and abandonment are needed to prevent any new radioactive waste disposal wells from endangering USDWs. The Agency, thus, has reclassified Class V wells that inject radioactive waste below the lowermost USDW as Class I wells and subject them to the full set of existing Class I

requirements. This approach is administratively simpler and more straightforward than keeping the wells in the Class V universe and developing identical requirements under the Class V program.

EPA wishes to clarify that this reclassification of Class V radioactive waste disposal wells does not affect the disposal of naturally occurring radioactive material (NORM) in Class II wells as part of oil and gas field operations. The injection of fluids associated with oil and natural gas production, including such fluids containing NORM, would continue to be regulated under existing Class II UIC requirements or under applicable regulations prescribed by the Primacy State agency.

4. Existing Regulations Being Reiterated or Replaced in 40 CFR Part 144, Subpart G

The existing description of the five classes of injection wells in § 144.6 has been reiterated in § 144.80 in the new Subpart G. Similarly, the existing prohibition of fluid movement in § 144.12 has been reiterated in § 144.82.

The description of when Class V injection is authorized by rule in § 144.24 has been deleted and moved to §§ 144.84 in the new Subpart G.

5. Part 145—State UIC Program Requirements

The Agency has amended § 145.11 to be consistent with the changes in 40 CFR Part 144. These amendments insert a set of new requirements in § 144.88 that State programs must have the legal authority to implement.

These amendments to Part 145 are technical corrections to incorporate the changes to 40 CFR Part 144. The corrections include a reference to the new section and a redesignation of paragraphs to accommodate the new references.

6. Sections 144.23 and 146.10—Class IV Wells

The August 28, 1995 notice proposed to add a new § 144.23(c) to clearly rule authorize Class IV wells used to inject treated water into the formation from which it came if such injection is approved by EPA or a State as part of a RCRA or CERCLA remediation program. The 1995 notice also proposed to add a new paragraph in § 146.10(b) to reiterate that owners or operators of Class IV wells in EPA-administered programs have to close their well in accordance with the existing requirements in § 144.23(b) prior to abandonment. Both of these proposals, which are described in more detail in

the preamble of the 1995 proposal (see 60 FR 44665), are not related to Class V wells and thus were discussed but not revisited in the 1998 proposed revisions to the Class V regulations (63 FR 40587).

In general, public commentors supported the August 28, 1995 proposal as it related to section 144.23. Therefore, EPA is finalizing new language at § 144.23 as proposed in 1995 as part of this rulemaking action.

No commentors addressed the proposed addition in § 146.10(b) presumably because it simply reiterates the existing Class IV well closure requirement in § 144.23(b) for the sake of clarity. Accordingly, EPA is finalizing the new § 146.10(b) as proposed in 1995.

V. Cost of the Rule

The Agency has prepared an Economic Analysis (EA) of today’s final rule to assess its costs. This section summarizes the burden of the final rule on Class V large-capacity cesspool and motor vehicle waste disposal well owner/operators and the methods employed to calculate this impact. The complete EA has been placed in the rule-making docket.

A. Methodology Overview

EPA’s methodology for estimating the national cost of the rule is largely identical to the methodology used to analyze the July 1998 proposed rule. The analysis was modified in certain respects, however, to reflect changes in the rule in response to public comment on the proposal and to make use of data that was not available at the time of proposal. On May 21, 1999, EPA published a Notice of Data Availability or “NODA” (64 FR 27741) to describe and request public comment on the additional data obtained by the Agency since its publication of the proposed rule in July 1998.

The following discussion summarizes the revisions to the Economic Analysis based data obtained after the proposal. The complete analytic methodology, along with the detailed results of the analysis, are presented in the Economic Analysis document available in the public docket.

1. Revised Estimates of the Numbers of Affected Wells

The Economic Analysis reflects new estimates of the number of wells that will be affected by today’s rule. These estimates are based on information collected as a part of the “Class V Study” described in Section III.C of this preamble and the notice of data availability published on May 21, 1999. The Class V Study provides the latest

State inventory information (*i.e.*, on the documented and estimated number of wells of motor vehicle wells and large-capacity cesspools) reported to EPA in questionnaires completed by staff in the States and EPA Regions. The Economic Analysis uses the Class V Study to determine the national universe of potentially affected Class V UIC wells. (In contrast, the prior analysis developed national estimates of the number of waste disposal wells by employing a number of assumptions, because survey data on the number of wells were not available.)

EPA received comments on the use of this data from five commentors. These commentors expressed concern that there are uncertainties associated with these data. EPA understands the concerns of the commentors and recognizes that a certain amount of uncertainty exists with this (and any other) facility inventory data. However, EPA believes that the new data presented in the NODA represents the best available information to use in the economic analysis supporting today's rule. EPA further believes that using this new information to estimate the economic impact of the Class V requirements is a vast improvement over the economic analysis for the proposed rule. In that analysis, EPA had to make numerous assumptions, relating to Class V well inventories, to estimate the economic burden of the new requirements.

The Class V study also collected State Class V regulations. EPA reviewed State regulations to determine which States had requirements that were at least as stringent as today's final rule. The analysis then excluded wells in States with UIC programs that are at least as stringent as today's final rule. For example, the analysis excludes large-capacity cesspools in States that already have banned them in their regulations.

To calculate the number of motor vehicle waste disposal wells that fall within ground water protection areas, EPA assumed that States will delineate ground water protection areas by using areas of one-half mile radius around water supply wells for ground water community water systems (G-CWS) and of one-quarter mile radius around water supply wells for ground water non-transient non-community water systems (G-NTNCWS). This methodology is consistent with the 1998 economic analysis. However in the Economic Analysis for the final rule, EPA used data from State Drinking Water Source Assessment and Protection Programs, when available, to refine actual G-CWS and G-NTNCWS radii on a State by State basis. These State Drinking Water

Source Assessment and Protection Programs were described in the NODA of May 21, 1999.

The Economic Analysis estimates the number of wells assumed to fall within sensitive ground water areas based on State-specific data regarding the presence of certain conditions that might be considered sensitive for purposes of ground water protection (*e.g.*, sole source aquifers, shallow unconsolidated aquifers, karst, fractured bedrock). The NODA requested public comment on applying the rule to wells in sensitive ground water areas.

As a result of the new data and estimation methodology and the modified scope of the rule as applied to motor vehicle waste disposal wells in sensitive ground water areas, the number of wells estimated to be affected by the rule has changed relative to EPA's estimates for the proposed rule. The number of affected large-capacity cesspools is now estimated at 2,723 (compared to 55 estimated for the proposed rule). The number of affected motor vehicle wells is now estimated at to range from 3,035 to 9,903 (compared to 7,045 estimated for the proposed rule). This range is based on the amount of land area that States may delineate as sensitive.

2. Phase-in Assumptions

The Economic Analysis has been revised to more realistically model when the rule will take effect. This is important primarily due to one aspect of how the final rule differs relative to the proposed rule. Specifically, with regard to motor vehicle wells, the final rule applies not only to wells in ground water protection areas (as did the proposed rule), but also to wells in sensitive ground water areas. However, the rule requires wells in ground water protection areas to come into compliance with the rule no later than 2004, whereas motor vehicle wells in sensitive ground water areas must come into compliance over a slightly longer period (by 2007). Moreover, even for large-capacity cesspools and for motor vehicle wells in ground water protection areas, it is unrealistic to assume that all wells will come into compliance in the same year.

To accurately evaluate the costs of the rule, the Economic Analysis has been revised to recognize the different time periods over which wells are expected to come into compliance. For motor vehicle wells in ground water protection areas, this period is 2001–2004. For motor vehicle wells in sensitive ground water areas, this period is 2004–2007. For large-capacity cesspools, this period is 2001–2005.

3. Higher Closure Costs

EPA has increased the estimated well closure costs associated with the final rule based on data obtained from several sources following the publication of the proposed Class V rule (63 FR 40586, July 29, 1998). Specifically, EPA obtained additional well closure cost data from EPA Region II, as well as cost data submitted by the Penske Truck Leasing Company (Penske). Each of these sources was discussed in the NODA of May 21, 1999. EPA also considered the cost data submitted by the American Trucking Association (ATA) during the public comment period for the proposed rule.

- *EPA Region II Data.* EPA obtained well closure cost data from EPA Region II during a staff visit in March 1999 to review case files on Class V wells. This visit provided additional information on Class V motor vehicle wells found within the State of New York. Among the information obtained were a limited number of detailed cost breakdowns used as cost data references for the revised economic analysis.

- *Penske Truck Leasing Company (Penske).* The Penske data included closure cost information for seven Class V well closures, as well as a summary of closure costs for fifteen wells closed by Penske. EPA used two of the seven well closure reports that provided an itemized list of well closure costs. In addition, the EPA used the general summary sheet to obtain information on the costs associated with various alternative motor vehicle wastewater management strategies. The Penske information reflected, in particular, the costs of well closure activities at larger truck maintenance and washing facilities, rather than smaller automobile service facilities.

- *American Trucking Association (ATA).* During the public comment period on the proposed rule, the ATA submitted a set of comments presenting a variety of actual well closure costs and approximate cost ranges (*e.g.*, minimum and maximum costs). The appendices included summaries with non-itemized closure costs for 24 different motor vehicle facilities (including some of the same facilities described in the Penske data) as well as other summaries presenting partially-itemized closure costs and costs associated with alternative wastewater disposal strategies (*e.g.*, connection to a sanitary sewer). Most of the well closure cost data provided by the ATA were aggregated in a manner that made it difficult to determine costs for specific well closure activities. Consequently, EPA relied primarily on certain

summary sheets included in the appendices.

EPA compared these data to the costs used in the economic analysis for the proposed rule. Specific cost elements (e.g., soil waste disposal fees) used in the 1998 economic analysis were compared to the corresponding cost elements found in cost data from the three sources. Average costs were used when various cost estimates were available. Some cost elements could not be compared to cost elements reported in other sources (ATA, Penske, EPA Region II) because the other sources presented only aggregated costs or they categorized costs in a different manner.

As part of the comparison, EPA also considered the scope and context of the new data. For example, larger facilities that perform truck maintenance and truck washing may generate a larger amount of wastewater, with different wastewater constituents, than most smaller automobile service facilities; therefore, the facilities might have a larger or different type of Class V well. In addition, more extensive contamination might occur at such sites, requiring more extensive well closure activities which in turn led to higher well closure costs. Well closures and clean ups performed voluntarily by the facility owner (e.g., to obtain an optional no-liability verification letter from the State environmental authority) or as a result of a notice of violation or EPA Administrative Order could be more extensive than would be required by the new Class V rule.

EPA's cost comparison and analysis of the new data indicated that EPA's closure cost estimates in the proposal were generally reasonable or even overestimated the cost of some activities. However, the comparison also revealed that EPA had underestimated the fees that contractors, consultants, and/or engineers would charge for their well closure services. Specifically, EPA's prior estimates did not take into account the fact that motor vehicle facilities sometimes hire consultants and/or engineers to lead the well closure efforts. EPA therefore increased the estimate for the average cost of closing a motor vehicle waste disposal well to account for hiring consultants and engineers. However, because the rule does not require a facility to hire a consultant or engineer to close a well, EPA estimates that only 10 percent of the motor vehicle facilities will do so. The new estimates therefore reflect a prorated average cost of hiring consultants and/or engineers. EPA has concluded that no other adjustments to the unit costs used in the economic analysis are necessary.

B. National Cost of the Rule

The Agency estimates the total annual cost of the rule ranges from \$18.1 million to \$40.3 million. This estimate assumes that all large-capacity cesspools will be affected by the rule, but that only those motor vehicle wells located in ground water protection areas or sensitive ground water areas will be affected. This assumption is consistent with EPA's belief that all States will complete their assessments of ground water protection areas by January 2004 and will delineate sensitive ground water areas by January 2004. In the event that a State fails to delineate ground water protection areas, or elects not to delineate sensitive ground water areas, then the provisions of the rule would apply to all motor vehicle wells in the State permanently. However, the Agency believes it unlikely that the rule will be applied to motor vehicles State-wide in any State because most State Drinking Water Assessment Programs will be approved by EPA by the end of the year and all States appear to be on track to meet the milestones established in the new Class V requirements for ground water protection areas. Further, States can receive a one year extension if they are making reasonable progress in completing assessments for ground water protection areas.

C. Facility Impacts

The final rule results in an estimated average annual cost per facility to owners/operators of motor vehicle waste disposal wells of between \$4,450 and \$11,000 depending on the waste streams generated by the facility. The estimated average annual cost per facility to owner/operators of large-capacity cesspools is \$3,626. These per facility costs are amortized over 20 years at a discount rate of 7 percent.

EPA estimates that companies in at least 18 SIC codes will be affected by the final rule. EPA estimates the total number of facilities affected by the rule to be 5,300 for motor vehicle wells and 2700 for large-capacity cesspools. Approximately 98 percent of the affected facilities are classified as small businesses under the Small Business Administration regulations. See Section VI.D for a discussion of impacts to small businesses. For the final rule, EPA estimates that 2,600 of the entities (or 50 percent the total businesses affected) will have to incur a cost of greater than one percent of sales to comply with the proposed rule. An estimated 945 businesses will incur costs greater than three percent of sales under the final rule. The cost per facility includes the full cost owners and operators would

incur to implement BMPs such as recycling and waste reduction. A recent survey of motor vehicle related facilities indicated that a majority of facilities are already implementing some BMPs. Therefore, EPA believes that the number of facilities affected at greater than three percent of sales might be overestimated.

The rule also affects about 380 small government entities. EPA did not estimate the total number of governments that are affected by the final rule. Governments are expected to incur a cost of less than one percent of their net revenue.

VI. Effect on States With Primacy

According to regulations at 40 CFR 145.32, Primacy States would have 270 days from the effective date of the final rule to submit to EPA documents demonstrating that proper legal authority and regulations exist to administer and enforce the new requirements for Class V cesspools and motor vehicle waste disposal wells. Depending on the existing State program and authorities, these documents could include a modified program description that outlines the structure, coverage, and processes of the State's Class V UIC program. Revisions to State UIC Programs needed to incorporate the new requirements will be subject to public notice and comment requirements.

Reasonable efforts by States to implement and enforce the new requirements as part of their ongoing programs should not be overly burdensome, because the new requirements are primarily directed toward well owners/operators, not UIC program authorities. For example, the ban on new motor vehicle waste disposal wells is self-implementing by owners or operators, with no new reporting, inspection, or other administrative requirements for Primacy States. However, there may be an increased burden on States that choose to use the waiver option for existing motor vehicle wells to review the permit application and appropriate conditions for each facility or facilities wishing to keep its motor vehicle waste disposal well open. Based on this review, States have to either deny the application or develop and enforce permit requirements to make sure the well does not endanger USDWs. Secondly, Primacy States may delineate other sensitive ground water areas or choose to implement the rule statewide. States will submit a plan to the EPA with their primacy program revision. The plan will outline how they intend to conduct the delineations.

VII. Administrative Requirements

A. Executive Order 12866

Under Executive Order 12866, [58 FR 51,735 (October 4, 1993)] the Agency must determine whether the regulatory action is "significant" and therefore subject to OMB review and the requirements of the Executive Order. The Order defines "significant regulatory action" as one that is likely to result in a rule that may: (1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that this rule is a "significant regulatory action." As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations are documented in the public record.

B. Children's Health Protection and Executive Order 13045

Executive Order 13045, entitled "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be "economically significant" as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This final rule is not subject to the Executive Order because it is not economically significant according to the criteria for economic significance in E.O. 12866. Further, the Agency does not have reason to believe the rule concerns environmental health or safety risks that may have a disproportionate effect on children. The environmental

health and safety issues addressed by this rule are the protection of public drinking water sources used by all sectors of the population.

C. Paperwork Reduction Act

The Office of Management and Budget (OMB) has approved the information collection requirements contained in this rule under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*) and has assigned OMB control number 2040-0214.

Several types of information will be collected under the rule. Owners and operators of large-capacity cesspools (which are banned under today's rule) will be required to submit a pre-closure notification to the State or EPA indicating their intention to close their large-capacity cesspool. Similarly, some owners and operators of Class V motor vehicle waste disposal wells located within a ground water protection areas or State-delineated sensitive ground water areas will close and must also submit a pre-closure notification. The pre-closure notifications will enable EPA and States to ensure that wells are closed properly.

Other motor vehicle well owners and operators that receive waivers will be required to obtain a permit and to meet the monitoring requirements as specified in the permit. While EPA has not specified the frequency of monitoring, for the purposes of the ICR, annual sludge monitoring and quarterly injectate monitoring for the first three years after the permit is received and annual monitoring thereafter was assumed in order to calculate information collection costs. The permit application and monitoring reports will enable the States and EPA to evaluate whether continued operation of the well will pose an unacceptable threat to ground water.

At the State level, primacy States will need to prepare revised primacy applications to demonstrate their readiness to implement the rule. Also, States and EPA (for direct implementation States), are likely to delineate sensitive ground water areas within their State including karst, fractured bedrock, shallow unconsolidated aquifers, and sole source aquifers. This process will entail preparing a plan outlining the proposed methods for delineation that will be submitted with the States primacy program revision. The delineations will enable States and EPA to determine which motor vehicle waste disposal wells are affected by today's final rule.

EPA believes the information discussed above is essential to protecting each State's ground water

drinking supplies. EPA uses information on all classes of injection wells, including Class V wells, to track the performance of the UIC Program toward meeting its goal of protecting USDWs from potential threats due to injected wastes. Responses to the request for information will be mandatory in accordance with provisions in 40 CFR 144.83 (Underground Injection Control). Pre-closure notifications allow UIC Programs to track the success of the Program in closing those wells that pose the greatest threat to USDWs. The Agency uses the information supplied in permit applications to track the location and numbers of Class V wells. Monitoring data provide information on the types of wastes injected and will be used to determine whether or not injection should be allowed to continue and under what conditions. State Drinking Water Source Assessment and Protection Programs may use information on permitted or closed Class V injection wells if they choose to update their contaminant source inventories.

Any Class V injection well operator may request that information submitted be kept confidential, as provided in 40 CFR 144.5 (Confidentiality of Information). All confidential information is treated in accordance with the provisions of 40 CFR part 2 (Public Information). Respondents to the information collection requirements may claim confidentiality by stamping the words "confidential business information" on each page containing such information. However, the Agency will not consider the following information confidential:

- The name and address of any facility with a Class V waste disposal well.
- Information regarding the existence, absence, or level of contaminants in drinking water.

If no claim of confidentiality is made at the time of submission, EPA may make the information available to the public without further notice.

EPA has estimated the burden associated with the specific record keeping and reporting requirements (summarized above) of the rule in an accompanying Information Collection Request (ICR). Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and

disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

The ICR estimates the hourly burden and cost to owners and operators of affected Class V wells for complying with the requirements. EPA estimates that, over the three years covered by the information collection request, the number of owners and operators of Class V injection wells responding to the information collection request will be 1,463. The average annual hours per response for notification of well closure is 4.5 hours at a cost of \$115 for large-capacity cesspools and 7 hours at a cost of \$621 for motor vehicle waste disposal wells. The notification is a one time only requirement. There are no operation and maintenance costs associated with well closure. For owners and operators of motor vehicle waste disposal wells who seek a waiver and obtain a permit, the average annual hours per permit application is 58 hours at a cost of \$1,358. The costs for quarterly injectate monitoring and annual sludge monitoring, and annual reporting is \$2,057 per facility per year.

Over the three years covered by the ICR, a total of 1,192 Class V wells (including motor vehicle waste disposal wells and large-capacity cesspools) may be closed. In addition, 271 operators of motor vehicle waste disposal wells are expected to seek a waiver from the ban and apply for permits requiring them to monitor their injectate and sludge.

The total respondent burden associated for the 3-year period is estimated to be 63,024 hours (an average of 21,008 hours per year), and the present value cost will be \$2,680,674 (an average of \$954,075 per year). The average annual burden per owner/operator is 75.5 hours; the cost per response is \$5,203. The average annual burden per State is 984 hours; their cost per response is \$26,143.

An Agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR Chapter 15. EPA is amending the table in Part 9 of currently approved ICR control numbers issued by OMB for various regulations to list the information requirements contained in this final rule.

D. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601 et seq.

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's rule on small entities, a small entity is defined as: (1) A small business based on the definition of small business found in the Small Business Act (SBA); (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

In accordance with section 603 of the RFA, EPA prepared an initial regulatory flexibility analysis (IRFA) for the proposed rule and convened a Small Business Advocacy Review Panel to obtain advice and recommendations of representatives of the regulated small entities in accordance with section 609(b) of the RFA (see 63 FR 40586). A detailed discussion of the Panel's advice and recommendations is found in the Panel Report (W-98-05 A). A summary of the Panel's recommendations is presented at 63 FR 40590.

As required by section 604 of the RFA, EPA also prepared a final regulatory flexibility analysis (FRFA) for today's final rule. The FRFA addresses the issues raised by public comments on the IRFA, which was part of the proposal of this rule. The FRFA is available for review in the docket and is summarized below.

The final rule adds new requirements for two categories of endangering Class V wells to ensure protection of underground sources of drinking water. In particular, it affects the owners and operators of existing motor vehicle waste disposal wells in ground water protection areas and other sensitive ground water areas and owners and operators of new motor vehicle waste disposal wells and large-capacity cesspools nationwide (both types of Class V wells are discussed in the FRFA). As discussed in Section V.B, EPA estimates that approximately 5,300

motor vehicle wells and approximately 2,700 cesspools would be subject to the final rule.

EPA's analysis to determine the impacts on small businesses uses the same methodology as the economic analysis for all businesses, as discussed in Section V, except the SBA size thresholds for small businesses were used to determine the number of small businesses affected. The SBA size thresholds were used in conjunction with 1992 census data to determine the percentage of small businesses in each of the 18 SIC categories believed to have affected wells. Approximately 4,800 small businesses and 380 small governments are affected by the motor vehicle well provisions of the final rule. EPA has limited data on the type of entities that use large-capacity cesspools and therefore has not estimated the number of small entities affected. EPA did not receive any public comment on the initial regulatory flexibility analysis.

The rule bans existing motor vehicle waste disposal wells in ground water protection areas and other sensitive ground water areas, but allows them to continue to operate if they seek a waiver from the ban and obtain a permit. The final rule also bans new motor vehicle waste disposal wells and new and existing large-capacity cesspools nationwide. EPA estimates that about 50 percent of the affected small entities may incur costs for closure or obtaining a permit that represent more than 1 percent of their sales (or revenue for small governments). EPA estimates that about 18 percent of the affected small entities may incur costs that represent more than 3 percent of their sales (or revenue for small governments). Based on these estimates, EPA has determined that the final rule might have a significant economic impact on a substantial number of small entities.

To reduce the impact of the final rule on small entities, EPA has attempted to keep permitting, reporting, and other administrative requirements to a minimum to provide regulatory relief to small entities while protecting drinking water supplies. In fact, the final rule incorporates many of the consensus recommendations offered by the Small Business Advocacy Review Panel that was convened by EPA to obtain advice and recommendations from representatives of affected small entities in accordance with Section 609(b) of the Act. In particular, the Panel recommended that the rule offer alternatives to the ban of Class V motor vehicle waste disposal wells. Therefore, the final rule allows owners/operators of existing motor vehicle waste disposal wells to seek a waiver from the ban and

obtain a permit. EPA also adopted the Panel recommendations that UIC Program Directors be allowed to extend the time to comply with the new requirements from 90 days to up to a year in certain situations. The final rule allows owners and operators one year to comply with the new requirements, and allows the UIC Program Director to extend the deadline for up to an additional year if necessary to install treatment or hook up to a sewer system.

In the proposed rule, one option and one alternative were proposed for existing motor vehicle waste disposal wells: a ban; and rule authorization with additional requirements. The ban was not selected because, while it would offer the greatest protection to USDWs, the Agency recognized that there are some facilities that might be able to meet MCLs at the point of injection and could therefore seek a waiver from the ban and obtain a permit that allows them to continue using their well without endangering USDWs. The Agency did not choose the rule authorization option because it would not insure adequate protection of USDWs.

Other changes made in response to Panel recommendations include the following: The preamble clarifies that Class V wells at motor vehicle service facilities may not be subject to the rule if motor vehicle waste fluids are prevented from entering the well; the supporting economic analysis has been revised to acknowledge and account for the cleanup requirements that may be triggered by the rule to close certain Class V wells and to account for the likely overlap between areas where Class V wells are located and source water protection areas; owners and operators of existing motor vehicle waste disposal well can take steps to convert their well to another Class V well type; and the regulatory language has been expanded to identify ways in which well owners or operators can learn whether they are in a source water protection area.

EPA is requiring owner/operators of large-capacity cesspools and facilities with motor vehicle waste disposal wells that will close their well as a result of the rule to submit a single notification of their intent to close their wells. The collection of the pre-closure notification is necessary to track high-priority closures. Some motor vehicle waste disposal wells may choose to remain in operation based on a one-time waiver application from the ban to obtain a permit. The ICR assumes that States may require as a permit condition the collection of quarterly injectate monitoring and annual sludge

monitoring data during the first three years, in order to provide information for owners and operators and the State on the injection of potentially threatening wastes. Individual States will determine whether less frequent collection may be appropriate for wells in their States. The majority of the information collection, reporting and recordkeeping required by this rule can be done by technical and clerical staff.

As required by section 212 of SBREFA, EPA also is preparing a small entity compliance guide to help small entities comply with this rule. Small entities can obtain a copy of the compliance guide by contacting the Safe Drinking Water Hotline at (800) 426-4791, their State or EPA Regional UIC Director or the EPA website (<http://www.epa.gov/ogwdw/>). The small entity compliance guide will be available in April 2000.

E. Executive Order 13132: Federalism

Executive Order 13132, entitled "Federalism" (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" is defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government." Under Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. EPA also may not issue a regulation that has federalism implications and that preempts State law unless the Agency consults with State and local officials early in the process of developing the proposed regulation.

If EPA complies by consulting, Executive Order 13132 requires EPA to provide to the Office of Management and Budget (OMB), in a separately identified section of the preamble to the rule, a federalism summary impact statement (FSIS). The FSIS must include a description of the extent of EPA's prior consultation with State and local officials, a summary of the nature of

their concerns and the agency's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of State and local officials have been met. Also, effective November 2, 1999, when EPA transmits a draft final rule with federalism implications to OMB for review pursuant to Executive Order 12866, EPA must include a certification from the agency's Federalism Official stating that EPA has met the requirements of Executive Order 13132 in a meaningful and timely manner.

This final rule will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. Thus, the requirements of section 6 of the Executive Order do not apply to this rule. This rule establishes requirements for owners and operators of certain Class V UIC wells. There will also be some costs to the implementing agency to administer this rule, however, EPA does not believe the incremental cost to administer the new requirements in the rule will be substantial. States and local governments may own or operate a well subject to this rule. However, the number of wells owned by States and local governments are limited and therefore there will not be substantial direct effects.

Although section 6 of Executive Order 13132 does not apply to this rule, EPA did consult with State and local officials throughout the development of this rule. EPA consulted with States during numerous Ground Water Protection Council meetings, stakeholder meetings held prior to rule proposal (63 FR 40590), and the National Drinking Water Advisory Council UIC/ Source Water working group meetings. States primarily were concerned with a provision in the proposed rule stated the requirements would be applied statewide if States failed to complete their Drinking Water Source Assessment and Protection Programs. The final rule allows States to apply to EPA for up to a one year extension for to complete their assessments (and sensitive ground water area delineations) if they have made reasonable progress. State comments on the proposed rule are addressed in the response to comment document.

F. Executive Order 13084: Consultation and Coordination With Indian Tribal Governments

Under Executive Order 13084, EPA may not issue a regulation that is not

required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments, or EPA consults with those governments. If EPA complies by consulting, Executive Order 13084 requires EPA to provide to the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected officials and other representatives of Indian tribal governments "to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities."

Today's rule does not significantly or uniquely affect the communities of Indian tribal governments because there are ten documented wells on tribal lands, and the majority of those are owned by private businesses not by Tribal governments. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this rule. However, EPA did conduct outreach to Indian tribal governments during the comment period for the proposed rule. EPA Regions distributed information to tribal representatives through; presentations at water association meetings; distributing the proposed rule to Indian health services; direct mailings and notifying national tribal organizations.

G. Unfunded Mandates

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable

number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements. EPA consulted with State and local governments, as described in section VI.E. and tribes as discussed in section VI.F.

EPA has determined that this rule does not contain a Federal mandate that may result in expenditures of \$100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any one year. Specifically, the annualized costs of this rule to the regulated community are estimated to range from \$18.1 million to \$40.3 million. The annualized cost estimates for State governments are \$254,000. Thus, today's rule is not subject to the requirements of section 202 and 205 of the UMRA.

EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small local governments. Because EPA estimates that any small local government entities affected by this final rule will incur a cost of less than one percent of their net revenue, EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small local governments.

H. National Technology Transfer and Advancement Act

As noted in the proposed rule, section 12(d) of the National Technology Transfer and Advancement Act of 1995 ("NTTAA"), Public Law No. 104-113 section 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities

unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

As explained in the proposal, this rule does not involve technical standards. Therefore, EPA did not consider the use of any voluntary consensus standards, and no commentator suggested otherwise or suggested any application.

I. Environmental Justice

Pursuant to Executive Order 12898 (59 FR 7629, February 16, 1994), the Agency has considered environmental justice related issues with regard to the potential impacts of this action on the environmental and health conditions in low-income and minority communities. The Agency believes that today's rule provides equal public health protection to communities irrespective of their socio-economic condition and demographic make-up.

J. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2). This rule will be effective April 5, 2000.

List of Subjects

40 CFR Part 9

Environmental protection, Reporting and recordkeeping requirements.

40 CFR Part 144

Administrative practice and procedure, Hazardous waste, Indians-lands, Water supply.

40 CFR Part 145

Confidential business information, Indians-lands, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Water supply.

40 CFR Part 146

Hazardous waste, Indians-lands, Reporting and recordkeeping requirements, Water supply.

Dated: November 23, 1999.

Carol M. Browner, Administrator.

For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as follows:

PART 9—AMENDED

1. The authority citation for part 9 continues to read as follows:

Authority: 7 U.S.C. 135 et seq., 136–136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601–2671; 21 U.S.C. 331j, 346a, 348; 31 U.S.C. 9701; 33 U.S.C. 1251 et seq., 1311, 1313d, 1314, 1318, 1321, 1326, 1330, 1342, 1344, 1345 (d) and (e), 1361; E.O. 11735, 38 FR 21243, 3 CFR, 1971–1975 Comp. p. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–1, 300j–2, 300j–3, 300j–4, 300j–9, 1857 et seq., 6901–6992k, 7401–7671q, 7542, 9601–9657, 11023, 11048.

2. In § 9.1 the table is amended under the indicated heading by adding new entries in numerical order to read as follows:

§ 9.1 OMB approvals under the Paperwork Reduction Act.

Table with 2 columns: 40 CFR citation and OMB control No. Includes entries for Underground Injection Control Program.

PART 144—UNDERGROUND INJECTION CONTROL PROGRAM

3. The authority citation for part 144 continues to read as follows:

Authority: Safe Drinking Water Act, 42 U.S.C. 300f et seq.; Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq.

4. Section 144.1 is amended by adding a new paragraph (f)(1)(vii),

revising paragraphs (g)(1) introductory text, (g)(1)(iii), and (g)(2)(v) to read as follows:

§ 144.1 Purpose and scope of part 144.

- (f) (1) (vii) Subpart G of this part sets forth requirements for owners and operators of Class V injection wells. (g) (1) Specific inclusions. The following wells are included among those types of injection activities which are covered by the UIC regulations. (This list is not intended to be exclusive but is for clarification only.)

(iii) Any well used by generators of hazardous waste, or by owners or operators of hazardous waste management facilities, to dispose of fluids containing hazardous waste. This includes the disposal of hazardous waste into what would otherwise be septic systems and cesspools, regardless of their capacity.

(2) (v) Any dug hole, drilled hole, or bored shaft which is not used for the subsurface emplacement of fluids.

5. Section 144.3 is amended by adding new definitions in alphabetical order for "Cesspool," "Drywell," "Improved sinkhole," "Point of injection," "Sanitary waste," "Septic system," and "Subsurface fluid distribution system," and by revising the definitions of "Well" and "Well injection" to read as follows:

§ 144.3 Definitions.

Cesspool means a "drywell" that receives untreated sanitary waste containing human excreta, and which sometimes has an open bottom and/or perforated sides.

Drywell means a well, other than an improved sinkhole or subsurface fluid distribution system, completed above the water table so that its bottom and sides are typically dry except when receiving fluids.

Improved sinkhole means a naturally occurring karst depression or other natural crevice found in volcanic terrain and other geologic settings which have been modified by man for the purpose of directing and emplacing fluids into the subsurface.

Point of injection means the last accessible sampling point prior to waste

fluids being released into the subsurface environment through a Class V injection well. For example, the point of injection of a Class V septic system might be the distribution box—the last accessible sampling point before the waste fluids drain into the underlying soils. For a dry well, it is likely to be the well bore itself.

Sanitary waste means liquid or solid wastes originating solely from humans and human activities, such as wastes collected from toilets, showers, wash basins, sinks used for cleaning domestic areas, sinks used for food preparation, clothes washing operations, and sinks or washing machines where food and beverage serving dishes, glasses, and utensils are cleaned. Sources of these wastes may include single or multiple residences, hotels and motels, restaurants, bunkhouses, schools, ranger stations, crew quarters, guard stations, campgrounds, picnic grounds, day-use recreation areas, other commercial facilities, and industrial facilities provided the waste is not mixed with industrial waste.

Septic system means a "well" that is used to emplace sanitary waste below the surface and is typically comprised of a septic tank and subsurface fluid distribution system or disposal system.

Subsurface fluid distribution system means an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground.

Well means: A bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; or, a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole; or, a subsurface fluid distribution system.

Well injection means the subsurface emplacement of fluids through a well.

6. Section 144.6 is amended by adding a new paragraph (a)(3) and revising paragraph (e) to read as follows:

§ 144.6 Classification of wells.

(3) Radioactive waste disposal wells which inject fluids below the lowermost formation containing an underground source of drinking water within one quarter mile of the well bore.

(e) Class V. Injection wells not included in Class I, II, III, or IV. Specific types of Class V injection wells are described in § 144.81.

7. Section 144.23 is amended by adding a new paragraph (c) to read as follows:

§ 144.23 Class IV Wells

* * * * *

(c) Notwithstanding the requirements of paragraphs (a) and (b) of this section, injection wells used to inject contaminated ground water that has been treated and is being injected into the same formation from which it was drawn are authorized by rule for the life of the well if such subsurface emplacement of fluids is approved by EPA, or a State, pursuant to provisions for cleanup of releases under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601-9675, or pursuant to requirements and provisions under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6901-6992k.

8. Section 144.24 is amended by revising paragraph (a) to read as follows:

§ 144.24 Class V wells.

(a) A Class V injection well is authorized by rule, subject to the conditions in § 144.84

* * * * *

9. Section 144.26 is amended by revising paragraph (b)(1)(iii)(B) and removing paragraph (e).

§ 144.26 Inventory Requirements.

* * * * *

- (b) * * *
- (1) * * *
- (iii) * * *

(B) Radioactive waste disposal wells that are not Class I wells (40 CFR 146.5 (e)(11))

* * * * *

10. Subpart G is added to read as follows:

Subpart G—Requirements for Owners and Operators of Class V Injection Wells

Sec.
144.79 General.

Definition of Class V Injection Wells

- 144.80 What is a Class V injection well?
- 144.81 Does this subpart apply to me?

Requirements for All Class V Injection Wells

- 144.82 What must I do to protect underground sources of drinking water?
- 144.83 Do I need to notify anyone about my Class V injection well?
- 144.84 Do I need to get a permit?

Additional Requirements for Class V Large-Capacity Cesspools and Motor Vehicle Waste Disposal Wells

- 144.85 Do these additional requirements apply to me?

- 144.86 What are the definitions I need to know?
- 144.87 How does the identification of ground water protection areas and other sensitive areas affect me?
- 144.88 What are the additional requirements?
- 144.89 How do I close my Class V injection well?

Subpart G—Requirements for Owners and Operators of Class V Injection Wells

§ 144.79 General.

This subpart tells you what requirements apply if you own or operate a Class V injection well. You may also be required to follow additional requirements listed in the rest of this part. Where they may apply, these other requirements are referenced rather than repeated. The requirements described in this subpart and elsewhere in this part are to protect underground sources of drinking water and are part of the Underground Injection Control (UIC) Program established under the Safe Drinking Water Act. This subpart is written in a special format to make it easier to understand the regulatory requirements. Like other EPA regulations, it establishes enforceable legal requirements.

Definition of Class V Injection Wells

§ 144.80 What is a Class V injection well?

As described in § 144.6, injection wells are classified as follows:

(a) *Class I.* (1) Wells used by generators of hazardous waste or owners or operators of hazardous waste management facilities to inject hazardous waste beneath the lowermost formation containing, within one-quarter mile of the well bore, an underground source of drinking water.

(2) Other industrial and municipal disposal wells which inject fluids beneath the lowermost formation containing, within one quarter mile of the well bore, an underground source of drinking water;

(3) Radioactive waste disposal wells which inject fluids below the lowermost formation containing an underground source of drinking water within one quarter mile of the well bore.

(b) *Class II.* Wells which inject fluids:

(1) Which are brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations, unless those waters are classified as a hazardous waste at the time of injection.

(2) For enhanced recovery of oil or natural gas; and

(3) For storage of hydrocarbons which are liquid at standard temperature and pressure.

(c) *Class III.* Wells which inject fluids for extraction of minerals including:

- (1) Mining of sulfur by the Frasch process;
- (2) *In situ* production of uranium or other metals; this category includes only in situ production from ore bodies which have not been conventionally mined. Solution mining of conventional mines such as stopes leaching is included in Class V.

(3) Solution mining of salts or potash.

(d) *Class IV.* (1) Wells used by generators of hazardous waste or of radioactive waste, by owners and operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous waste or radioactive waste into a formation which within one quarter (1/4) mile of the well contains an underground source of drinking water.

(2) Wells used by generators of hazardous waste or of radioactive waste, by owners and operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous waste or radioactive waste above a formation which within one quarter (1/4) mile of the well contains an underground source of drinking water.

(3) Wells used by generators of hazardous waste or owners or operators of hazardous waste management facilities to dispose of hazardous waste, which cannot be classified under paragraph (a)(1) or (d)(1) and (2) of this section (e.g., wells used to dispose of hazardous waste into or above a formation which contains an aquifer which has been exempted pursuant to 40 CFR 146.04).

(e) *Class V.* Injection wells not included in Class I, II, III or IV. Typically, Class V wells are shallow wells used to place a variety of fluids directly below the land surface. However, if the fluids you place in the ground qualify as a hazardous waste under the Resource Conservation and Recovery Act (RCRA), your well is either a Class I or Class IV well, not a Class V well. Examples of Class V wells are described in § 144.81.

§ 144.81 Does this subpart apply to me?

This subpart applies to you if you own or operate a Class V well, for example:

(1) Air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling in a heat pump;

(2) Large capacity cesspools including multiple dwelling, community or regional cesspools, or other devices that receive sanitary wastes, containing human excreta, which have an open bottom and sometimes perforated sides. The UIC requirements do not apply to single family residential cesspools nor to non-residential cesspools which receive solely sanitary waste and have the capacity to serve fewer than 20 persons a day.

(3) Cooling water return flow wells used to inject water previously used for cooling;

(4) Drainage wells used to drain surface fluids, primarily storm runoff, into a subsurface formation;

(5) Dry wells used for the injection of wastes into a subsurface formation;

(6) Recharge wells used to replenish the water in an aquifer;

(7) Salt water intrusion barrier wells used to inject water into a fresh aquifer to prevent the intrusion of salt water into the fresh water;

(8) Sand backfill and other backfill wells used to inject a mixture of water and sand, mill tailings or other solids into mined out portions of subsurface mines whether what is injected is a radioactive waste or not.

(9) Septic system wells used to inject the waste or effluent from a multiple dwelling, business establishment, community or regional business establishment septic tank. The UIC requirements do not apply to single family residential septic system wells, nor to non-residential septic system wells which are used solely for the disposal of sanitary waste and have the capacity to serve fewer than 20 persons a day.

(10) Subsidence control wells (not used for the purpose of oil or natural gas production) used to inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with the overdraft of fresh water;

(11) Injection wells associated with the recovery of geothermal energy for heating, aquaculture and production of electric power;

(12) Wells used for solution mining of conventional mines such as stopes leaching;

(13) Wells used to inject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts;

(14) Injection wells used in experimental technologies.

(15) Injection wells used for in situ recovery of lignite, coal, tar sands, and oil shale.

(16) Motor vehicle waste disposal wells that receive or have received fluids from vehicular repair or maintenance activities, such as an auto body repair shop, automotive repair shop, new and used car dealership, specialty repair shop (e.g., transmission and muffler repair shop), or any facility that does any vehicular repair work. Fluids disposed in these wells may contain organic and inorganic chemicals in concentrations that exceed the maximum contaminant levels (MCLs) established by the primary drinking water regulations (see 40 CFR part 142). These fluids also may include waste petroleum products and may contain contaminants, such as heavy metals and volatile organic compounds, which pose risks to human health.

Requirements for All Class V Injection Wells

§ 144.82 What must I do to protect underground sources of drinking water?

If you own or operate any type of Class V well, the regulations below require that you cannot allow movement of fluid into USDWs that might cause endangerment, you must comply with other Federal UIC requirements in 40 CFR parts 144 through 147, and you must comply with any other measures required by your State or EPA Regional Office UIC Program to protect USDWs, and you must properly close your well when you are through using it. You also must submit basic information about your well, as described in § 144.83.

(a) *Prohibition of fluid movement.* (1) As described in § 144.12(a), your injection activity cannot allow the movement of fluid containing any contaminant into USDWs, if the presence of that contaminant may cause a violation of the primary drinking water standards under 40 CFR part 141, other health based standards, or may otherwise adversely affect the health of persons. This prohibition applies to your well construction, operation, maintenance, conversion, plugging, closure, or any other injection activity.

(2) If the Director of the UIC Program in your State or EPA Region learns that your injection activity may endanger USDWs, he or she may require you to close your well, require you to get a permit, or require other actions listed in § 144.12(c), (d), or (e).

(b) *Closure requirements.* You must close the well in a manner that complies with the above prohibition of fluid movement. Also, you must dispose or otherwise manage any soil, gravel, sludge, liquids, or other materials removed from or adjacent to your well in accordance with all applicable Federal, State, and local regulations and requirements.

(c) *Other requirements in Parts 144 through 147.* Beyond this subpart, you are subject to other UIC Program requirements in 40 CFR parts 144 through 147. While most of the relevant requirements are repeated or referenced in this subpart for convenience, you need to read these other parts to understand the entire UIC Program.

(d) *Other State or EPA requirements.* 40 CFR parts 144 through 147 define minimum Federal UIC requirements. EPA Regional Offices administering the UIC Program have the flexibility to establish additional or more stringent requirements based on the authorities in parts 144 through 147, if believed to be necessary to protect USDWs. States can have their own authorities to establish additional or more stringent requirements if needed to protect USDWs. You must comply with these additional requirements, if any exist in your area. Contact the UIC Program Director in your State or EPA Region to learn more.

§ 144.83 Do I need to notify anyone about my Class V injection well?

Yes, you need to provide basic "inventory information" about your well to the UIC Director, if you haven't already. You also need to provide any additional information that your UIC Program Director requests in accordance with the provisions of the UIC regulations.

(a) *Inventory requirements.* Unless you know you have already satisfied the inventory requirements in § 144.26 that were in effect prior to the issuance of this Subpart G, you must give your UIC Program Director certain information about yourself and your injection operation.

Note: This information is requested on national form "Inventory of Injection Wells," OMB No. 2040-0042.

(1) The requirements differ depending on your well status and location, as described in the following table:

<p>If your well is . . .</p>	<p>And you're in one of these locations ("Primacy" States, where the State runs the Class V UIC Program): Alabama, Arkansas, Commonwealth of Northern Mariana Islands, Connecticut, Delaware, Florida, Georgia, Guam, Idaho, Illinois, Kansas, Louisiana, Maine, Maryland, Massachusetts, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Puerto Rico, Rhode Island, South Carolina, Texas, Utah, Vermont, Washington, West Virginia, Wisconsin, or Wyoming</p>	<p>Or you're in one of these locations ("Direct Implementation" or DI Programs, where EPA runs the Class V UIC Program): Alaska, American Samoa, Arizona, California, Colorado, Hawaii, Indiana, Iowa, Kentucky, Michigan, Minnesota, Montana, New York, Pennsylvania, South Dakota, Tennessee, Virginia, Virgin Islands, Washington, DC, or any Indian Country</p>
<p>(i) New (prior to construction of your well)</p>	<p>. . . then you must contact your State UIC Program to determine what you must submit and by when..</p>	<p>. . . then you must submit the inventory information described in (a)(2) of this section prior to constructing your well.</p>
<p>(ii) Existing (construction underway or completed).</p>	<p>. . . then you must contact your State UIC Program to determine what you must submit and by when..</p>	<p>. . . then you must cease injection and submit the inventory information. You may resume injection 90 days after you submit the information unless the UIC Program Director notifies you that injection may not resume or may resume sooner.</p>

(2) If your well is in a Primacy State or a DI Program State, here is the information you must submit:

(i) No matter what type of Class V well you own or operate, you must submit at least the following information for each Class V well: facility name and location; name and address of legal contact; ownership of facility; nature and type of injection well(s); and operating status of injection well(s).

(ii) *Additional information.* If you are in a Direct Implementation State and you own or operate a well listed below you must also provide the information listed in paragraph (a) (2) (iii) as follows:

- (A) Sand or other backfill wells (40 CFR 144.81(8) and 146.5(e)(8) of this chapter);
- (B) Geothermal energy recovery wells (40 CFR 144.81(11) and 146.5 (e)(12) of this chapter);
- (C) Brine return flow wells (40 CFR 144.81(13) and 146.5 (e)(14) of this chapter);
- (D) Wells used in experimental technology (40 CFR 144.81(14) and 146.5 (e)(15) of this chapter);
- (E) Municipal and industrial disposal wells other than Class I; and
- (F) Any other Class V wells at the discretion of the Regional Administrator.

(iii) You must provide a list of all wells owned or operated along with the following information for each well. (A single description of wells at a single facility with substantially the same characteristics is acceptable).

(A) Location of each well or project given by Township, Range, Section, and Quarter-Section, or by latitude and longitude to the nearest second,

according to the conventional practice in your State;

- (B) Date of completion of each well;
 - (C) Identification and depth of the underground formation(s) into which each well is injecting;
 - (D) Total depth of each well;
 - (E) Construction narrative and schematic (both plan view and cross-sectional drawings);
 - (F) Nature of the injected fluids;
 - (G) Average and maximum injection pressure at the wellhead;
 - (H) Average and maximum injection rate; and
 - (I) Date of the last inspection.
- (3) Regardless of whether your well is in a Primacy State or DI Program you are responsible for knowing about, understanding, and complying with these inventory requirements.
- (b) *Information in response to requests.* If you are in one of the DI Programs listed in the table above, the UIC Program Director may require you to submit other information believed necessary to protect underground sources of drinking water.
- (1) Such information requirements may include, but are not limited to:
 - (i) Perform ground water monitoring and periodically submit your monitoring results;
 - (ii) Analyze the fluids you inject and periodically submit the results of your analyses;
 - (iii) Describe the geologic layers through which and into which you are injecting; and
 - (iv) Conduct other analyses and submit other information, if needed to protect underground sources of drinking water.

(2) If the Director requires this other information, he or she will request it from you in writing, along with a brief

statement on why the information is required. This written notification also will tell you when to submit the information.

(3) You are prohibited from using your injection well if you fail to comply with the written request within the time frame specified. You can start injecting again only if you receive a permit.

§ 144.84 Do I need to get a permit?

No, unless you fall within an exception described below:

(a) *General authorization by rule.* With certain exceptions listed in paragraph (b) of this section, your Class V injection activity is "authorized by rule," meaning you have to comply with all the requirements of this subpart and the rest of the UIC Program but you don't have to get an individual permit. Well authorization expires once you have properly closed your well, as described in § 144.82(b).

(b) *Circumstances in Which Permits or other Actions are Required.* If you fit into one of the categories listed below, your Class V well is no longer authorized by rule. This means that you have to either get a permit or close your injection well. You can find out by contacting the UIC Program Director in your State or EPA Region if this is the case. Subpart D of this Part tells you how to apply for a permit and describes other aspects of the permitting process. Subpart E of this Part outlines some of the requirements that apply to you if you get a permit.

(1) You fail to comply with the prohibition of fluid movement standard in § 144.12(a) and described in § 144.82(a) (in which case, you have to get a permit, close your well, and/or comply with other conditions

determined by the UIC Program Director in your State or EPA Region);

(2) You own or operate a Class V large-capacity cesspool (in which case, you must close your well as specified in the additional requirements below) or a Class V motor vehicle waste disposal well in a ground water protection area or sensitive ground water area (in which case, you must either close your well or get a permit as specified in the additional requirements in this subsection). New motor vehicle waste disposal wells and new cesspools are prohibited as of April 5, 2000;

(3) You are specifically required by the UIC Program Director in your State or EPA Region to get a permit (in which case, rule authorization expires upon the effective date of the permit issued, or you are prohibited from injecting into your well upon:

(i) Failure to submit a permit application in a timely manner as specified in a notice from the Director; or

(ii) Upon the effective date of permit denial);

(4) You have failed to submit inventory information to your UIC Program Director, as described in § 144.83(a) (in which case, you are prohibited from injecting into your well until you comply with the inventory requirements); or

(5) If you are in a DI State and you received a request from your UIC Program Director for additional information under § 144.83(b), and have failed to comply with the request in a timely manner (in which case, you are prohibited from injecting into your well until you get a permit).

Additional Requirements for Class V Large-Capacity Cesspools and Motor Vehicle Waste Disposal Wells

§ 144.85 Do these additional requirements apply to me?

(a) *Large-Capacity Cesspools.* The additional requirements apply to all new and existing large-capacity cesspools regardless of their location. If you are using a septic system for these type of wastes you are not subject to the additional requirements in this subpart.

(b) *Motor Vehicle Waste Disposal Wells Existing on April 5, 2000.* If you have a Class V motor vehicle waste disposal well these requirements apply to you if your well is located in a ground water protection area or other sensitive ground water area that is identified by your State or EPA Region. If your State or EPA Region fails to identify ground water protection areas and/or other sensitive ground water areas these requirements apply to all Class V motor vehicle wells in the State.

(c) *New Motor Vehicle Waste Disposal Wells.* The additional requirements apply to all new motor vehicle waste disposal wells as of April 5, 2000.

§ 144.86 What are the definitions I need to know?

(a) *State Drinking Water Source Assessment and Protection Program.* This is a new approach to protecting drinking water sources, specified in the 1996 Amendments to the Safe Drinking Water Act at Section 1453. States must prepare and submit for EPA approval a program that sets out how States will conduct local assessments, including: delineating the boundaries of areas providing source waters for public water systems; identifying significant potential sources of contaminants in such areas; and determining the susceptibility of public water systems in the delineated areas to the inventoried sources of contamination.

(b) *Complete Local Source Water Assessment for Ground Water Protection Areas.* When EPA has approved a State's Drinking Water Source Assessment and Protection Program, States will begin to conduct local assessments for each public water system in their State. For the purposes of this rule, local assessments for community water systems and non-transient non-community systems are complete when four requirements are met: First, a State must delineate the boundaries of the assessment area for community and non-transient non-community water systems. Second, the State must identify significant potential sources of contamination in these delineated areas. Third, the State must "determine the susceptibility of community and non-transient non-community water systems in the delineated area to such contaminants." Lastly, each State will develop its own plan for making the completed assessments available to the public.

(c) *Ground Water Protection Area.* A ground water protection area is a geographic area near and/or surrounding community and non-transient non-community water systems that use ground water as a source of drinking water. These areas receive priority for the protection of drinking water supplies and States are required to delineate and assess these areas under section 1453 of the Safe Drinking Water Act. The additional requirements in § 144.88 apply to you if your Class V motor vehicle waste disposal well is in a ground water protection area for either a community water system or a non-transient non-community water system, in many States, these areas will be the same as Wellhead Protection Areas that

have been or will be delineated as defined in section 1428 of the SDWA.

(d) *Community Water System.* A community water system is a public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

(e) *Non-transient Non-community Water System.* A public water system that is not a community water system and that regularly serves at least 25 of the same people over six months a year. These may include systems that provide water to schools, day care centers, government/military installations, manufacturers, hospitals or nursing homes, office buildings, and other facilities.

(f) *Delineation.* Once a State's Drinking Water Source Assessment and Protection Program is approved, the States will begin delineating their local assessment areas. Delineation is the first step in the assessment process in which the boundaries of ground water protection areas are identified.

(g) *Other Sensitive Ground Water Areas.* States may also identify other areas in the State in addition to ground water protection areas that are critical to protecting underground sources of drinking water from contamination. These other sensitive ground water areas may include areas such as areas overlying sole-source aquifers; highly productive aquifers supplying private wells; continuous and highly productive aquifers at points distant from public water supply wells; areas where water supply aquifers are recharged; karst aquifers that discharge to surface reservoirs serving as public water supplies; vulnerable or sensitive hydrogeologic settings, such as glacial outwash deposits, eolian sands, and fractured volcanic rock; and areas of special concern selected based on a combination of factors, such as hydrogeologic sensitivity, depth to ground water, significance as a drinking water source, and prevailing land-use practices.

§ 144.87 How does the identification of ground water protection areas and other sensitive ground water areas affect me?

(a) You are subject to these new requirements if you own or operate an existing motor vehicle well and you are located in a ground water protection area or an other sensitive ground water area. If your State or EPA Region fails to identify these areas within the specified time frames these requirements apply to all existing motor vehicle waste disposal wells within your State.

(b) *Ground Water Protection Areas.* (1) For the purpose of this subpart, States are required to complete all local source water assessments for ground water protection areas by January 1, 2004. Once a local assessment for a ground water protection area is complete every existing motor vehicle waste disposal well owner in that ground water protection area has one year to close the well or receive a permit. If a State fails to complete all local assessments for ground water protection areas by January 1, 2004, the following may occur:

(i) The new requirements in this subpart will apply to all existing motor vehicle waste disposal wells in the State and owners and operators of motor vehicle waste disposal wells located outside of completed assessments for ground water protection areas must close their well or receive a permit by January 1, 2005.

(ii) EPA may grant a State an extension for up to one year from the January 1, 2004 deadline if the State is making reasonable progress in completing the source water assessments for ground water protection areas. States must apply for the extension by June 1, 2003. If a State fails to complete the assessments for the remaining ground water protection areas by the extended date the rule requirements will apply to all motor vehicle waste disposal wells in the State and owners and operators of motor vehicle waste disposal wells located outside of ground water protection areas with completed assessments must close their well or receive a permit by January 1, 2006.

(2) The UIC Program Director may extend the compliance deadline for specific motor vehicle waste disposal wells for up to one year if the most efficient compliance option for the well is connection to a sanitary sewer or installation of new treatment technology.

(c) *Other Sensitive Ground Water Areas.* States may also delineate other sensitive ground water areas by January 1, 2004. Existing motor vehicle waste disposal well owners and operators within other sensitive ground water areas have until January 1, 2007 to receive a permit or close the well. If a State or EPA Region fails to identify these additional sensitive ground water areas by January 1, 2004, the new requirements of this rule will apply to all motor vehicle waste disposal wells in the State effective January 1, 2007 unless they are subject to a different compliance date pursuant to paragraph

(b) of this section. Again, EPA may extend the January 1, 2004 deadline for up to one year for States to delineate other sensitive ground water areas if the State is making reasonable progress in identifying the sensitive areas. States must apply for this extension by June 1, 2003. If a State has been granted an extension, existing motor vehicle waste disposal well owners and operators within the sensitive ground water areas have until January 1, 2008 to close the well or receive a permit, unless they are subject to a different compliance date pursuant to paragraph (b) of this section. If a State has been granted an extension and fails to delineate sensitive areas by the extended date, the rule requirements will apply to all motor vehicle waste disposal wells in the State and owners and operators have until January 1, 2008 to close the well or receive a permit, unless they are subject to a different compliance date pursuant to paragraph (b) of this section.

(d) *How to Find Out if Your Well is in a Ground Water Protection Area or Sensitive Ground Water Area.* States are required to make their local source water assessments widely available to the public through a variety of methods after the assessments are complete. You can find out if your Class V well is in a ground water protection area by contacting the State agency responsible for the State Drinking Water Source Assessment and Protection Program in your area. You may call the Safe Drinking Water Hotline at 1-800-426-4791 to find out who to call in your State for this information. The State office responsible for implementing the Drinking Water Source Assessment and Protection Program makes the final and official determination of boundaries for ground water protection areas. Because States that choose to delineate other sensitive ground water areas are also required to make the information on these areas accessible to the public, they may do so in a manner similar to the process used by the States in publicizing the EPA approved Drinking Water Source Assessment and Protection Program. You can find out if your Class V well is in an other sensitive ground water area by contacting the State or Federal agency responsible for the Underground Injection Control Program. You may call the Safe Drinking Water Hotline at 1-800-426-4791 to find out who to call for information.

(e) *Changes in the Status of the EPA Approved State Drinking Water Source Assessment and Protection Program.* After January 1, 2004 your State may

assess a ground water protection area for ground water supplying a new community water system or a new non-transient non-community water system that includes your Class V injection well. Also, your State may officially re-delineate the boundaries of a previously delineated ground water protection area to include additional areas that includes your motor vehicle waste disposal well. This would make the additional regulations apply to you if your motor vehicle waste disposal well is in such an area. The additional regulations start applying to you one year after the State completes the local assessment for the ground water protection area for the new drinking water system or the new re-delineated area. The UIC Program Director responsible for your area may extend this deadline for up to one year if the most efficient compliance option for the well is connection to a sanitary sewer or installation of new treatment technology.

(f) *What Happens if My State Doesn't Designate Other Sensitive Ground Water Areas?* If your State or EPA Region elects not to delineate the additional sensitive ground water areas, the additional regulations apply to you regardless of the location of your well by January 1, 2007, or January 2008 if an extension has been granted as explained in paragraph (c) of this section, except for wells in ground water protection areas which are subject to different compliance deadlines explained in paragraph (b) of this section.

(h) *Application of Requirements Outside of Ground Water Protection Areas and Sensitive Ground Water Areas.* EPA expects and strongly encourages States to use existing authorities in the UIC program to take whatever measures are needed to ensure Class V wells are not endangering USDWs in any other areas outside of delineated ground water protection areas and sensitive ground water areas. Such measures could include, if believed to be necessary by a UIC Program Director, applying the additional requirements below to other areas and/or other types of Class V wells. Therefore, the Director may apply the additional requirements to you, even if you are not located in the areas listed in paragraph (a) of this section.

§ 144.88 What are the additional requirements?

The additional requirements are specified in the following tables:

(a) TABLE 1.—ADDITIONAL REQUIREMENTS FOR LARGE-CAPACITY CESSPOOLS STATEWIDE

[See § 144.85 to determine if these additional requirements apply to you]

Well Status	Requirement	Deadline
If your cesspool is . . .	Then you . . .	By . . .
(1) Existing (operational or under construction by April 5, 2000).	(i) Must close the well (ii) Must notify the UIC Program Director (both Primacy States and Direct Implementation States) of your intent to close the well.. Note: This information is requested on national form "Preclosure Notification for Closure of Injection Wells,". Are prohibited	April 5, 2000. At least 30 days prior to closure. April 5, 2000.
(2) New or converted (construction not started before April 5, 2000).		

(b) TABLE 2.—ADDITIONAL REQUIREMENTS FOR MOTOR VEHICLE WASTE DISPOSAL WELLS

[See § 144.85 to determine if these additional requirements apply to you]

Well status	Requirement	Deadline
If your motor vehicle waste disposal well is	Then . . .	By . . .
(1) Existing (operational or under construction by April 5, 2000).	(i) If your well is in a ground water protection area, you must close the well or obtain a permit.	Within 1 year of the completion of your local source water assessment; your UIC Program Director may extend the closure deadline, but not the permit application deadline, for up to one year if the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technology.
	(ii) If your well is in an other sensitive ground water area, you must close the well or obtain a permit.	By January 1, 2007; your UIC Program Director may extend the closure deadline, but not the permit application deadline, for up to one year if the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technology.
	(iii) If you plan to seek a waiver from the ban and apply for a permit, you must meet MCLs at the point of injection while your permit application is under review, if you choose to keep operating your well.	The date you submit your permit application.
	(iv) If you receive a permit, you must comply with all permit conditions, if you choose to keep operating your well, including requirements to meet MCLs and other health based standards at the point of injection, follow best management practices, and monitor your injectate and sludge quality.	The date(s) specified in your permit.
	(v) If your well is in a State which has not completed all their local assessments by January 1, 2004 or by the extended date if your State has obtained an extension as described in 144.87, and you are outside an area with a completed assessment you must close the well or obtain a permit.	January 1, 2005 unless your State obtains an extension as described in 144.87 (b) in which case your deadline is January 1, 2006; your UIC Program Director may extend the closure deadline, but not the permit application deadline, for up to one year if the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technology.
	(vi) If your well is in a State that has not delineated other sensitive ground water areas by January 1, 2004 and you are outside of an area with a completed assessment you must close the well or obtain a permit regardless of your location.	January 1, 2007 unless your State obtains an extension as described in 144.87(c) in which case your deadline is January 2008.

(B) TABLE 2.—ADDITIONAL REQUIREMENTS FOR MOTOR VEHICLE WASTE DISPOSAL WELLS—Continued
 [See § 144.85 to determine if these additional requirements apply to you]

Well status	Requirement	Deadline
If your motor vehicle waste disposal well is	Then. . .	By. . .
	(vii) If you plan to close your well, you must notify the UIC Program Director of your intent to close the well (this includes closing your well prior to conversion). Note: This information is requested on national form "Preclosure Notification for Closure of Injection Wells".	At least 30 days prior to closure.
(2) New or converted (construction not started before April 5, 2000).	Are prohibited	April 5, 2000.

§ 144.89 How do I close my Class V injection well?

The following describes the requirements for closing your Class V injection well.

(a) *Closure.* Prior to closing a Class V large-capacity cesspool or motor vehicle waste disposal well, you must plug or otherwise close the well in a manner that complies with the prohibition of fluid movement standard in § 144.12 and summarized in § 144.82(a). If the UIC Program Director in your State or EPA Region has any additional or more specific closure standards, you have to meet those standards too. You also must dispose or otherwise manage any soil, gravel, sludge, liquids, or other materials removed from or adjacent to your well in accordance with all applicable Federal, State, and local regulations and requirements, as in § 144.82(b).

(2) Closure does not mean that you need to cease operations at your facility, only that you need to close your well. A number of alternatives are available for disposing of waste fluids. Examples of alternatives that may be available to motor vehicle stations include: recycling and reusing wastewater as much as possible; collecting and recycling petroleum-based fluids, coolants, and battery acids drained from vehicles; washing parts in a self-contained, recirculating solvent sink, with spent solvents being recovered and replaced by the supplier; using absorbents to clean up minor leaks and spills, and placing the used materials in approved waste containers and disposing of them properly; using a wet vacuum or mop to pick up accumulated rain or snow melt, and if allowed, connecting floor drains to a municipal sewer system or holding tank, and if allowed, disposing of the holding tank contents through a publicly owned treatment works. You should check with the publicly owned treatment works you

might use to see if they would accept your wastes. Alternatives that may be available to owners and operators of a large-capacity cesspool include: connection to a septic system; connection to sewer; and installation of an on-site treatment unit.

(b) *Conversions.* In limited cases, the UIC Director may authorize the conversion (reclassification) of a motor vehicle waste disposal well to another type of Class V well. Motor vehicle wells may only be converted if: all motor vehicle fluids are segregated by physical barriers and are not allowed to enter the well; and, injection of motor vehicle waste is unlikely based on a facility's compliance history and records showing proper waste disposal. The use of a semi-permanent plug as the means to segregate waste is not sufficient to convert a motor vehicle waste disposal well to another type of Class V well.

PART 145—STATE UIC PROGRAM REQUIREMENTS

11. The authority citation for part 145 continues to read as follows:

Authority: Safe Drinking Water Act, 42 U.S.C. 300f *et seq.*

Subpart B—[Amended]

12. Section 145.11 is amended by adding paragraph (a)(32) and by revising the first sentence of paragraph (b)(1) to read as follows:

§ 145.11 Requirements for permitting.

(a) * * *
 (32) Section 144.88—(What are the additional requirements?);
 * * * * *

(b)(1) States need not implement provisions identical to the provisions listed in paragraphs (a)(1) through (a)(32) of this section. * * *
 * * * * *

Subpart C—[Amended]

13. Section 145.23, is revised by adding paragraph (f)(12) to read as follows:

§ 145.23 Program description.

* * * * *
 (f) * * *

(12) *For Class V programs only.* A description of and a schedule for the State's plan to identify and delineate other sensitive ground water areas. States should consider geologic and hydrogeologic settings, ground water flow and occurrence, topographic and geographic features, depth to ground water, significance as a drinking water source, prevailing land use practices and any other existing information relating to the susceptibility of ground water to contamination from Class V injection wells when developing their plan. Within the schedule for the plan, States must commit to: completing all delineations of other sensitive ground water areas by no later than Jan. 1, 2004; making these delineation available to the public; implementing the Class V regulations, effective April 5, 2000, in these delineated areas by no later than January 1, 2007. Alternately, if a State chooses not to identify other sensitive ground water areas, the requirements for motor vehicle waste disposal wells would apply statewide by January 1, 2007.

PART 146—UNDERGROUND INJECTION CONTROL PROGRAM: CRITERIA AND STANDARDS

14. The authority citation for part 146 continues to read as follows:

Authority: Safe Drinking Water Act, 42 U.S.C. 300f *et seq.*; Resource Conservation and Recovery Act, 42 U.S.C. 6901 *et seq.*

15. Section 146.3 is amended by adding the following new definitions in alphabetical order: "Cesspool," "Drywell," "Improved sinkhole," "Point

of injection," "Sanitary waste," "Septic system," and "Subsurface fluid distribution system," and by revising the definitions of "Well" and "Well injection" to read as follows:

§ 146.3 Definitions.

* * * * *

Cesspool means a "drywell" that receives untreated sanitary waste containing human excreta, and which sometimes has an open bottom and/or perforated sides.

* * * * *

Drywell means a well, other than an improved sinkhole or subsurface fluid distribution system, completed above the water table so that its bottom and sides are typically dry except when receiving fluids.

* * * * *

Improved sinkhole means a naturally occurring karst depression or other natural crevice found in volcanic terrain and other geologic settings which have been modified by man for the purpose of directing and emplacing fluids into the subsurface.

* * * * *

Point of injection for Class V wells means the last accessible sampling point prior to waste fluids being released into the subsurface environment through a Class V injection well. For example, the point of injection of a Class V septic system might be the distribution box—the last accessible sampling point before the waste fluids drain into the underlying soils. For a dry well, it is likely to be the well bore itself.

* * * * *

Sanitary waste means liquid or solid wastes originating solely from humans and human activities, such as wastes collected from toilets, showers, wash basins, sinks used for cleaning domestic areas, sinks used for food preparation, clothes washing operations, and sinks or washing machines where food and beverage serving dishes, glasses, and utensils are cleaned. Sources of these wastes may include single or multiple residences, hotels and motels, restaurants, bunkhouses, schools, ranger stations, crew quarters, guard stations, campgrounds, picnic grounds, day-use recreation areas, other commercial facilities, and industrial facilities

provided the waste is not mixed with industrial waste.

* * * * *

Septic system means a "well" that is used to emplace sanitary waste below the surface and is typically comprised of a septic tank and subsurface fluid distribution system or disposal system.

* * * * *

Subsurface fluid distribution system means an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground.

* * * * *

Well means: A bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; or, a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole; or, a subsurface fluid distribution system.

Well injection means the subsurface emplacement of fluids through a well.

* * * * *

16. Section 146.5 is amended by adding a new paragraph (a)(3) and revising the first sentence of paragraph (e) introductory text to read as follows:

§ 146.5 Classification of injection wells.

* * * * *

(a) * * *

(3) Radioactive waste disposal wells which inject fluids below the lowermost formation containing an underground source of drinking water within one quarter mile of the well bore.

* * * * *

(e) *Class V*. Injection wells not included in Class I, II, III, or IV. Specific types of Class V injection wells are also described in 40 CFR 144.81. * * *

* * * * *

17. Section 146.10 is revised to read as follows:

§ 146.10 Plugging and abandoning Class I, II, III, IV, and V wells.

(a) Requirements for Class I, II and III wells. (1) Prior to abandoning Class I, II and III wells, the well shall be plugged with cement in a manner which will not allow the movement of fluids either into or between underground sources of drinking water. The Director may allow Class III wells to use other plugging materials if the Director is satisfied that such materials will prevent movement

of fluids into or between underground sources of drinking water.

(2) Placement of the cement plugs shall be accomplished by one of the following:

(i) The Balance method;

(ii) The Dump Bailer method;

(iii) The Two-Plug method; or

(iv) An alternative method approved by the Director, which will reliably provide a comparable level of protection to underground sources of drinking water.

(3) The well to be abandoned shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the Director, prior to the placement of the cement plug(s).

(4) The plugging and abandonment plan required in 40 CFR 144.51(o) and 144.52(a)(6) shall, in the case of a Class III project which underlies or is in an aquifer which has been exempted under § 146.04, also demonstrate adequate protection of USDWs. The Director shall prescribe aquifer cleanup and monitoring where he deems it necessary and feasible to insure adequate protection of USDWs.

(b) Requirements for Class IV wells. Prior to abandoning a Class IV well, the owner or operator shall close the well in accordance with 40 CFR 144.23(b).

(c) Requirements for Class V wells. (1) Prior to abandoning a Class V well, the owner or operator shall close the well in a manner that prevents the movement of fluid containing any contaminant into an underground source of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 141 or may otherwise adversely affect the health of persons. Closure requirements for motor vehicle waste disposal wells and large-capacity cesspools are reiterated at § 144.89.

(2) The owner or operator shall dispose of or otherwise manage any soil, gravel, sludge, liquids, or other materials removed from or adjacent to the well in accordance with all applicable Federal, State, and local regulations and requirements.

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