



Wednesday
July 29, 1998

Part II

**Environmental
Protection Agency**

40 CFR Parts 144, 145, and 146
Class V Injection Wells Underground
Injection Control Regulations, Revisions;
Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 144, 145 and 146

[FRL-6129-4]

RIN 2040-AB83

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

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) today is proposing changes to the Class V Underground Injection Control (UIC) regulations that would add new requirements for three categories of Class V wells that pose a high risk when located in ground water-based source water protection areas being delineated by states under the 1996 Amendments to the Safe Drinking Water Act (SDWA). Class V motor vehicle waste disposal wells in such areas 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) at the point of injection. Class V industrial waste disposal wells in ground water-based source water protection areas also would be required to meet the MCLs at the point of injection, and large-capacity cesspools in such areas would be banned. EPA is proposing these new requirements to address three categories of wells that it has identified as posing a high risk of ground water contamination based on

available information. These are motor vehicle waste disposal wells, industrial waste disposal wells, and cesspools in ground water-based source water protection areas. Targeting the requirements to those wells will achieve substantial protection of underground sources of drinking water.

EPA also is proposing to consolidate the Class V UIC regulations in a "plain-English" format to make it easier for Class V well owners and operators to understand when and how the regulations apply to them. To that end, EPA recommends that you review the proposed regulatory language first, and then refer to the preamble for background and additional rationale not included in the rule.

DATES: EPA must receive public comment, in writing, on the proposed regulations by September 28, 1998. *Comments will only be accepted on certain new sections of the proposed rule (see Table 1 of the Preamble).*

ADDRESSES: Send written comments to the UIC Class V, W-98-05 Comment Clerk, Water Docket (MC-4101); U.S. Environmental Protection Agency; 401 M Street, SW, Washington, DC 20460. Comments may be hand-delivered to the Water Docket, U.S. Environmental Protection Agency; 401 M Street, SW., East Tower Basement, Washington, DC 20460. Comments may be submitted electronically to owdocket@epamail.epa.gov.

Please submit all references cited in your comments. Facsimiles (faxes) cannot be accepted. EPA would appreciate one original and three copies of your comments and enclosures

(including any references). Commenters who would like EPA to acknowledge receipt of their comments should include a self-addressed, stamped envelope.

The proposed rule and supporting documents, including public comments, are available for review in the Water Docket at the above address. 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 9:00 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 proposed clarifications to the UIC regulations would apply to owners or operators of any type of Class V well, the only entities to be regulated by this proposal when final are owners or operators of Class V motor vehicle waste disposal wells, industrial 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	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), chemical manufacturers, dry cleaners, electric component manufacturers, small machine manufacturers, die and tool manufacturers, commercial printers, asphalt manufacturers, and carwashes where engine or undercarriage washing is performed and any other commercial or industrial facility with a Class V disposal or drainage well (other than stormwater drainage wells).
State and Local Government	Road facilities, fire stations, and solid waste management facilities.
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 that EPA is now aware could potentially be 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 proposed 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.

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I. Format and Scope of Proposed Rule

Today's notice proposes to consolidate 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 and operators should review the proposed new regulation that presents the enforceable legal requirements they need to know about. This preamble does not repeat any of the requirements contained in the proposed rule, but rather provides background and additional rationale not included in the regulation and solicits comments on alternative requirements.

Because the new Subpart G consolidates the Class V UIC regulations in one place, it includes portions of the existing regulations together with proposed new requirements. The existing regulations that are being

reiterated in, or, in some cases, moved to Subpart G for the sake of clarity are not open for public comment. Instead, EPA is accepting public comment only on the proposed new requirements, which include (1) some of the minor revisions originally proposed in the August 28, 1995 notice, which are repeated today to provide a complete and coherent picture of all Class V changes being contemplated, and (2) additional requirements being proposed for the first time today. Table 1 below identifies those sections of the proposed regulation on which EPA is, and is not, accepting comment.

Today's proposal does not solicit comments on other minor amendments proposed on August 28, 1995 that have nothing to do with Class V wells. These are amendments to § 144.23 to clearly rule authorize Class IV wells used to inject treated water into the same formation from which it came if such injection is approved by EPA or a state as part of a remediation program, and to § 146.10 to include plugging and abandonment requirements for Class IV wells. At the same time EPA takes final action on today's proposal, EPA will issue a final ruling on these other amendments based on public comments received on the 1995 proposal.

TABLE 1.—SECTIONS OF PROPOSED REGULATION OPEN FOR PUBLIC COMMENT

Open for public comment		Not open for public comment
New requirements in today's proposal	Minor amendments proposed on August 28, 1995	Existing requirements included in plain English format
§ 144.1(f) reference to Subpart G, Part 144	§ 144.1(g) specific inclusions and exclusions	§ 144.80 description of the five classes of injection wells (reiterates existing § 144.6).
§§ 144.3 and 146.3 definition for sanitary waste.	§§ 144.3 and 146.3 definitions for cesspool, drywell, improved sinkhole, septic system, subsurface fluid distribution system, well, and well injection.	§ 144.82 (a) through (e) prohibition of fluid movement (reiterates existing § 144.12).
§§ 144.6(e) and 146.5(e) description of Class V injection wells.	§ 144.6(a)(3) and 146.5(a)(3) classification of radioactive waste disposal wells.	§ 144.83 inventory requirements for Class V wells (moved from § 144.26(b)(1)(iii) and (e)), except the proposed new inventory requirement for well conversions in § 144.83(a)(2)(iii), which is open for public comment.
§§ 144.81 definition of 12 types of Class V injection wells.		
§§ 144.83(a)(2)(iii) requirement to submit new inventory information if a well in a DI Program is converted to an industrial well.		
§§ 144.84(b)(2) and (b)(3) description of circumstances in which permits or other action is required.		§ 144.84 description of when Class V injection is authorized by rule (moved from existing § 144.24), except the circumstances in § 144.84(b)(2) and (b)(3) in which permits or other action is required for Class V cesspools, motor vehicle waste disposal wells, and industrial wells, which is open for public comment.
§ 144.85 description of when additional requirements apply to Class V cesspools, motor vehicle waste disposal wells, and industrial waste disposal wells.		

TABLE 1.—SECTIONS OF PROPOSED REGULATION OPEN FOR PUBLIC COMMENT—Continued

Open for public comment		Not open for public comment Existing requirements included in plain English format
New requirements in today's proposal	Minor amendments proposed on August 28, 1995	
<p>§ 144.86 additional requirements for certain Class V cesspools, motor vehicle waste disposal wells, and industrial waste disposal wells.</p> <p>§ 144.87(a)(2) discussion of available alternatives for disposing of waste fluids.</p>		<p>§ 144.87(a)(1) closure requirements for Class V cesspools, motor vehicle waste disposal wells, and industrial waste disposal wells subject to § 144.86.</p>

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 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 to prescribe, by regulation, a UIC program for such states. These direct implementation (DI) programs were promulgated 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. Requirements Applicable to Class V Wells

The UIC regulations establish five classes of injection wells. Class I wells are used to inject hazardous and non-hazardous waste beneath the lowermost formation containing an underground source of drinking water (USDW) within one-quarter mile of the well bore. Class II wells are used to inject fluids associated with oil and natural gas recovery and storage of liquid hydrocarbons. Class III wells are used in connection with the solution mining of minerals. Class IV wells are used to inject hazardous or radioactive wastes into or above a formation that is within one-quarter mile of a USDW. (Class IV wells are generally prohibited by 40 CFR § 144.13.) Class V wells are defined in the regulations as any well not included in Classes I through IV.

Class V wells are currently authorized by rule (§ 144.24(a)). Well authorization expires upon the effective date of a permit issued pursuant to §§ 144.25, 144.31, 144.33, or 144.34, or upon proper closure of the well. The current regulations subject Class V wells to the general statutory and regulatory prohibitions against endangerment of USDWs, as well as some specific requirements. Under § 144.12(a), owners or operators of all injection wells, including Class V injection wells, are prohibited from engaging in any injection activity that allows the movement of fluid containing any contaminant into USDWs, 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 human health. Section 144.12 (c) and (d) prescribe mandatory and discretionary actions to be taken by the Director if a well is not in compliance with § 144.12(a). Specifically, the Director must choose between requiring the injector to apply for an individual permit, ordering such action as closure of the well to prevent endangerment, or taking an enforcement action.

Owners or operators of Class V injection wells must also submit basic inventory and assessment information under § 144.26. In addition, Class V wells are subject to the general program requirements of § 144.25 under which the Director may require a permit, if necessary, to protect USDWs. Moreover, under § 144.27, EPA may require owners or operators of any Class V well, in EPA-administered programs, to submit additional information deemed necessary to protect USDWs. Owners or operators who fail to submit the information required under §§ 144.26 and 144.27 are prohibited from using their injection wells.

C. History of This Rulemaking

While implementing the above requirements, EPA has inventoried and assessed Class V wells and has pursued new rulemaking activities and non-regulatory approaches to Class V well management. Major milestones during this process leading to today's proposal are summarized below.

1. 1987 Report to Congress on Class V Wells

In accordance with the 1986 Amendments to the SDWA, EPA summarized information on 32 categories of Class V wells in a Report to Congress entitled *Class V Injection Wells—Current Inventory; Effects on Ground Water; and Technical Recommendations*, September 1987 (EPA Document Number 570/9-87-006). This report presents a national overview of Class V injection practices

and state recommendations for Class V design, construction, installation, and siting requirements. These state recommendations, however, did not give EPA a clear mandate on what, if any, additional measures were needed to control Class V wells on the national level. For any given type of well, the recommendations can vary broadly and are rarely made by more than two or three states. For example, the recommendations for septic systems range from further studies (3 states) to statewide ground water monitoring (1 state). For industrial waste water wells, some states recommend immediate action and closure while others recommend monitoring and ground water evaluation studies.

2. 1994 Consent Decree With the Sierra Club

On December 30, 1993, the Sierra Club filed a complaint against EPA in the United States District Court for the District of Columbia alleging that EPA failed to comply with section 1421 of the SDWA regarding publication of proposed and final regulations for Class V injection wells. In particular, the complaint alleged that EPA's current regulations regarding Class V wells do not meet the SDWA's statutory requirements to "prevent underground injection which endangers drinking water sources." (Complaint, Paragraph 15)

On August 31, 1994, EPA entered into a consent decree with the Sierra Club which required that no later than August 15, 1995, the 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. In this notice, EPA had to (1) propose additional regulations with respect to all Class V injection wells, (2) propose a decision that no further rulemaking for these wells is necessary, or (3) propose additional regulations for some Class V injection wells and a decision that no further rulemaking is necessary for the remaining wells (Consent Decree, Paragraph 2). The consent decree further required that, no later than November 15, 1996, the Administrator sign a final rulemaking notice to be published in the **Federal Register** fully discharging the Administrator's rulemaking obligations under section 1421 with respect to Class V injection wells (Consent Decree, Paragraph 3).

3. 1995 Proposed Rule

On August 15, 1995, the Administrator signed a notice of

proposed rulemaking intended to fulfill EPA's obligation under the 1994 consent decree with the Sierra Club (60 FR 44652, August 28, 1995). In this notice, EPA proposed not to adopt additional federal regulations for any types of Class V injection 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 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. Commenters who supported the rule included some states and industries that use Class V injection wells. In general, these commenters supported the rule because it provided maximum flexibility to states to use existing authorities to address high-risk site specific factors. However, EPA also received a number of comments that raised concerns about the proposal, primarily from states and an environmental group. In particular, several commenters questioned whether a UIC program without additional requirements for what they believed to be relatively high-risk well types, including Class V industrial waste disposal wells and cesspools, could prevent endangerment to drinking water sources as required by the SDWA. These commenters claimed that at least some types of wells pose a known threat to USDWs and that lack of data or ability to address the entire threat posed by Class V wells does not justify failing to act to address at least part of the threat.

EPA now believes that the 1995 proposal was inadequate to protect USDWs for two main reasons. First, the 1995 approach proposed to address all Class V wells regardless of the level of risks they pose to USDWs, with one regulatory approach. Specifically the proposed approach did not provide a clear set of regulatory requirements for different categories of wells based on their level of risk. As a result, the proposed rule did not adequately address high-risk wells that threaten public drinking water supplies. EPA now believes that specific regulatory requirements are necessary to control

the risks posed by industrial waste disposal wells, motor vehicle waste disposal wells, and large-capacity cesspools in delineated source water protection areas, as described below. This belief was echoed in some of the public comments received on the proposed rule and in recent stakeholder meetings. Second, EPA believes that the 1995 proposed rule did not provide for adequate public health protection nationwide. Specifically, it did not establish a clear baseline program for states to follow and, therefore, even though the authority exists, states could allow inadequate controls in those situations where there is inadequate information and/or inadequate resources to address Class V wells. On the other hand, it has been suggested that the additional information expected to be generated through the source water assessment program, including an inventory of sources of contamination and an assessment of the vulnerability of public water systems to such contamination could strengthen the 1995 approach. If commenters wish to submit comments on this issue they are welcome to do so.

4. 1996 Amendments to the Safe Drinking Water Act

The 1996 Amendments to the SDWA establish a new and flexible approach to drinking water protection. In particular the Amendments make source water protection a national priority. They create requirements and incentives for Primacy states to assess their own source waters, including the susceptibility of public water systems to contamination, and to encourage states to establish source water protection programs that fit their particular needs and conditions.

As discussed in more detail in section IV of today's preamble, EPA believes it is necessary to re-propose Class V UIC regulations that are integrated with these new programs for source water protection. For example, today's proposal focuses on source water protection areas, consistent with the national priority established by the 1996 SDWA Amendments. Today's proposal also would provide incentives for states to complete source water assessments in a timely manner, reinforcing other actions the Agency is taking to achieve the goal of enhanced protection of source waters.

5. 1997 Consent Decree With the Sierra Club

The Sierra Club Legal Defense Fund submitted comments on the 1995 proposed Class V rule alleging that the proposal failed to carry out statutory

requirements. As noted above, based on these and other comments, EPA decided to reconsider its 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 that extends the dates for rulemaking that had been in the 1994 decree. The modified decree requires three actions. First, by no later than July 18, 1998 (EPA used one of its 30 day extensions to the original June 18, 1998 deadline), the EPA Administrator must 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 by the Administrator (based on the additional study described below, other types of Class V wells may be found to pose a high risk and warrant additional regulation later). This notice must either (1) propose regulations fully implementing section 1421 of the SDWA with respect to the types of Class V wells currently known to pose a high risk, (2) propose a decision that no further rulemaking is necessary in order to fully discharge the Administrator's rulemaking obligation with respect to such high-risk wells, or (3) propose regulations fully implementing section 1421 with respect to some of these high-risk Class V wells, and propose a decision that no further rulemaking is necessary in order to fully discharge the Administrator's rulemaking obligations with respect to the remaining high-risk Class V injection wells. According to the consent decree, the Administrator must sign a final rulemaking for high-risk Class V wells by no later than August 31, 1999. (Consent Decree, Paragraphs 2a and 2b). Today's proposal has been developed in response to this first required action and supersedes the 1995 proposal with respect to these high-risk wells.

Second, by no later than September 30, 1999, EPA must complete a study of all Class V wells not included in the rulemaking on high-risk Class V injection wells (Consent Decree, Paragraph 2c). Based on this study, EPA may find that some of these other types of Class V wells also pose a high risk.

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 rulemaking for currently

identified high-risk Class V injection wells. That proposal will supersede the 1995 proposal with respect to all remaining Class V wells. The Administrator must sign a final rulemaking for these remaining Class V wells by no later than May 31, 2002.

6. 1998 Stakeholder Meetings and Small Entity Outreach

To help shape today's proposal, EPA convened three stakeholder meetings to inform potentially affected entities of the requirements under consideration and to solicit feedback. One meeting was in Washington, DC, on January 20, 1998, one was in Chicago, IL on January 27, 1998, and one was in San Francisco, CA on February 19, 1998.

As required by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), EPA also has conducted outreach directly to representatives of small entities that would be affected by the proposed rule. In consultation with the Small Business Administration (SBA), EPA identified 17 representatives of small entities that were most likely to be affected by the proposal. In December, 1997, EPA prepared an outreach brochure titled "Possible Changes to Class V UIC Requirements: Information for Owners and Operators of Class V Injection Wells" (available for review in the public docket supporting today's notice). This brochure was distributed to the small entity representatives and EPA convened a two-hour conference call with these representatives on January 15, 1998. Also in January, 1998, EPA presented the new Class V requirements being considered to the SBA Environmental Roundtable.

Efforts to identify and incorporate small entity concerns into this rulemaking culminated with the convening of a Small Business Advocacy Review Panel, as required by SBREFA. This Panel was headed by EPA's Small Business Advocacy Chairperson with the Office of Policy, Planning and Evaluation, and consisted of the Director of the Office of Ground Water and Drinking Water within EPA's Office of Water, the Administrator of the Office of Information and Regulatory Affairs within the Office of Management and Budget, and the Chief Counsel for Advocacy of the SBA. For a 60-day period starting in February 1998, the Panel reviewed technical background information related to this rulemaking, reviewed comments provided by small entity representatives, and met on several occasions with EPA and the small entity representatives to identify issues and explore alternative approaches for accomplishing

environmental protection goals while minimizing impacts to small business. This process, along with the Panel's findings and recommendations, are presented in the April 1998 "Report of the Small Business Advocacy Review Panel on the Revisions to the Underground Injection Control Regulations for Class V Injection Wells," available for review in the public docket supporting today's proposal.

Today's notice incorporates all of the recommendations on which the Panel reached consensus. In particular, the Panel recommended that the proposal offer alternatives to the proposed ban of Class V motor vehicle waste disposal wells. Therefore, in addition to the proposed ban, today's notice presents a co-proposal in both the preamble and proposed regulatory language, as well as another alternative that is discussed in the preamble only (see section V.B of the preamble and § 144.84(b) and § 144.86 of the proposed regulation). The Panel also recommended 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. This recommendation has been adopted in today's notice (see sections V.B and V.C of the preamble and § 144.85(a) and (I) and § 144.86 of the proposed regulation). Other changes made in response to Panel recommendations include the following: the proposed definitions of industrial wells and drainage wells have been revised to make sure wells intended for stormwater management are (subject to certain conditions) regulated as drainage wells not industrial wells (see section V.A of the preamble and § 144.81(b) and (e) of the proposed regulation); additional data and rationale have been added to the preamble to support EPA's belief that motor vehicle waste disposal wells in source water protection areas pose a high risk (see section V.B.1); the preamble discussion of regulatory impacts has been expanded to describe and solicit comments on the approach used to estimate the type and number of small entities potentially subject to the rule (see section VI.D); the proposed definitions of "industrial" and "other industrial" wells have been revised to clarify that wells injecting wastewater from carwashes qualify as industrial wells subject to the rule only if specifically set up for engine or undercarriage washing (see section V.A of the preamble and § 144.81(b) and (I) of the proposed regulation); the preamble has been revised to introduce a report submitted by the National Funeral Directors Association on funeral

home septic systems and to request comments on the merits of moving such systems into the other industrial well category (see section V.A.); the preamble has been expanded to clarify 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 (see section V.B.1); the preamble has been expanded to elaborate on the rationale for and ask for comment on the proposed statewide coverage of the new requirements in states that fail to complete their source water assessments by May 2003 (see section IV.B.1 and 2); the preamble and the supporting economic analysis have been revised to acknowledge and account for the cleanup requirements that may be triggered by the proposal 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 (see section V.B.1); the proposed regulatory language has been expanded to identify ways well owners or operators can learn if they are in a source water protection area (see § 144.85(g)); and the preamble has been expanded to explain the rationale for and ask for comment on proposing monitoring requirements for motor vehicle waste disposal wells but not industrial wells (see section V.B.3).

The Panel did not reach consensus on two issues. One issue concerned the basis for regulation, with some Panel members questioning whether EPA had an adequate basis to conclude that the non-regulatory approach proposed in 1995 was inadequate. In response to this issue, today's preamble includes additional discussion explaining why EPA now believes the 1995 proposal is inadequate and why the proposed new regulations are necessary (see section II.C.3).

The other issue concerned the proposed requirement for industrial well injectate to meet MCLs at the point of injection, with some Panel members suggesting the EPA consider the possibility of allowing the injectate to meet some higher multiple of the MCL (e.g., 10 or 100 times the MCL) for certain contaminants under certain conditions, in recognition of the fact that some contaminants are significantly attenuated by percolation through soil prior to reaching the water table, and most are diluted within the aquifer prior to reaching a public water system. There are several research reports in the docket which discuss the question of attenuation of volatile organic compounds and metals in the soil, under various conditions. In addition, many existing wells are designed in

accordance with state and local requirements to treat wastes before releasing them into the soil. These Panel members suggested that for such contaminants (e.g., metals, which generally do not travel far from the point of injection unless injected directly into the water table) EPA should try to identify conditions (e.g., soil type, water table depth, distance to nearest drinking water well) that would allow injection of the contaminants without endangering drinking water sources. In making this suggestion they noted that to be workable, such conditions would have to be easily verifiable. They also suggested that EPA consider expanding the flexibility available under the permitting option for motor vehicle wells to allow UIC Program Directors to permit discharges that exceed an MCL at the point of injection if this would not endanger USDWs, based on site specific circumstances.

EPA believes that its proposed approach to regulate cesspools, automotive service station wells and industrial wells is consistent with its long-standing interpretation of the statutory requirements to assure the protection of underground sources of drinking water. EPA also believes that developing a set of conditions within which a Class V well owner or operator could inject waste that exceeds drinking water standards without endangering drinking water sources would not be a viable option for most small entities because of the difficulty and expense involved in collecting the site-specific hydrologic, geologic, and soil information necessary to determine if waste, above the MCL, could be injected without endangering the underlying USDW. Additionally, EPA questions whether it would be possible to develop such conditions because of the difficulty of anticipating certain events (such as high volume spills, illicit discharges, the siting of new drinking water supplies wells, and improper system maintenance) that could endanger underlying USDWs.

However, EPA is requesting comment on its position. Some commenters have suggested that there are situations where a facility could inject waste that exceeds some MCLs in source water protection areas without endangering drinking water supplies. EPA believes these situations are extremely rare and that, if allowed to inject above the MCL, the vast majority of facilities would pose an endangerment to current and future water supplies. EPA's proposed regulatory approach to require facilities to meet MCLs is designed to be protective of public health. Commenters

are welcome to submit their views on whether or not they agree with EPA's position. If commenters disagree with EPA's position they should discuss specific contaminants and conditions for which an alternative regulatory approach would be appropriate and provide data supporting their position.

III. EPA Strategy for Class V Well Management

Today EPA is proposing an expanded Class V well management strategy to resolve major issues raised in public comments on the 1995 proposal, 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.

As discussed in section II.B above, 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 injector 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 high-risk Class V well types in ground water-based source water protection areas; 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.

A. Initial Rule for High-Risk Well Types in Source Water Protection Areas

As the first step of its Class V strategy, EPA is today proposing to add requirements for three categories of Class V injection wells determined to be the highest risk by the Administrator. The three categories are: (1) motor vehicle waste disposal wells, (2) industrial wells, and (3) large-capacity cesspools, when any of these wells are located in source water protection areas delineated for community water systems and non-transient non-community water systems that use ground water as a

source.¹ Source water protection areas, to be defined by states in accordance with the 1996 Amendments to the SDWA, will identify places critical for the protection of most public drinking water supplies.

In such delineated areas, today's proposal would ban new Class V motor vehicle waste disposal wells, as well as new cesspools having the capacity to serve 20 persons or more per day. Existing Class V motor vehicle waste disposal wells in delineated areas would either be banned or required to get a permit specifying that released fluids must meet primary drinking water maximum contaminant levels (MCLs) at the point of injection. Existing large-capacity cesspools in delineated areas would have to be phased out within five years. Owners or operators of Class V industrial wells in delineated areas would either have to close their wells or make sure the fluids they inject meet the MCLs at the point of injection.

As discussed later in this preamble, the conclusion that these Class V wells pose a high risk when located in ground water-based source water protection areas 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. EPA requests comment on this position. Specifically, do commenters believe that it is appropriate to designate motor vehicle and industrial wells in delineated areas as high risk and regulate them under this proposal or, alternatively, do commenters believe that there is a better (i.e., more or less inclusive) categorization that EPA could use to identify high risk wells? Commenters are encouraged to provide data supporting their position.

Available information presented in the Report to Congress and summarized in the 1995 proposal also suggests that there may be other categories of Class V wells that pose a high risk. Individual wells in any of the Class V categories also may endanger USDWs, depending

¹ As defined in the drinking water regulations at 40 CFR 141.2, 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. A "non-transient non-community water system" is 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. Non-transient non-community water systems may include systems that provide water to day care centers, government/military installations, manufacturers, hospitals or nursing homes, office buildings, schools, and other facilities. A "transient non-community water system" provides a less regular source of water, such as to people visiting rest areas and campgrounds.

on fluids released into the wells and site-specific conditions. However, available data regarding the risks posed by other Class V wells are insufficient for EPA to conclude that additional federal regulation is necessary at this time. Therefore, as the second step of the Class V strategy, EPA will continue to study all of the categories of Class V wells not addressed in today's proposal to determine the need for additional regulations. In the meantime, EPA will continue to rule authorize the other categories of Class V wells and actively control them by implementing and enforcing the existing regulations. This will include enforcing the § 144.12 prohibition against the endangerment of USDWs, calling individual problem wells in for a permit under § 144.25 authority, and requiring the submittal of additional information deemed necessary to protect USDWs in accordance with § 144.27.

At the same time, EPA expects and strongly encourages states to use existing UIC authorities to ensure all Class V wells are not endangering USDWs. These efforts should not be limited to wells in source water protection areas, which have received national priority under this regulation. There may be other sensitive areas, outside of delineated source water protection areas, that warrant more stringent control on a state or local level. Nothing in this rule precludes a state or local government from promulgating more stringent requirements above and beyond existing UIC authorities.

B. Further Study of Additional Class V Well Types

The second step in the strategy will involve continuing study to assess the size and impact of the Class V well universe not addressed by today's proposal. Other types of Class V wells are not covered by today's proposal because more information is needed to determine whether additional federal regulation for these other well types is necessary, and if so, what that additional regulation should entail. Therefore, EPA will undertake further study to assess risks, fill existing information gaps, and provide a factual basis for any further regulatory action.

IV. Integration of the Class V Rule With the Source Water Assessment Program

Today's proposal has been developed to productively use and promote linkages between the Class V UIC program and EPA's developing source water assessment program. Both programs are authorized by the SDWA. The UIC Program is designed to protect

all current and potential USDWs from pollution by injection wells. The source water assessment program is structured to identify all potential sources of contamination within areas that now provide short-term recharge to public water supply wells and surface water intakes.

A. Overview of the Source Water Assessment Program

Section 1453 of the SDWA Amendments of 1996 (Pub. L. 104-182) establishes a new requirement for source water assessments. EPA published guidance describing how the states should carry out a source water assessment program within the state's boundaries. The final guidance, entitled *State Source Water Assessment and Protection Programs Guidance* (EPA 816-R-97-009), was released in August 1997 and is available in the docket for today's proposal.

Source water assessment programs comprise essentially the first three steps of a full prevention program. First, a program must delineate the boundaries of the assessment areas in the state from which one or more public drinking water systems receive supplies of drinking water. In delineating these areas, states must use "all reasonably available hydrogeologic information on the sources of the supply of drinking water in the state and the water flow, recharge, and discharge and any other reliable information as the state deems necessary to adequately determine such areas." Second, the state must identify contaminants of concern, and for those contaminants, the state must inventory significant potential sources of contamination in delineated source water protection areas. Third, the state must "determine the susceptibility of the public water systems in the delineated area to such contaminants."

States must submit their proposed source water assessment programs to EPA no later than 18 months after publication of the *Source Water Assessment and Protection Programs Guidance*, which would be February 1999. EPA then has nine months, until November 1999, to approve or disapprove the submitted state program. Once approved, a state should complete its source water assessments by no later than November 2001, or if EPA grants an extension, by May 2003. For purposes of this proposed rule, a state program is considered complete when the state program has been approved by EPA and all its local assessments for community and non-transient non-community water systems have been completed. This means that all local assessments within a state have

performed the three required steps of delineation, source identification, and susceptibility analysis. This proposed rule does not regulate wells within the source water protection areas for transient non-community water systems. Therefore, for purposes of this proposed rule, assessments for these systems do not have to be performed for the state program to be considered complete.

Other features of the program include the new section 1452 grant program, which established the Drinking Water State Revolving Fund. Grants under section 1452 may be used to assist the states in financing the source water assessment program and most states have elected to use the grants for this purpose. In addition, connections between the source water assessment program and relief from the contaminant monitoring requirements of the SDWA provide an incentive for states to complete implementation of the source water assessment program within a relatively short (two-year) timetable. For a state to tailor alternative monitoring requirements for public water systems under a new permanent monitoring relief provision contained in the 1996 Amendments, a state must have an EPA-approved source water assessment program. Moreover, any public water system seeking alternative monitoring requirements under a state's permanent monitoring relief authority must have a complete source water assessment.

Section 1453 expresses Congress' intent that states use data generated under other programs. To avoid duplication and encourage efficiency, the source water protection area delineation and source identifications are specifically encouraged to make use of any of the following: vulnerability assessments, sanitary surveys, and monitoring programs; delineations or assessments of ground water sources under a state wellhead protection program; delineations or assessments of surface or ground water sources under a state pesticide management plan; delineations or assessments of surface water sources under a state watershed initiative or to satisfy the watershed criterion for determining if filtering is required under the Surface Water

Treatment Rule; and delineations or assessments of surface or ground water sources under programs or plans pursuant to the Federal Water Pollution Control Act.

B. Class V Rule Focus on Source Water Protection Areas

1. Proposal

Today's proposal focuses on source water protection areas as a key element for the protection of USDWs. Areas delineated under a state source water assessment program represent, at a minimum, areas designated to receive top priority for the protection of public drinking water supplies. Consistent with this prioritization, this rule would target the high-risk Class V wells in delineated source water protection areas for public water systems that use ground water as a source.

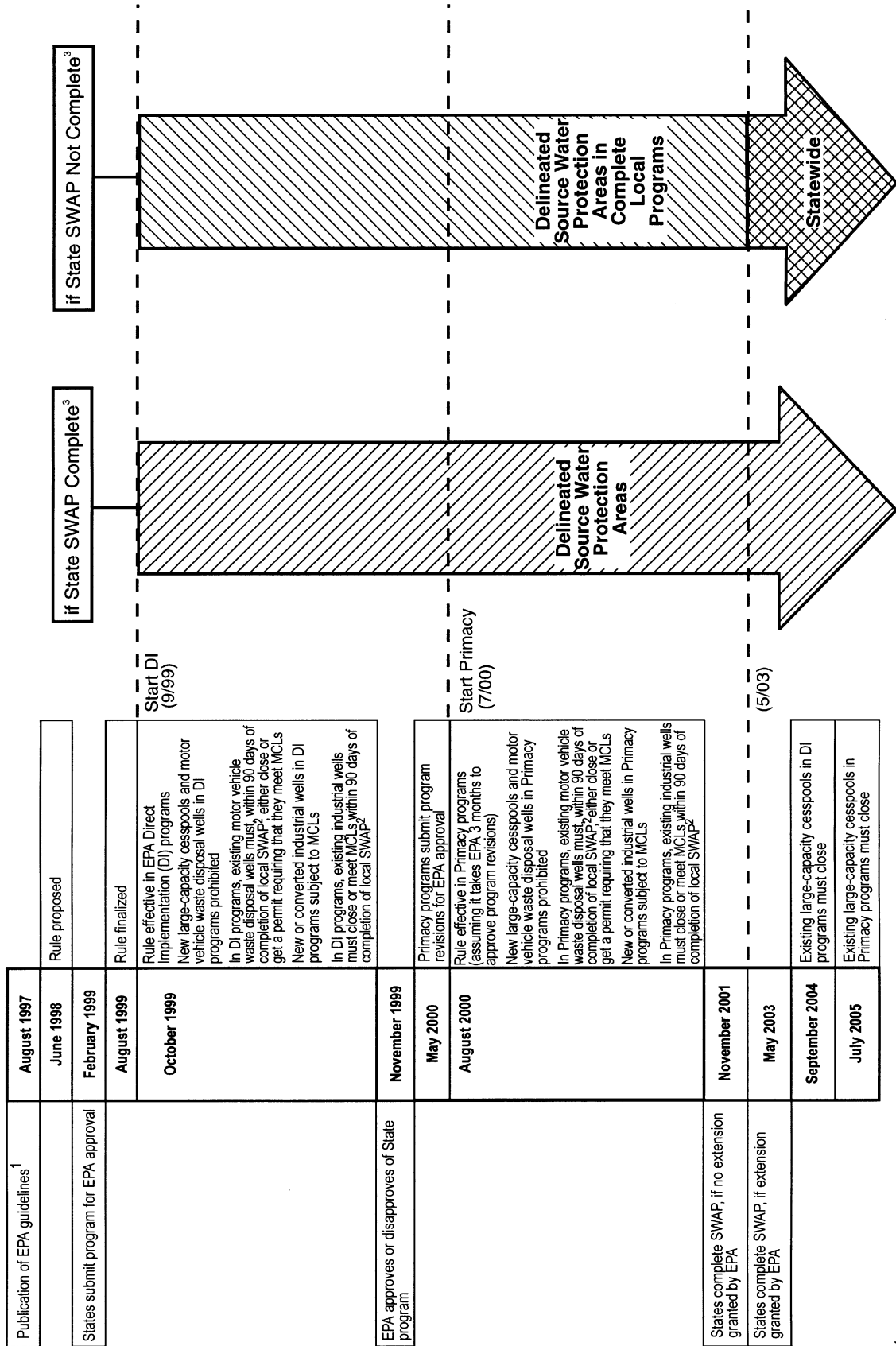
Figure 1 shows how the proposed Class V rule would be linked with the source water assessment program in terms of major milestones and areas covered. According to the 1997 consent decree with the Sierra Club (as modified), the new Class V requirements would be finalized by August 1999. The requirements would then become effective in DI Programs within 60 days, or by October 1999. Primacy States would have 270 days, or until May 2000, to submit for EPA's approval any program revisions needed to implement the new requirements. Assuming it takes three months for EPA to approve these revisions, the new requirements would become effective in Primacy States by August 2000. If the source water assessment program in a state is complete by the effective date of the rule (either October 1999 for DI Programs or around August 2000 for Primacy States), the new requirements would apply only to delineated source water protection areas. If some but not all local assessments in a state have been completed by that time, meaning that the state program is not complete, then the new requirements would apply to delineated areas where local assessments are complete. If all local assessments are not done by May 2003, which is the time by which state programs should be complete according to the State Source Water Assessment

and Protection Programs Guidance, the new Class V requirements would apply statewide because there would be no way of knowing which wells in the state pose the highest risk. A possible exception would be if a state completed local source water assessments in one geographic area, the state would know which wells within that specific geographic area pose the highest risk.

The requirements would apply statewide permanently, even if a state completed its source water assessment program at some later time after May 2003. EPA realizes that some commenters may think that it is unreasonable, unfair, or unnecessary to permanently apply the new requirements statewide if a state's source water assessment program is not complete by May 2003, but is completed some time later. However, EPA believes this is the best approach for two reasons. First, this approach would provide a strong incentive for states to establish and complete a source water assessment program in a timely manner, consistent with the goal under the 1996 SDWA Amendments. Second, applying the requirements statewide starting in May 2003 and then changing to apply the requirements only to delineated areas when programs are completed some time afterward would be very confusing and difficult to implement, both for well owners or operators and for UIC regulatory agencies. EPA believes this confusion and difficulty would ultimately result in the new requirements not being implemented effectively to ensure the protection of USDWs. The next section of this preamble on alternatives provides further discussion of a permanent statewide ban and possible alternative approaches. It should be noted, however, that with the exception of Wyoming and Indian Country as discussed below, EPA fully expects states to meet the deadline because the ground water component of source water assessment programs is likely to be based on the Wellhead Protection Programs already established in most states. Therefore, the point is expected to be moot in most places.

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Figure 1: Joint Timeline for the Source Water Assessment Program and the Proposed Class V Rule
Areas Where the Class V Rule Would Apply



¹The State Source Water Assessment and Protection Programs Guidance (EPA 816-R-97-009) is available through the EPA Office of Water Resource Center (202-260-7766).
²The UIC Program Director would be allowed to extend this deadline for up to one year in situations where the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technology.
³Source Water Assessment Program (SWAP) = Delineation + source identification + susceptibility analysis. A State SWAP is complete when all local SWAPs are complete.

The situation is more complicated in Wyoming and Indian Country because the State of Wyoming and Tribes do not have primacy for the public water system program and, as such, are not required to conduct source water assessments. Therefore, the proposed Class V UIC requirements would apply throughout Wyoming and Indian Country unless the EPA Regional Offices worked with the State and Tribes to delineate source water protection areas and implement other source water assessment activities. Alternatively, EPA's Source Water Guidance recommends that each Tribe implement a source water assessment program "to the extent appropriate resources are available to do so." Tribes may either establish and implement their own program and submit it to EPA for approval, or they may participate in a state program as an alternative to, or in conjunction with, their own program. It is uncertain, however, which Tribes are likely to participate in source water assessment activities and to what extent.

States must delineate source water protection areas for: (1) Public water systems based solely on ground water; (2) public water systems based solely on surface water; and (3) public water systems using both ground and surface water, or systems using ground water that is influenced by surface water. In addition, states must delineate source water protection areas for: (1) Community water systems; (2) non-transient non-community water systems; and (3) transient non-community water systems. The requirements in today's proposal would apply to Class V cesspools, motor vehicle waste disposal wells, and industrial wells in source water protection areas delineated for community water systems and non-transient non-community water systems that use ground water as a source. For the purpose of today's proposal, this would include such systems that have at least one ground-water source that contributes to their annual water supply.

This focus on ground water, rather than surface water, is consistent with the scope of the UIC program to protect underground sources of drinking water. Moreover, based on EPA's most recent Community Water System Survey (EPA 815-R-97-001a, January 1997, page 6), almost 80 percent of community water systems use primarily ground water. Less than 10 percent of systems surveyed primarily use surface water sources.

EPA believes the focus on community water systems and non-transient non-community systems is justified based on

the risks involved and the purpose of this rule. According to the most recent survey, community systems and non-transient non-community systems supply drinking water to 93 percent and 2 percent of the U.S. population, respectively (Community Water System Survey, EPA 815-R-97-001a, January 1997, page 5). In addition, the people relying on transient non-community water systems, such as at rest areas or campgrounds, do not drink water from the same system on a regular basis. Any exposure to contamination in a given system, therefore, tends to be one time or infrequent, as opposed to the chronic exposure and potentially significant risk associated with the consumption of contaminated water from community systems and non-transient non-community systems. Since most of the contaminants found in wells covered by today's proposal pose chronic, not acute risks, it would take repeated exposure to these contaminants for adverse health effects to be realized. Repeat exposure does not occur in transient systems. The purpose of today's rule is to address designated high-risk wells for which additional information is unnecessary. Given the limited exposure at transient systems, EPA does not believe that wells within delineated areas for such systems are categorically "high risk" and thus they are not part of today's rule.

The Agency recognizes, however, that there may be instances in which pathogens in untreated sanitary waste released into Class V cesspools could contaminate the water supply source for a transient system and pose an "acute" risk if consumed (meaning there could be a serious health risk given the nature and high level of contamination, despite the fact that the water is not regularly consumed). This would be a concern only if a Class V cesspool were in a location and hydrogeologic setting that would permit pathogens to migrate to a ground water supply well that serves a transient system, and then, only if there were no (or inadequate) disinfection of the water prior to it being consumed. EPA believes these circumstances are in fact limited because of the small number of large capacity cesspools that still exist. Nevertheless, to further limit the acute risk associated with large-capacity cesspools, EPA could expand today's proposed cesspool requirements to source water protection areas delineated for transient non-community systems that use ground water as a source, in addition to such areas for community water systems and non-transient non-community water systems. EPA requests comment on the merits and potential impacts of including transient systems

within the scope of the proposed requirements for cesspools. Based on such comment, EPA may adopt that approach in the final rule.

EPA underscores that this initial rule targets certain source 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 high risk 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, would continue to apply to all Class V wells and all areas, whether or not a state has a completed source water assessment 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 would 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 sensitive areas beyond delineated source water protection areas. Examples of other sensitive areas include 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, susceptible or sensitive hydrogeologic settings (e.g., 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, prevailing land-use practices, and documented ground water contamination. If believed to be necessary, states should apply the same requirements proposed 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.

2. Alternatives

The Agency requests public comments on whether the new Class V regulations should apply to areas beyond delineated source water protection areas, or even apply statewide, in order to ensure protection of USDWs in other locations. Although the Agency recognizes the merits of this approach, it is not preferred because it would uniformly impose stringent new requirements for motor vehicle waste disposal wells, large-capacity cesspools, and industrial wells in all areas even though such requirements may not be needed to protect USDWs in all cases. EPA notes that states are already required to take appropriate actions to prevent endangerment of USDWs from Class V UIC wells in any part of the state where such endangerment may occur. In fact, the Agency strongly encourages states to take appropriate action using existing authorities to control Class V wells in other areas. Finally, the proposed requirements would apply statewide if a state does not have a complete source water assessment program by May 2003. This would ensure adequate protection in all areas when a state has not studied and defined areas that warrant the greatest protection.

EPA also requests comments on the merits of broadening the scope of the additional requirements to other kinds of delineated source water protection areas. This could include areas delineated around public water systems using surface water recharged by ground water, or transient non-community water systems that depend on at least one ground-water source. As discussed above, EPA does not believe these options are needed in this first phase of the Class V UIC rulemaking.

EPA also requests that commenters provide suggestions and ideas for alternatives to permanently applying the new requirements statewide if a state's source water assessment program is not complete by May 2003. Several commenters during the SBREFA process

believed this proposed approach would unfairly impose a burden on some injection well owners or operators, who are not endangering drinking water supplies, because of a state's failure to comply with applicable deadlines. In order for any alternative to be viable, it would have to be effective in accomplishing the overall objective of protecting USDWs. Certain advantages of the proposed approach include: the fact that it ensures protection in the event new public water supply systems are created outside areas currently delineated, and it provides a strong incentive for timely completion of source water assessment programs. Nevertheless, EPA recognizes there may be other approaches. One alternative could be to give UIC Program Directors the flexibility to extend the statewide ban date beyond May 2003 if states submit, before that time, a plan demonstrating that their source water assessment program is "substantially" (e.g., 80 to 90 percent) complete and showing how they are making steady progress toward completion. This approach, however, would not necessarily buy time for Wyoming or Tribes, which do not have primacy responsibility for conducting source water assessment programs and may not delineate their source water protection areas. EPA requests comments on the merits of this alternative and any other equally protective alternatives.

C. Other Connections Between the Class V Rule and Source Water Assessment Program

The proposed Class V rule and state source water assessment programs will have at least two other potentially beneficial mutual connections. First, as states carry out the source identification and susceptibility analysis required as the second and third steps of the source water assessment program, Class V well inventories and hydrogeological information developed under authorities such as § 144.27 will provide substantial inputs into the source water assessment programs of some states. The Class V program will provide an important means of both identifying and controlling risks in the delineated source water protection areas.

Second, grants under section 1452, which established the Drinking Water State Revolving Fund mentioned above, may also be used to finance a range of state activities related to public supplies of drinking water. A state may use up to 10 percent of its allotment for grants under § 1452 (with a 1:1 dollar state match) to support its state drinking water program, and to develop and implement a source water protection

program, a capacity development program, and an operator certification program. These funds can be used for state activities under the UIC program to manage Class V wells, which may be in wellhead protection areas of public water supplies. In addition, up to 15 percent of the capitalization grant is available for local assistance and certain other eligible activities described in the SDWA, including delineation and assessment of source water protection areas (provided that each activity separately receives no more than 10 percent of the grant amount). The total amount appropriated for the Drinking Water State Revolving Fund Program for fiscal years 1997 and 1998 is \$2.0 billion.

V. Proposed Class V Well Requirements

A. Categories of Class V Wells

Class V injection wells are generally shallow waste disposal wells, stormwater and agricultural drainage systems, or other devices used to release fluids either directly into USDWs or into the shallow subsurface that overlies USDWs. In some instances, the fluids released by these wells contain elevated concentrations of contaminants that may endanger drinking water supplies. EPA estimates that more than one million Class V wells currently exist in the United States. These wells are located in virtually every state, especially in unsewered areas where the population is likely to depend on ground water. Frequently, Class V wells are designed as no more than shallow holes or septic tank and leachfield combinations intended for sanitary waste disposal. While such designs may be adequate for the treatment of sanitary waste, they may not be appropriate for the disposal of industrial waste or other fluids, although they are sometimes used for this purpose. Some types of Class V wells may include other types of treatment systems, such as oil water separation tanks, which are designed to treat certain types of industrial waste.

Today, EPA is proposing to retain the current definition of Class V wells. However, the current regulations also contain a non-inclusive list of 16 types of Class V wells (§ 146.5). This list was further divided into 32 categories in the 1987 Report to Congress on Class V wells. The Report to Congress drew distinctions between well types based on the design of the well, in some instances, and on the types of fluids injected, in others. In reviewing the Report to Congress, the Agency has determined that some of these distinctions are of little consequence as far as the risk posed by the wells and

the appropriate management scheme. Therefore, for today's proposal, the Agency has grouped Class V wells in 12 more appropriate categories that combine together wells that are mostly similar both in terms of the nature of fluids they inject and their potential to endanger USDWs.

The 12 general categories of Class V wells are defined in § 144.81 of today's proposed regulation. Table 2 shows how these categories relate to the listing of wells in § 146.5(e) of the current regulations and the Class V well types addressed in EPA's 1987 Report to Congress.

There are two major differences between the categories proposed today and the ones proposed in 1995: motor vehicle waste disposal wells and "other industrial" wells have been removed from the industrial well category

proposed before and separated into their own categories. This makes it easier to tailor Class V regulations to the different types of wells based on their relative risk potential. In particular, motor vehicle waste disposal wells would be defined more precisely for the purpose of targeting additional requirements for this category of wells. In addition, carving out the other industrial wells creates a smaller and less diverse category of Class V industrial wells than defined in the August 28, 1995 proposal. The wells remaining in the industrial category in today's proposal—including wells at carwashes where engine or undercarriage washing is performed, industrial process water and waste disposal wells, and industrial drainage wells—are more likely to pose a high risk and are more amenable to control through one national minimum

requirement than the broader category proposed before. Insufficient information is presently available to conclude that the other industrial wells should be banned, as EPA is proposing for motor vehicle waste disposal wells, or should be required to meet a standard on injectate quality, as EPA is proposing for Class V industrial wells. Instead, EPA proposes to enforce the general non-endangerment provisions in § 144.12 for other industrial wells and, if necessary to protect USDWs, require owners or operators to submit specific information under § 144.27 or obtain a permit under § 144.25. Under the second step of EPA's Class V strategy discussed above, EPA also will study the other industrial wells further and address them in another regulatory action, if necessary based on the findings of that study.

TABLE 2.—CATEGORIES OF CLASS V INJECTION WELLS

Category in today's proposal	Injection wells in category	Current § 146.5	Corresponding injection wells in 1987 report to Congress
Beneficial Use (§ 144.81(f)).	Aquifer recharge	(e)(6)	5R21 (Aquifer Recharge).
	Salt water intrusion barrier	(e)(7)	5B22 (Saline Water Intrusion Barrier).
	Subsidence control	(e)(10)	5S23 (Subsidence Control).
	Aquifer storage and recovery	Not listed	Not addressed as separate category.
	Subsurface environmental remediation	(e)(6)	5X26 (Aquifer Remediation Related).
Fluid Return (§ 144.81(g)).	Wells used to inject spent brines after the extraction of minerals from produced fluids.	(e)(14)	5X16 (Spent-brine Return Flow).
	Wells used to inject heat pump return fluids	(e)(1)	5A7 (Heat Pump/Air Conditioning Return Flow), 5A6 (Direct Heat Return).
	Wells used to inject fluids that have undergone chemical alteration during the production of geothermal energy for heating, aquaculture, or production of electric power.	(e)(12)	5A5 (Electric Power Return), 5A8 (Ground Water Aquaculture Return Flow).
Sewage Treatment Effluent (§ 144.81(h)).	Wells used to inject treated effluent from POTWs, or privately owned treatment works receiving solely sanitary waste.	Not listed	5W12 (Domestic Wastewater Treatment Plant Effluent Disposal).
Cesspools (§ 144.81(c)).	Cesspools having the capacity to serve 20 persons or more per day and used solely for the subsurface emplacement of sanitary waste.	(e)(2)	5W9 (Untreated Sewage Waste Disposal), 5W10 (Cesspools).
Septic Systems (§ 144.81(d)).	Septic tank and fluid distribution system having the capacity to serve 20 persons or more per day and used solely for the subsurface emplacement of sanitary waste.	(e)(9)	5W11 (Septic Systems—Undifferentiated Disposal), 5W32 (Septic Systems—Drainfield Disposal), 5W31 (Septic Systems—Well Disposal).
Experimental Technology (§ 144.81(l)).	Wells used as part of unproven subsurface injection technologies other than waste disposal.	(e)(15)	5X25 (Experimental Technology).
Drainage (§ 144.81(e)) ..	Wells used to drain surface and subsurface fluids, including agricultural drainage and stormwater runoff that may have the potential to receive insignificant amounts of waste due to small volume leaks, drips, or spills.	(e)(4)	5D2 (Stormwater Drainage), 5F1 (Agricultural Drainage), 5D3 (Improved Sinkholes), 5G30 (Special Drainage), 5X29 (Abandoned Drinking Water Wells, if used for the subsurface emplacement of stormwater).
Mine Backfill and Drainage (§ 144.81(j)).	Wells used to inject materials into mined out portions of subsurface mines, whether what is injected is a radioactive waste or not, including (1) slurries of sand, gravel, cement, mill tailings/refuse, fly ash, or other solids, and (2) mine drainage.	(e)(8)	5X13 (Mining, Sand, or Other Backfill).
In Situ and Solution Mining (§ 144.81(k)).	Wells used to inject fluids for the purpose of producing minerals or energy, which are not Class II or III wells.	(e)(13), (e)(16) ..	5X14 (Solution Mining), 5X15 (In situ Fossil Fuel Recovery).

TABLE 2.—CATEGORIES OF CLASS V INJECTION WELLS—Continued

Category in today's proposal	Injection wells in category	Current § 146.5	Corresponding injection wells in 1987 report to Congress
Motor Vehicle Waste Disposal (§ 144.81(a)).	Wells used to inject fluids from motor vehicle repair or maintenance activities, such as an auto body repair shop, automotive repair shop, car dealership, specialty repair shop (e.g., transmission and muffler repair shop), or any facility that does any vehicular repair work.	(e)(5)	5X28 (Automobile Service Station Disposal).
Other Industrial (§ 144.81(l)).	Wells used to inject fluids from carwashes where no engine or undercarriage washing is performed.	(e)(5)	Not addressed as separate category.
	Wells used to inject noncontact cooling water that contains no additives and has not been chemically altered.	(e)(3)	5A19 (Cooling water return flow).
	Wells used to inject fluids from laundromats where no onsite dry cleaning is performed or where no organic solvents are used for laundering.	(e)(5)	Not addressed as separate category.
	Wells used to inject wastewater from food processing operations.	(e)(5)	Not addressed as separate category.
Industrial (§ 144.81(b)) ..	Wells used to inject non-hazardous wastewaters generated by industrial, commercial, and service establishments and that are not included in one of the above categories; these include wells used to inject fluids from carwashes where engine or undercarriage washing is performed.	(e)(5)	5W20 (Industrial Process Water and Waste Disposal), 5D4 (Industrial Drainage), 5X17 (Air Scrubber Waste Disposal), 5X18 (Water Softener Regeneration Brine Disposal), 5X29 (Abandoned Drinking Water Wells, if used for the subsurface emplacement of industrial or commercial wastes not injected in one of the above categories of wells), 5X27 (Other).

The fourth type of other industrial well listed in Table 2—wells used to inject wastewater from food processing operations—will receive special attention in the ongoing study of Class V wells. As a group, EPA believes most of these wells pose a lower risk than the industrial wells that would be regulated under today's proposal, because the injectate is primarily food rinsewater or equipment washdown water containing small quantities of food particles and relatively low concentrations of contaminants. The Agency recognizes, however, that there may be other wells in this group that pose a higher risk, such as wells that inject brine from pickling operations, nutrient-rich wastewater from potato processing plants, and so forth. EPA presently has very little information on these wells. Therefore, they will be examined more closely in the study to determine whether additional federal regulation is needed, and if so, what that additional regulation should entail. In the meantime, if UIC Program Directors have information that any individual wells that fall in this category do pose a threat, they can use the existing UIC authorities discussed above to ensure protection of USDWs.

During the development of this proposal, the National Funeral Directors Association (NFDA) recommended that the other industrial well category be broadened to include Class V septic

systems operated by funeral homes. This would move these wells out of the industrial well category, where they fit in today's proposal, and thus remove them from the proposed requirement to meet MCLs at the point of injection. In support of this recommendation, NFDA submitted to EPA a report titled *Septic System Treatment of Funeral Home Wastewater*, March 18, 1998 (copy available for review in the docket). According to NFDA, this report shows that only three preservative compounds with potential human health concerns—formaldehyde, methanol, and phenol—are likely to be found in funeral home wastewater in concentrations that exceed health-based levels (MCLs are not available for these chemicals). The report concludes that these compounds are generally adequately treated in septic systems such that concentrations exceeding the health-based levels do not exit the system. NFDA stated that it is unaware of any incidence of contamination of USDWs by funeral home septic systems.

Today's proposal does not include septic systems operated by funeral homes in the other industrial well category, because EPA needs additional time to evaluate the data submitted by NFDA and determine whether such a classification of funeral home wells is warranted. EPA requests comment and additional data on the proper classification of funeral home septic

systems. Specifically, EPA requests comment on the information contained in the NFDA report as well as comment and information on any important topics that are not addressed in the NFDA report but have a bearing on this decision. Based on public comment and data, EPA may classify these wells as other industrial wells which are outside the scope of this rulemaking.

Additional discussion is needed to clarify how stormwater drainage wells are categorized in today's proposal. As shown in Table 2, wells used to drain stormwater runoff would be classified as drainage wells (not subject to new requirements under today's proposal), while industrial drainage wells would be classified as industrial wells (subject to the proposed new requirement to meet MCLs at the point of injection). The industrial drainage well category, however, does not include Class V wells intended for stormwater management that may have the potential to receive insignificant amounts of waste due to unintentional small volume leaks, drips, or spills and that cannot reasonably be separated from potential sources of contamination. Such wells, even if they were located at a commercial or industrial site, would be classified as stormwater drainage wells and excluded from the new regulation. In this context, "cannot reasonably be separated" means a well that cannot be moved farther away or uphill from a potential source

of contamination (e.g., due to property boundaries, site layout, or other physical constraints) and cannot be separated from a source by berms, dikes, or drainage ditches and still perform the function of draining stormwater runoff from a site. For example, a well at a gas station would be considered a stormwater drainage well, not an industrial well, if it is located reasonably far away from the gas pumps in a downhill direction and only drains stormwater runoff occasionally contaminated with insignificant amounts of gas due to unintentional small volume leaks, drips, or spills at the pumps. However, a well at a gas station or other commercial or industrial site that is in position to directly receive bulk spills of materials or wastes, or to receive highly contaminated runoff due to large leaks or spills, would be classified as an industrial drainage well, even if the well is intended for stormwater management.

EPA requests comment on this proposed treatment of stormwater drainage wells. The Agency is attempting to reasonably distinguish between a well at a commercial or industrial site that routinely receives highly contaminated drainage or is susceptible to significant spills of chemicals or wastes, and a well at a commercial or industrial site that is intended for stormwater management but also may receive the unintentional insignificant leaks, drips, or spills that are commonly contained in street runoff. If these two kinds of wells can be distinguished, the wells that are more like industrial wells could be regulated like industrial wells and the wells that are more like stormwater management wells could be regulated like drainage wells. EPA realizes, however, that it may not be practical to make this distinction, potentially allowing some endangering drainage wells at commercial or industrial sites to escape the additional regulations proposed today. EPA also realizes that the proposed categorization may be at odds with the programs currently being implemented by existing UIC authorities. Therefore, the Agency requests that commenters specifically address the merits and potential impact of the proposed categorization. Based on these comments, EPA may classify all drainage wells at commercial or industrial sites as industrial wells in the final rule.

Finally, wells used to inject fluids from carwashes are in one of two categories depending on whether the carwashes perform engine or undercarriage washing. Only those wells at car washes that are specifically

set up to perform engine or undercarriage washing are considered to be Class V industrial wells under the proposed rule. Wells at coin-operated, manual carwashes where people use hand-held hoses to wash only the exteriors of vehicles would be classified as other industrial wells, as would those at any other vehicle washing facility not set up to perform engine or undercarriage washing. The cleaning solutions used at these carwashes generally consist of soap solutions, rinsewater, and wax, and do not contain degreasing agents or solvents such as methylene chloride or trichloroethylene. As a result, the spent washwater disposed in a carwash well that qualifies as another industrial well primarily contains detergents, road salts, sediments, and incidental contaminants that may be washed from a vehicle's exterior, comparable to typical stormwater runoff.

B. Requirements for Motor Vehicle Waste Disposal Wells

As discussed below, EPA is co-proposing two approaches for regulating Class V motor vehicle waste disposal wells in ground water-based source water protection areas: (1) A ban of new and existing wells in such areas; and (2) a ban of new wells and a provision giving owners or operators of existing wells an opportunity to apply for a waiver from the ban by seeking a permit that requires fluids to meet MCLs at the point of injection. EPA also is soliciting comment on a specific alternative to these proposed approaches. As recommended by some members of the Small Business Advocacy Review (SBAR) Panel, the preamble also seeks comment on the issue of allowing waste to be injected, in certain situations, that exceeds some MCLs at the point of injection. EPA does not support this concept because it believes that injecting waste above the MCLs within source water protection areas would pose a threat to the public that is drinking this water.

1. Proposal to Ban New and Existing Wells

As one option, EPA proposes to ban motor vehicle waste disposal wells in source water protection areas delineated for ground water supplying community water systems and non-transient non-community water systems. Starting on the effective date of the rule, owners or operators of such existing wells would be required to cease injection operations and close their well within 90 days of the completion of the local source water assessment program responsible for their area. The UIC Program Director

would be allowed to extend this deadline for up to one year in situations where the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technology. UIC Program Directors also would have additional flexibility to extend the deadline for a reasonable amount of time beyond a year through compliance agreements with owners or operators of existing wells. Additionally, UIC Program Directors could use compliance agreements to extend the 90-day deadline in cases where an owner/operator is waiting for the permitting authority to act on an application for a waste disposal permit. New motor vehicle waste disposal wells, and new conversions to such wells, in those delineated areas would be prohibited starting on the effective date of the rule. For the purpose of the Class V regulations, an "existing" well would be one that is operational or under construction when the rule becomes effective. A new well or new conversion would be anything starting construction after the rule's effective date. If a state does not have a complete source water assessment program by May 2003, the ban would apply throughout the state.

As discussed above, EPA proposes to focus this initial rule on certain source water protection areas for the purpose of defining a category of high risk wells and prioritizing national policy. The rule would establish specific measures to ensure that this category of Class V wells do not endanger USDWs in the highest-priority areas. All existing Class V authorities, including the prohibition against endangering USDWs in § 144.12 and the authority to call problem wells in for a permit under § 144.25, would continue to apply in all areas. EPA expects and strongly encourages states to use these existing authorities to take whatever measures are needed to ensure all Class V wells are not endangering USDWs in any other sensitive areas beyond delineated source water protection areas. Examples of other sensitive areas that may warrant priority attention are provided in section IV.B.1 above. Nothing in this proposed rule precludes a state or local government from promulgating more stringent requirements above and beyond those contained in the rule.

The proposal to ban motor vehicle waste disposal wells located in source water protection areas is based on the high potential for these wells to endanger USDWs. Available information and damage cases, combined with years of experience implementing the Class V UIC program,

show that these wells stand out as particularly troublesome.

There are approximately 183,000 automotive-related disposal wells. These wells are located in every state in 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 best management practices (BMPs) by the automotive industry have improved recycling and waste disposal practices over the past decade, EPA is concerned that there are 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."²

Examples of instances where motor vehicle-related waste disposal wells have endangered USDWs are numerous. They include a case in Missoula, Montana, a sole-source aquifer area, where investigations starting in June of 1988 discovered that tetrachloroethylene (PCE) from operating drainage wells at auto service stations had contaminated community wells serving approximately 45,000 people.³ Four 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 the ground water, the soil, and an on-site water supply with PCE.⁵ 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.⁶ 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.⁷ All of these incidents occurred before 1989. Some small entity commenters have suggested that motor vehicle facilities routinely use management practices, such as recycling of used antifreeze and motor oil, that would significantly reduce the risk of such contamination. EPA, however, conducts periodic inspections that indicate that many facilities do not routinely implement best management practices. EPA requests information on more recent instances of contamination of USDWs by Class V motor vehicle wells, as well as any data commenters may have on the use of BMPs. EPA also requests information on situations where USDWs or drinking water wells were discovered to contain constituents found in motor vehicle waste.

Many of these documented problems have been associated with the improper disposal of fluids that qualify as a hazardous waste under the Resource Conservation and Recovery Act (RCRA). In other words, some motor vehicle waste disposal wells are in fact Class IV wells, which are already generally banned by 40 CFR 144.13. Data obtained from the 1991 National Administrative Order suggest that 13 percent of the motor vehicle waste disposal wells inject fluids that exhibit the toxicity characteristic for RCRA hazardous waste. Considering the potential for these wells to also receive listed hazardous wastes,⁸ such as certain spent

² Anderson, William, *Innovative Site Technology, Bioremediation*, Chapter 3.4, page 1, 1995

³ Background Paper prepared by Alan English, Missoula City-County Health Department for U.S. EPA Underground Injection Control Program, February 1992.

⁴ "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.

⁵ 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.

⁶ 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/aifwfrank/pad.htm>.

⁷ Site Description Printout for the Panhandle Eastern Pipeline Site, from Teresa Hattan, Kansas Department of Health and Environment, July 15, 1998.

⁸ A waste can qualify as a RCRA hazardous waste either by exhibiting one of the four characteristics of hazardous waste (ignitability, corrosivity, reactivity, or toxicity) or by being named on one of four lists developed by EPA. The cited 13 percent of facilities injecting waste that exhibits the toxicity characteristic does not account for the additional facilities that may be injecting a listed hazardous waste.

solvents that may be spilled while motor vehicle parts are being cleaned, the fraction of wells inadvertently injecting hazardous waste may actually be greater. One study by the New Jersey Department of Environmental Protection, for example, determined that six out of ten automotive waste disposal wells examined (60 percent) were actually Class IV injection wells (see p. 7 of Distribution of Organic Contaminants in Automotive Waste Disposal Drywell Systems available in the public docket). Some small entity representatives and advocates involved in the development of this proposal have commented that cases of contamination caused by the shallow injection of hazardous waste at motor vehicle facilities simply underscore the reason for banning Class IV wells and point to the need for greater enforcement of this existing ban, not the need for greater regulation of properly operating Class V motor vehicle waste disposal wells. EPA, however, believes such cases are a symptom of a Class V regulatory problem that needs to be fixed. In particular, the lack of specific regulatory requirements that mandate control measures to prevent endangerment may provide an incentive to some well owners or operators to inject hazardous fluids in Class V wells, either unknowingly or on purpose, to avoid more stringent regulations governing other waste disposal practices. This is a real concern for motor vehicle waste disposal wells, such as floor drains in service bays, which are susceptible to spills of fluids that commonly qualify as hazardous waste. In these situations, UIC inspectors usually cannot tell if a motor vehicle waste disposal well is a Class V or a Class IV well.

Some states, localities, and industry sources have already identified these wells as potentially posing a threat to USDWs and have taken steps to address this threat. For example, Connecticut published a guidebook for local officials with regulatory responsibility for Class V wells (Best Management Practices for the Protection of Ground Water, November 4, 1992) recommending that all discharges from existing wells at automotive repair and service facilities to other than a sanitary sewer be prohibited, and that discharges at new or expanded facilities in wellhead protection areas also be prohibited. The state also recommends that any authorized wells should be permitted and their compliance with published

best management practices should be certified. Massachusetts does not allow anyone to put fluids in a service station floor drain without a ground water discharge permit. New Hampshire disallows discharges into floor drains at automotive facilities. The City of Missoula, Montana requires a permit for the use of drainage wells at motor vehicle fueling facilities and requires a separate stormwater collection system with control devices to prevent infiltration of fuel-contaminated water into such wells. Other states also have permitting requirements for motor vehicle and industrial Class V wells in various circumstances. Finally, the American Petroleum Institute has developed industry guidance recommending that oil companies and service stations eliminate the use of Class V wells to dispose of motor vehicle-related waste (Handling Water Discharges from Automotive Service Facilities Located at Petroleum Marketing Operations, API Recommended Practice 1633, January 1992). Because one of EPA's proposed options would allow continued permitting of Class V motor vehicle wells in SWPAs, EPA is very interested in state experience with such permitting programs. Do states issue general permits, applying to classes of facilities, and under what conditions? What are the requirements for state issued permits regarding BMPs, monitoring, and allowable contaminant concentration levels? How much discretion do state permit writers have in implementing these requirements? Have there been specific problems with state permitting programs? How effective have they been at preventing Class V wells from endangering USDWs? Would there be special difficulties for states with existing permitting programs if EPA were to require them to close previously permitted wells in SWPAs?

Based on the above information and experience, EPA believes that banning motor vehicle waste disposal wells in source water protection areas would achieve substantial protection.

EPA has designed the ban on motor vehicle waste disposal wells to be self-implementing by owners or operators, with minimal new reporting requirements and no new inspection or other administrative requirements. Owners or operators would have substantial flexibility to choose how they want to close their wells. Some may choose to connect their floor drains to a municipal sewer system or holding tank, whose contents can be periodically cleaned out and disposed of properly. Others may permanently

seal their floor drains or disconnect them from existing wells. In these latter situations, owners or operators would have to use alternative methods for managing motor vehicle-related fluids, such as: (1) Recycling and reusing wastewater as much as possible; (2) collecting and recycling petroleum-based fluids and coolants drained from vehicles; (3) washing parts in a self-contained, recirculating solvent sink, with spent solvent being recovered and replaced by the supplier; (4) using absorbents to clean up minor leaks and spills, and placing the used materials in approved waste containers and disposing of them properly; and (5) using a wet vacuum or mop to pick up accumulated rain or snow melt, and disposing of it through a publicly owned treatment works. EPA recognizes that facilities may need to comply with other regulatory requirements (e.g., obtain permits) in order to make use of one of these options. EPA believes, based on firsthand experience with owners and operators, that most facilities can easily implement these alternatives within a short period of time.

If all motor vehicle waste fluids generated at a service facility are segregated so that none are injected, the facility's Class V well may not be prohibited and could be used to dispose of other waste streams, such as stormwater, ice melt, and carwash waste water. EPA advises that Directors use careful judgment in making such an allowance, however, limiting it to cases in which unintentional or illicit discharge of motor vehicle waste fluids into the well is unlikely based on the facilities compliance history and availability of adequate records showing proper waste management and disposal. In these instances, the well is converted from a motor vehicle waste disposal well to another type of Class V well defined by the nature of fluids it receives. For example, a service station could perform all vehicle maintenance in areas that do not drain to the Class V well. If the service bay connected to the Class V well is then used only for draining ice melt or stormwater from tires or vehicle exteriors, the well would qualify as a Class V stormwater drainage well. If the service bay connected to the Class V well is used for the exterior washing of vehicles (and no engine or undercarriage washing is performed), the well would qualify as an other industrial well. As another example, owners or operators could install a semi-permanent plug (also known as a plumber's plug) in the sump outlet leading to the injection well.

Automotive waste and spills could then be collected in the sump and periodically disposed offsite. When necessary, the plug could be removed and the well used for non-automotive waste only. In order for this approach to be acceptable, the plug would truly have to be semi-permanent. It cannot be something that is easily removed, which would create the potential for the well to remain open and subject to abuse. Because EPA remains concerned about potential abuses, EPA requests comment on the use of semi-permanent plugs for well closure, particularly on their limitations and on circumstances where their use is or is not inappropriate.

Regardless of the closure method selected, owners or operators would be required to close their well in a manner that complies with the prohibition of fluid movement standard in § 144.12 as well as any additional or more specific closure standards that may be established by the UIC Program Director. This closure requirement would be like the one that exists in § 144.23(b)(1) for Class IV wells. The proposed rule would not specify any new soil or ground water sampling or site remediation requirements. However, EPA understands that closure of the well may trigger site characterization and remediation requirements under EPA Regional and Primacy State UIC Program implementation of 40 CFR 144.12, other state environmental programs, insurance policies, business contracts, local ordinances, and so forth. The economic analysis supporting today's proposal, therefore, reflects the costs of complying with these other existing requirements, where they are likely to apply (EA section 2.3.5). Any such remediation should be, to the extent possible, carried out consistently with any ongoing remediation of underground storage tank contamination at affected facilities. In addition, any wastes generated during well closure or under alternative waste management scenarios after the wells are closed, such as spent cleaning solutions and absorbents, will have to be managed in accordance with applicable solid and hazardous waste regulations. EPA estimates capital costs ranging from \$2,500 to \$10,000 and annual O&M costs ranging from \$700 to \$26,000 per facility, depending on the particular waste stream and off-site management option selected. EPA estimates that these costs for most facilities will be at the low end of the ranges. Only a few of the affected well types will experience costs at the high end of the ranges. EPA requests

comment on its well closure and alternate waste management cost estimates.

For EPA-administered (DI) Programs only, owners or operators of wells being closed would be required to notify the UIC Program Director of the intent to close their well at least 30 days prior to closure (owners or operators of wells in Primacy States would have to meet any state-established reporting requirements). This is the same requirement that currently exists in § 144.23(b)(3) for Class IV wells. Based on the Agency's experience and knowledge of how the federal UIC program runs, EPA believes such pre-closure notification is needed as a mechanism for DI Programs to track high-priority closures. The Agency, however, does not know if all state programs need this same requirement. States may already have, or could develop, another or a better mechanism that they prefer. Therefore, rather than impose pre-closure notification as a minimum federal requirement that all Primacy States must adopt, EPA proposes to keep this aspect of the new requirements flexible. If some states want it, they can choose to adopt the same or a similar requirement under their own authority when they amend their program. Alternatively, EPA requests comments on whether such pre-closure notification should be required in every state. If such an approach is clearly necessary based on these comments, EPA could broaden the requirement to Primacy States in the final rule.

2. Proposal to Ban New Wells and Require Existing Wells to Either Close or Get a Permit

As another option, EPA proposes the same ban on new and existing motor vehicle waste disposal wells as discussed above, but would give states the option of allowing owners or operators of existing wells to seek a permit to continue using their wells. In states adopting this option, and in areas where EPA is the primacy agent, owners or operators of existing wells would have to either close their wells or submit a permit application within 90 days of the completion of the local source water assessment program responsible for their area. While the permit application is under review, existing wells could continue to operate subject to the condition that fluids released in the wells meet the primary drinking water MCLs at the point of injection, or, if an MCL is not available for specific pollutants, other appropriate health-based standards approved by the

UIC Program Director.⁹ As with the first option, the UIC Program Director would be allowed to extend the closure deadline (but not the application submittal deadline) for up to one year in situations where the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technology. UIC Program Directors also would have additional flexibility to extend the closure deadline for a reasonable amount of time beyond a year through compliance agreements.

In primacy states that adopted this option, it would require more state effort than the first proposal. UIC Program Directors would have to review the permit application and site-specific conditions for each facility wishing to keep its motor vehicle waste disposal well open. Based on this review, Directors would have to either deny the application or develop and enforce permit requirements to make sure the well does not endanger USDWs.

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 at the point of injection or other appropriate health-based standards approved by the UIC Program Director, if an MCL is not available for specific pollutants (comments are being solicited on whether this requirement could be relaxed and that EPA does not believe that relaxing this requirement would provide adequate public health protection, see section II.C.6). Second, owners or operators would have to follow accepted BMPs for motor vehicle-related facilities. The BMPs recommended in the State of Connecticut's Best Management Practices for the Protection of Ground Water and API's Handling Water Discharges from Automotive Service Facilities Located at Petroleum Marketing Operations, both available in the docket, serve as good models. 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, would not specify new injectate monitoring requirements that must be followed, leaving those instead to the discretion of the Director.

⁹ 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.

When all of these requirements are put together, EPA believes the permit would specify a monitoring and action plan similar to the following, 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 permit might require: (1) Implementation of specific BMPs or treatment measures; (2) pumping and proper disposal of their sludge; (3) quarterly sampling of injectate for the first three years and then annually if consistently below the MCLs; (4) annual sampling of the sludge; and (5) other requirements established by the Director to protect USDWs. EPA requests comments on this possible set of permit requirements, and any others that could be used to protect USDWs from motor vehicle waste disposal wells. EPA is particularly interested in receiving comment on the appropriate frequency of the injectate monitoring outlined above given the high variability and unpredictable nature of the fluids that may be spilled or released into motor vehicle waste disposal wells.

This option recognizes that there may be instances in which owners or operators of existing motor vehicle waste disposal wells in source water protection areas want to keep using their wells and can do so safely given their site-specific circumstances. These circumstances include the use of BMPs and/or treatment technologies that effectively keep potentially endangering fluids from entering the well, combined with regular injectate monitoring, to make sure fluids meet MCLs at the point of injection. Some small entity representatives and advocates involved with the development of this proposal indicated that many service stations and repair shops have already adopted BMPs, such as the recycling of used motor oil and antifreeze, spill prevention and control, and the use of environmentally friendly cleaning

products, which have significantly reduced both the volume and toxicity of their injectate. These stakeholders asserted that the use of such practices is now widespread in the automotive service industry, making it unnecessary to categorically ban every well. Under this option, therefore, certain motor vehicle waste disposal wells in delineated source water protection areas could remain open, if approved by the UIC Program Director based on a review of site-specific circumstances and if controlled through a permit that requires MCLs to be met at the point of injection and any other conditions believed necessary to protect USDWs.

3. Alternative

EPA is requesting comment on an alternative to the two proposals outlined above. Under this alternative, EPA could require owners or operators who want to continue using motor vehicle waste disposal wells in delineated source water protection areas to make sure fluids meet MCLs at the point of injection. This would differ from the first proposal by not having an outright ban and it would differ from the second proposal discussed above by eliminating the site-specific permit requirement for owners or operators whose injectate and sludge meet the MCLs. Instead, the requirement to meet MCLs at the point of injection would be specified in the regulation as a condition for continued rule authorization. The regulation also would specify monitoring requirements and actions to take based on the monitoring results. Owners or operators of existing wells who do not want to or cannot meet these conditions would have to close their wells according to the same schedule discussed above. New wells in source water protection areas would be prohibited starting on the effective date of the rule.

The specific monitoring requirements that EPA proposes, and requests comment on, are the same as the potential permit requirements described for the second proposal above. That is, owners or operators would be required to initially characterize their injectate and sludge quality. If liquid from the sludge has chemical concentrations below the MCLs, owners or operators would be required to (1) analyze the injectate quarterly for the first three years and then annually if it is consistently below the MCLs, and (2) analyze the sludge annually. If the injectate is below the MCLs but liquid from the sludge is above the MCLs, then owners or operators would have to follow the same monitoring requirements and pump and properly dispose of their sludge. If the injectate

is above the MCL and the liquid from the sludge is above the MCL, owners or operators would have to either close their wells or make process or operational changes to ensure compliance with the MCLs.

This approach for regulating existing motor vehicle waste disposal wells would be almost identical to the proposed approach for regulating Class V industrial wells, discussed below. The only difference would be more extensive monitoring at motor vehicle waste disposal wells. EPA believes this difference is justified given the nature of the fluids routinely handled at motor vehicle-related facilities (e.g., waste oils and solvents that have high concentrations of toxic constituents) and the relatively high potential for spills of these fluids to occur and enter floor drains. Under these conditions, the quality of the injectate can be highly variable and unpredictable, and regular monitoring is needed to confirm that a problem does not exist or to detect a problem early so that it can be quickly mitigated. EPA believes the situation is different for most Class V industrial wells, where the injectate is a process wastestream that is more constant in terms of quality and quantity than the spills that are the primary concern at motor vehicle-related facilities. Therefore, although some industrial wells are also susceptible to spills or process upsets as discussed in the next section below, frequent and regular monitoring at industrial facilities is less important in controlling injectate quality and protecting USDWs. EPA requests comment on this position as well as suggestions for the specific monitoring requirements that would be appropriate for motor vehicle waste disposal wells.

C. Requirements for Class V Industrial Wells

1. Proposal

Owners or operators of existing Class V industrial wells in source water protection areas—delineated for community water systems and non-transient non-community water systems that use ground water as a source—would as a condition of rule authorization be required to either (1) make sure fluids disposed in their wells meet MCLs at the point of injection, or (2) close their wells. New wells in such areas, including new conversions to Class V industrial wells, would be prohibited unless they were able to meet the same standard on injectate quality. For the purpose of this regulation, an “existing” well would be one that is operational or under construction when

the rule becomes effective. A well or well conversion would qualify as "new" if construction started after the rule's effective date. Because primary MCLs may not exist for some pollutants released in industrial wells, UIC Program Directors would have discretion to require the injectate to meet other appropriate health-based limits, as needed to protect USDWs for these other contaminants. Industrial well closures would be subject to the same basic closure requirements as proposed for motor vehicle waste disposal wells, including the requirement that owners or operators in DI Programs submit pre-closure notification at least 30 days prior to abandonment.

The timing for these new requirements would be the same as that proposed for motor vehicle waste disposal wells. Starting on the effective date of the rule, existing wells would have to meet the MCLs or close within 90 days of the completion of the source water assessment program for their local area. The UIC Program Director would be allowed to extend this deadline for up to one year in situations where the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technology. UIC Program Directors also would have additional flexibility to extend the deadline for a reasonable amount of time beyond a year through compliance agreements with owners or operators of existing wells. The requirements for new and converted industrial wells in delineated areas would start applying immediately on the effective date of the rule.

Available information suggests that additional federal regulation is needed to address the risk posed by Class V industrial wells located in delineated areas. Industrial process water and waste disposal (5W20) wells, one major well type that fits in the industrial well category defined above, pose a significant threat to USDWs especially if they inject highly contaminated and/or large volumes of waste. According to the 1987 Report to Congress, such wells could potentially receive any fluid disposed by the various industries that use Class V wells (e.g., commercial printing, die and tool manufacturing, machinery and equipment manufacturing, chemical production, and drycleaning). For example, the Report estimated that in Nassau and Suffolk Counties in New York, an average of 20 million gallons per day—or, 36 thousand pounds per day of total dissolved solids—was injected into the subsurface by such facilities. This

occurred in the early 1980's (Report to Congress, p. 4–278).

Industrial drainage (5D4) wells, also within the Class V industrial well category, also pose a significant threat of contamination to USDWs especially if they inject poor quality fluids, are susceptible to accidental industrial spills, and are available for abuse through illicit discharges. For example, studies from Nationwide Urban Runoff Program projects in Fresno, CA and Spokane, WA in 1984 and 1986, respectively, have shown that industrial areas had the lowest quality stormwater runoff of all land-use types evaluated (Report to Congress, p. 4–37). A particular example illustrating this high hazard potential occurred in Hutchinson, Kansas (in 1986) where a diesel/tar mixture from a newly tarred roof washed into what would now be classified as an industrial drainage well during a rainstorm, and a nearby city water well was shut down as a result of the injected hydrocarbon mixture (Report to Congress, p. 4–38).

Requiring Class V industrial wells in source water protection areas to meet primary MCLs, or other appropriate health-based limits selected by the UIC Program Director, at the point of injection will greatly reduce the threat of these wells. EPA is proposing this approach rather than an outright ban of industrial wells because of a lack of information indicating that a ban is always warranted. Also, this approach is consistent with the controls already imposed in some locations. For example, Class V industrial wells in Florida are required to meet MCLs at the point of injection, as are most kinds of Class V industrial wells in Massachusetts. Requiring MCLs to be met at the point of injection would establish a clear threshold to ensure the wells are not endangering USDWs, but would give owners or operators flexibility in deciding how to meet that threshold. In some cases, it will require no action or simple containment and/or treatment measures. Owners or operators wishing to keep their wells open may also have to monitor their injectate quality to adequately assure that it does not exceed MCLs though EPA is not proposing any specific monitoring requirements for owners and operators of Class V industrial wells. Owners or operators who are not able to ensure that their discharge meets MCLs at the point of injection (or who choose not to because of the high cost of doing so) would have to close their wells.

2. Alternatives

As an alternative to the proposed approach, EPA could ban all or certain

Class V industrial wells in source water protection areas as part of this rulemaking. For example, the ban could be extended to wells that dispose of washwater from car washes where motor or undercarriage washing is performed. As mentioned previously, EPA does not believe sufficient information exists to support a broader ban at this time. Additional bans, however, could be justified and imposed as part of subsequent rulemakings, if additional information supporting a broader ban becomes available.

EPA also requests comment on whether the pre-closure notification requirement for industrial wells should be added in Primacy State programs. As discussed above for motor vehicle waste disposal wells, EPA currently believes it would be best to restrict that requirement to DI Programs, as it has restricted the pre-closure notification requirement in § 144.23(b)(3) for Class IV wells. Finally, elsewhere in this preamble, comments are requested on whether the requirement that injectate from industrial wells in source water protection areas always meet all MCLs at the point of injection could be relaxed under any circumstances without endangering USDWs. EPA's does not support this position because it believes that allowing injection of waste that exceeds the MCL into source water protection areas poses an endangerment to the USDW and to people that drink this water.

D. Ban of Large-Capacity Cesspools

Cesspools are Class V wells that receive untreated sanitary waste and allow the waste to percolate directly into the subsurface. Only those cesspools with the capacity to serve 20 or more persons per day are subject to UIC regulation.

As discussed in the August 28, 1995 proposal, EPA believes such large-capacity cesspools have a high potential to contaminate USDWs because: (1) Sanitary wastes released in cesspools frequently exceed drinking water MCLs for nitrates, total suspended solids, and coliform bacteria (Report to Congress, p. 4–151); (2) the wastes released in cesspools also contain other constituents of concern, including phosphates, chlorides, grease, viruses, and chemicals used to clean cesspools such as trichloroethane and methylene chloride; and (3) cesspools provide no treatment except for some settling of the solids. In addition, the 1987 Report to Congress notes that some states have reported degradation of USDWs from such cesspools (Report to Congress, p. 4–151). Based on these concerns, new

cesspools are already banned in most states. Where such bans presently exist, states are phasing out existing cesspools over a time period negotiated by state and local governments and acceptable to EPA.

The August 28, 1995 notice proposed not to impose a federal ban on large-capacity cesspools because of the actions being taken to control cesspools at the state level. The Agency proposed instead to use its existing enforcement authorities to supplement state bans where necessary to ensure compliance with the non-endangerment requirements of § 144.12.

Some commenters on the August 28, 1995 proposal raised a number of issues associated with this approach. For example, the Sierra Club Legal Defense Fund asserted that the proposal fails to carry out SDWA requirements to prevent endangerment of USDWs, that reliance on existing enforcement authorities is inadequate, and that the existence of some state or local regulations does not justify an EPA decision not to regulate. In addition, one state commented that it has not banned new cesspools by existing regulations. A ban in the federal UIC regulations would ensure that these high-risk wells are not constructed in this state or any other state that does not have its own regulations banning them.

Based on these comments, EPA is today proposing to ban, starting on the rule's effective date, new large-capacity cesspools in source water protection areas delineated for community water systems and non-transient non-community water systems that use ground water as a source. Existing large-capacity cesspools in such areas would be required to close within five years of the effective date of the rule. Owners or operators of such cesspools in DI Programs would have to notify the UIC Program Director of the intent to abandon their cesspool at least 30 days prior to abandonment (owners or operators of large-capacity cesspools in Primacy States would have to meet any state-established reporting requirements). For the purpose of this regulation, a "new" cesspool would be one starting construction after the rule's effective date. An "existing" cesspool would be one that is operational or under construction when the rule becomes effective. These new federal requirements would strengthen existing programs to protect USDWs.

Existing large-capacity cesspools would have five years to close instead of 90 days with a possible one year extension proposed for motor vehicle waste disposal wells because cesspool owners or operators may need this

amount of time to implement appropriate alternatives for managing their sanitary waste. In particular, they cannot stop the generation of sanitary waste, so the only options they would have would be to connect to a sanitary sewer system or install a septic system. Both of these options may take more than a year to implement and may not even be feasible (e.g., the septic system option would not be feasible if onsite soils do not satisfactorily pass a percolation test). In comparison, there are generally accepted methods available to owners or operators of motor vehicle-related facilities to stop the disposal of motor vehicle waste fluids in Class V wells that can be implemented within 90 days with a possible one year extension. These alternatives include recycling, sending spent solvents back to suppliers, installing a semi-permanent plug in the well and a sump to capture any spills of motor vehicle fluids, running a dry shop, and the other BMPs discussed above. Although EPA recognizes that other types of permitting may be required for these options, EPA believes that 90 days is sufficient to complete this process.

EPA proposes to focus the large-capacity cesspool ban on ground water-based source water protection areas around community water systems and non-transient non-community water systems for the purpose of prioritizing national policy and because these are the highest risk wells. EPA expects and strongly encourages states to use existing authorities to take whatever measures are needed to ensure Class V cesspools are not endangering USDWs in any other sensitive areas outside delineated source water protection areas (see § IV.B.1 for examples of other such areas). If a state does not have a complete source water assessment program by May 2003, the federal ban on cesspools would apply throughout the state. EPA also requests comment on the merits and potential impacts of broadening the proposed cesspool ban to source water protection areas delineated for transient non-community water systems that use ground water as a source. Transient systems are those that serve at least 25 people but not on a regular basis (e.g., campground or highway rest stop). Including these additional areas within the scope of the proposed requirements for cesspools could address the unique acute risk associated with the shallow disposal of untreated sanitary waste in areas where ground water is used as a drinking water source.

As discussed above for motor vehicle waste disposal wells and industrial

wells, EPA is proposing the pre-closure notification requirement for large-capacity cesspools in DI Programs because of the Agency's knowledge of how these programs run and what they need to track high-priority closures. Because EPA does not know if this same requirement is needed for all Primacy States, and is unsure if such a requirement may in fact create a burden that outweighs its benefits in the context of individual state programs, the Agency is not proposing to impose the pre-closure notification requirement on Primacy States. Instead, the proposal would give states flexibility to use their own authority to adopt this or a similar requirement tailored to their particular needs. However, EPA requests comment on this issue, including comments on the merits and potential impacts of extending the pre-closure notification requirement to Primacy States.

E. Exclusion Criteria for Septic Systems and Cesspools

As discussed in the August 28, 1995 notice, the current UIC regulations distinguish between septic systems used by single-family homes and non-residential septic systems that receive solely sanitary waste and have the capacity to serve fewer than 20 people. Section 144.1(g) excludes from UIC regulation "individual or single family residential waste disposal systems such as domestic cesspools or septic systems" and "non-residential cesspools, septic systems or similar waste disposal systems if such systems (A) are used solely for the disposal of sanitary waste, and (B) have the capacity to serve fewer than 20 persons a day."

EPA now believes there is no difference between a single-family residence septic system and a non-residential system serving only a small number of people, as long as the non-residential system receives only sanitary waste. Therefore, the August 28, 1995 notice proposed to revise § 144.1 to exclude from UIC regulation all cesspools and septic systems serving fewer than 20 people, regardless of where such systems are located. This revision would eliminate the distinction between septic systems used by single-family homes and small non-residential septic systems that receive solely sanitary waste. At the same time, EPA proposed to define cesspools and septic systems as wells receiving solely sanitary waste to distinguish them from similar devices receiving industrial waste waters, which would be defined as industrial waste disposal wells. Finally, EPA proposed to define sanitary waste as domestic sewage and

household waste. EPA requested public comment on this proposal and any alternatives, such as exclusion criteria based on septic tank size (e.g., tanks under 2,000 gallons would not be subject to UIC regulation), flow rate (e.g., systems receiving less than 5,000 gallons per day would not be subject to UIC regulation), or dwelling size.

Of the 57 comment letters submitted on the proposal, 28 addressed this issue. Only two commenters supported the proposal to maintain the threshold of 20 persons per day for systems subject to regulation. Eighteen commenters preferred an alternative criterion, with most preferring a threshold based on flow rate. The suggested flow rates ranged from 2,000 to 20,000 gallons per day. A few of the commenters preferred a criterion based on septic tank size (ranging from 2,000 to 7,500 gallons), and one commenter suggested that a soil application rate be used (1.5 gallons per day per square foot). Apart from these 18 commenters who preferred an alternative criterion, four commenters asserted that all septic systems receiving solely sanitary waste—regardless of capacity—should be excluded from UIC regulation and addressed by states through other, existing legal authorities. Two other commenters stated that all cesspools—regardless of capacity—should be banned altogether.

In addition to comments on the threshold for regulation, seven commenters took issue with the proposed definition of sanitary waste. These commenters thought the proposed definition would not clearly establish that small septic systems and other similar systems receiving only domestic sewage and household-type wastes at commercial and industrial facilities are excluded from UIC regulation. The commenters suggested that the sanitary waste definition be broadened to include examples of commercial or industrial settings where the exclusion would apply. Alternatively, EPA could use a more general definition of sanitary waste that includes wastewater generated from human wastes; personal or employee food preparation; gray water (e.g., hand washing waste from laboratory and kitchen sinks); and other domestic-type wastes, regardless of where the waste was generated.

Based on these comments, as well as experience implementing the UIC program, EPA recognizes that the current 20 persons-a-day exclusion criterion in the federal UIC regulations has weaknesses. However, it is not now clear to EPA that a change to this criterion is necessary to protect USDWs or could be made without causing

undue disruption to existing state and local programs. State programs currently interpret the criterion in different ways, with most programs using a septic system flow rate and other programs using a septic tank size or other measure. These various state interpretations appear to work well and achieve adequate protection of USDWs. EPA's adoption of an interpretation currently used by one or more states may not improve protection but might invalidate other state interpretations.

Therefore, EPA is again requesting comment on the § 144.1(g) criteria proposed on August 28, 1995, which would exclude all septic systems and cesspools with a capacity to serve fewer than 20 persons a day, without distinguishing between residential and non-residential systems. This time, however, the Agency asks that commenters specifically address the question of whether the federal criteria need to be changed to correct a significant operational problem, such as inadequate protection of USDWs or extreme burden or confusion in implementing the UIC program. If alternative criteria are believed to be needed, the Agency also requests that commenters propose a specific alternative and address how it would work if adopted on the federal level. The vast majority of commenters on the prior proposal simply suggested that EPA adopt one state's interpretation, without regard to how it might affect other states.

In response to comments on the proposed definition of sanitary waste, EPA agrees that the definition should be broadened to clarify that small-capacity septic systems or cesspools at commercial and industrial facilities are excluded from UIC regulation if they receive solely sanitary waste. Therefore, the Agency is re-proposing today a new sanitary waste definition in §§ 144.3 and 146.3 that references commercial and industrial facilities. This proposal is based in part on the household waste exclusion established in the RCRA regulations (40 CFR 261.4(b)(1)).

F. Other Amendments

As outlined in Table 1 at the beginning of this preamble, EPA is re-proposing 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, on which EPA will continue to accept public comment, 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. EPA is not accepting comment on these requirements, identified with notes in the proposed rule language, because they already exist in the UIC regulations and are only being reworded to improve their clarity.

1. Sections 144.3 and 146.3—Definitions

In addition to the proposed new definition of sanitary waste discussed above, the proposed regulation would add new definitions for the terms "cesspool," "drywell," "improved sinkhole," "septic system," and "subsurface fluid distribution system." The rule also would revise the existing definitions for "well" and "well injection."

The definition of "cesspool" and "septic system" would conform with the new Class V categories explained in section V.A of this preamble.

An "improved sinkhole" would be defined as a type of injection well regulated under the UIC program. Today's proposed definition would codify 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 proposed new definition of "septic system," would be defined with a standard engineering description.

The definition of "well" would be revised to clarify that a "well" includes improved sinkholes and subsurface fluid distribution systems.

The definition of "well injection" would be revised to eliminate a redundancy and simply state that well injection means the subsurface emplacement of fluids through a well.

2. Sections 144.6 and 146.5—Classification of Wells

The proposed regulation would revise § 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, would 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, proposes to reclassify 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.

3. 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 would be reiterated, in a plain-English format, in § 144.82 in the new Subpart G. Similarly, the existing prohibition of fluid movement in § 144.12 would be reiterated in § 144.80.

The existing inventory requirements for Class V wells in § 144.26(b)(1)(iii) and (e) and the description of when Class V injection is authorized by rule in § 144.24 would be deleted and moved to §§ 144.83 and 144.84, respectively, in the new Subpart G.

With only two exceptions, the substance of these existing requirements would not be changed. Only the language and format of the requirements would be revised to make them easier to understand. One of the changes is a proposed new requirement in § 144.83(a)(2)(iii) for owners or operators of wells in delineated source water protection areas, in DI Programs only, to submit new inventory information if they convert their well

into a Class V industrial well as defined in today's proposal. An analogous inventory requirement for conversions to Class V motor vehicle waste disposal wells and cesspools is not needed because the rule would prohibit such well conversions, consistent with the ban on new motor vehicle waste disposal wells and cesspools. However, wells in source water protection areas could be converted to industrial wells after the original submittal of inventory information, and there would be no way for the UIC Program Director to learn about this potentially endangering situation if there is not a requirement to submit new inventory information. The other change calls for the submittal of inventory information for new wells prior to construction rather than prior to starting injection, as currently in § 144.26(e)(3). This change does not add any new burden or cost for well owners or operators. To the contrary, it is intended to help owners or operators avoid a situation in which they have incurred all the cost of well construction and then later, due to some unforeseen problem, are prohibited from using the well after they submit inventory information. Submitting the information prior to construction would give UIC Programs the opportunity to intervene or advise before any construction costs are wasted.

Just like the pre-closure notification requirement proposed for motor vehicle waste disposal wells, industrial wells, and large-capacity cesspools, EPA is proposing the new inventory requirement for well conversions in DI Programs because the Agency knows how these programs run and what the EPA Regions want and need to track the status of high-risk wells. Because EPA does not know if this same requirement is needed for all Primacy States (comparable or better mechanisms may already exist or could be developed), and is unsure if such a requirement may in fact create a burden that outweighs its benefits given each state's available resources, the Agency is not proposing to impose the new inventory requirement on Primacy States. However, as with the pre-closure notification requirement, EPA requests comment on this issue, including comments on the merits and potential impacts of extending the inventory requirement to Primacy States. EPA also requests comment on the merits of broadening the inventory requirement to well conversions outside of delineated source water protection areas. Based on public comment, EPA may broaden the inventory requirement in the final rule.

4. Part 145—State UIC Program Requirements

The Agency proposes to amend § 145.11 to be consistent with the proposed changes in 40 CFR Part 144. These proposed amendments would insert a set of new requirements in § 144.86 that state programs must have the legal authority to implement.

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

VI. Regulatory Impact

A. Executive Order 12866

Under Executive Order 12866 (58 FR 51735, 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 program or the right and obligation 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 the Office of Management and Budget (OMB) for review. Changes made in response to OMB suggestions or recommendations will be documented in the public record.

Section 6(a)(3)(B) of EO 12866 requires that for all significant regulatory actions, the Agency prepare, and provide to OMB and the public, an assessment of the potential costs and benefits of the regulatory action, including an explanation of the manner in which the regulatory action is consistent with a statutory mandate and, to the extent permitted by law, promotes the President's priorities and avoids undue interference with State, local,

and tribal governments in the exercise of their governmental functions. Section 6(a)(3)(E) requires that the Agency identify for the public the substantive changes made between the draft submitted to OMB for review and the published proposal, and those changes made at the suggestion or recommendation of OMB.

Accordingly, the Agency has prepared an Economic Analysis (EA) of the Proposed Rule that assesses its costs. The Agency estimated the total costs of the rule under two proposals. Under Proposal 1, motor vehicle waste disposal wells are banned. Under Proposal 2 motor vehicle waste disposal wells are allowed to continue operating under permits. The Agency estimates the cost for Proposal 1 at approximately \$54.5 million, with a possible range of \$27 million to \$85 million. Under Proposal 2, the total costs of the rule are estimated at approximately \$44.5 million, with a possible range of \$21 million to \$70 million. The cost estimates under both proposals cover a wide range because the location of most affected Class V wells is unknown, and the boundaries of SWPAs have not yet been delineated. Using the multi-step process described below, the Agency estimated the number of wells that will potentially be affected by the proposed rule.

First, EPA compiled a list of SIC categories that captures the universe of facilities that could use motor vehicle waste disposal wells. Injection well inventory data from eight States were reviewed to determine the SIC categories associated with industrial wells. An SIC category was included in the list of affected industries if it appeared once in at least three of the eight State inventories. Starting with all facilities listed under each of the selected SIC categories, EPA eliminated those facilities that would be outside the scope of the proposed rule. These included facilities connected to sewers or discharging to surface water, facilities with wells closed under a past Administrative Consent Order and facilities located outside source water protection areas (SWPAs) delineated around community water systems and non-transient non-community water systems that use ground water as a source. EPA also eliminated 50 percent of facilities within currently delineated wellhead protection areas (WHPAs), and 50 to 75 percent of the remaining facilities in 10 states that explicitly ban or otherwise stringently control such wells. This step was taken because these wells are either already prohibited or are otherwise stringently controlled.

In order to assess the number of wells in SWPAs, EPA used the analytical assumption that states will delineate SWPAs by using areas of one-half mile radius around water supply wells for community water systems, and of one-quarter mile radius around water supply wells for non-transient non-community water systems. EPA based this assumption on the fact that many states used this approach to delineate WHPAs. It was also necessary to estimate the likely overlap between SWPAs and areas with Class V wells. Both Class V waste disposal wells and drinking water wells are likely to be located near populated areas, suggesting that more Class V wells will be located within SWPAs than if they were randomly distributed across a State. However, because drinking water wells are often located on the outskirts of a community and the SWPA is relatively small (one-quarter mile radius around non-transient systems and one-half mile radius around community water systems) SWPAs are likely to have fewer Class V wells than areas near the center of the community. EPA assumed that a SWPA is twice as likely to contain a Class V waste disposal well as an equal area of land outside a SWPA (excluding urban land). Because this assumption is difficult to verify, EPA also developed a range of cost estimates using the assumptions that SWPAs were either three times as likely or no more likely to contain Class V waste disposal wells as non-SWPAs (in the non-urban portion of each state). The upper and lower bounds of the estimated cost range shown above reflect these alternative assumptions.

To put this estimate into context, EPA estimates that about 9,420 waste disposal wells will be affected by the rule. Since there are 63,524 community and non-transient non-community ground water systems in the country, this means on average about one in seven SWPAs will have an affected Class V well. Using the upper bound estimate of 14,130 affected wells implies that about one in four SWPAs would have an affected well, while using the lower bound estimate of 4,710 affected wells implies that one in thirteen SWPAs would have an affected well. The Agency estimated that nationwide, about 2 percent of all motor vehicle waste disposal wells are located in SWPAs, with a range of 1 to 3 percent. (Note: For the baseline case of 2 percent, the percentage varies among states with a range between 0.14 percent and 29.22 percent.) EPA requests comment on its procedure for estimating the number of affected wells in SWPAs.

The Agency assumed that all states will complete their source water assessment programs on time. This assumption took into consideration that 44 states and 2 territories already have existing wellhead protection programs in place and that these states will be able to build on these programs to meet the source water protection requirements. The Agency also assumed the maximum possible time allowed for completing these assessments, including use of the full 180 day extension. Further, this proposal affects SWPAs for the 63,524 community and non-transient non-community ground water systems which comprise only 45% of all of the systems for which the state must complete a source water assessment and it is envisioned that states will complete these assessments first. Finally, states can use 10 percent of their FY 1997 allotment from Drinking Water State Revolving Funds, which totaled \$1.2 billion to help this endeavor. EPA is proposing that the rule apply statewide if SWAPs are not completed on time, however, EPA realizes that the total cost of the rule could increase several fold if one or two highly populated states do not meet the deadline. The Agency requests comment on its assumption that all states will meet the deadline.

The process described above relating to compiling a list of SIC categories and then eliminating facilities outside the scope of the rule was also used to estimate the number of industrial facilities that might have an affected Class V well. The estimate was provided to EPA's Regional program managers who considered the results gross overestimates of the actual number of Class V industrial wells, based on their extensive field experience. It is likely that using SIC codes to estimate the number of industrial facilities with Class V wells is not reliable because it is difficult to specifically identify which industries within each classification are likely to use Class V wells and which wells are covered by this proposal, rather than being included in the other industrial well category that is still being studied. Also, EPA believes that industrial facilities generally are more likely to be located in sewer areas and to employ waste recycling measures than motor vehicle facilities. EPA Region 3 maintained extensive inspection records in their Well Activities Tracking, Evaluation and Reporting System II, covering a period from 1993 through 1996. An analysis of this data, which contains over 11,000 inspection records, revealed that approximately 75 percent of Class V waste disposal wells inspected were

used by automotive service-related businesses. To be conservative, the Agency assumed that the remaining wells would be industrial, resulting in a ratio of 3 motor vehicle waste disposal wells for every one industrial well. Although this yields a much lower estimate for the number of affected industrial wells (2,355) than the estimate of potentially affected facilities derived from the SIC code list, EPA believes that using this data provides a more realistic picture of the number of industrial wells affected by the rule. EPA requests comment on this procedure.

Protecting the quality of Underground Sources of Drinking Water (USDWs) has many benefits. Foremost are the benefits to the health and welfare of consumers of the water, including children and other sensitive groups such as the elderly and the health-impaired for the present and for future generations. Related to potential health concerns are lost work and school time due to visits to physicians and the associated costs of providing medical monitoring and care. A protected high-quality source of drinking water also is important to a community's development and ability to attract employers. Another major benefit of protecting USDWs is avoiding the cost of responding to contamination. These avoided costs could include purchasing replacement water, installing point-of-use treatment, switching to alternative water supply systems, drilling replacement wells, building water conveyance structures from new sources, and/or installing permanent treatment systems. Some of these benefits are easier to quantify than others, but all are significant.

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 EPA determines (1) is 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 proposed rule is not subject to E.O. 13054 because this is not an economically significant regulatory

action as defined by E.O. 12866 and because the proposed rule has included community, non community and non-transient water systems (which include schools and hospitals), EPA does not have reason to believe the rule concerns environmental health risks or safety risks that may have a disproportionate affect on children.

C. Paperwork Reduction Act

The information collection requirements in this rule are currently under development. The Information Collection Request (ICR) will be submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.* upon completion. Two ICR documents are being prepared by EPA—one for each of the proposed alternative regulatory approaches for the motor vehicle waste disposal wells (ICR Nos. 1873.01 and 1874.01). Copies will be available from Sandy Farmer by mail at OP Regulatory Information Division; U.S. Environmental Protection Agency (2137); 401 M St., S.W.; Washington, DC 20460, by email at farmer.sandy@epamail.epa.gov, or by calling (202) 260-2740. The information requirements will be published separately in the **Federal Register** when EPA submits them to OMB for review and approval. The ICRs are not effective until OMB approves them and EPA publishes an OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

D. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA), requires EPA to explicitly consider the effect of proposed regulations on small entities. In accordance with Section 603 of the RFA, EPA has prepared an initial regulatory flexibility analysis (IRFA) that examines the impact of the proposed rule on small entities along with regulatory alternatives that could reduce that impact. The IRFA is available for review in the docket and is summarized below.

The RFA's definition of small entity includes small businesses, small governmental jurisdictions and small not-for-profit organizations. This proposed rule would primarily affect small business entities. To define small business entities, EPA used the Small Business Administration's (SBA) industry-specific criteria published in 13 CFR 121. SBA size standards have been established for each type of economic activity under the Standard

Industrial Classification (SIC) system. These criteria are usually expressed in terms of number of employees or dollar volume of sales.

The proposed rule would affect the owners and operators of three categories of Class V wells in source water protection areas delineated for community water systems and non-transient non-community water systems that use ground water as a source: motor vehicle waste disposal wells, industrial waste disposal wells, and large-capacity cesspools. Because it is infeasible to assess the prevalence of Class V waste disposal well use in every industry, EPA developed a list of SIC categories which it believes captures the universe of facilities that possibly could use motor vehicle and industrial waste disposal wells. Injection well inventory data from eight states (Illinois, Kansas, Montana, Nebraska, New Hampshire, Pennsylvania, Virginia and West Virginia) were reviewed to determine the SIC categories associated with industrial and motor vehicle waste disposal wells. An SIC category was included in the list of affected industries if it appeared once in at least three of the eight state inventories.

EPA then pared this list down to reflect the number of facilities that may be actually affected by the proposed rule. EPA eliminated from the list those facilities that would be outside the scope of the rule, including: facilities connected to sewers (which presumably would not dispose of wastewater in injection wells); facilities located in states that have already banned types of Class V wells that would be targeted by the proposal; facilities injecting wastewater likely to qualify as hazardous waste (in which case, the well is a Class IV well and already banned under the existing UIC regulations); and facilities located outside source water protection areas delineated around community water systems and non-transient non-community water systems that use ground water (only wells inside such areas would be subject to the rule, as proposed).

Although states have the flexibility to delineate their source water protection areas in a variety of ways, EPA believes that such areas delineated for ground water supply sources will be similar to wellhead protection areas already delineated in most states. A total of 44 states and 2 Territories have EPA-approved Wellhead Protection Programs. Most of these programs have defined wellhead protection areas using a fixed radius around water supply wells.

Given this situation, EPA estimated the number of facilities likely to fall within source water protection areas by estimating the number of facilities likely to fall within a fixed radius of existing supply wells. Based on data from the State Wellhead Protection Plans, it was assumed that the typical protection area will be a half-mile radius around community ground water supply wells and a quarter-mile radius around non-transient non-community ground water supply wells. Using these areas and current data on the number of supply wells in each state, EPA estimated the land area in each state likely to fall within a source water protection area targeted by the proposal. That area was then divided by the total land area in the state to estimate the fraction of land in each state likely to be in a source water protection area. As described earlier in this section, the number of potentially affected facilities was estimated by multiplying that fraction by the total number of facilities in each state estimated to have a Class V motor vehicle waste disposal well or industrial well that would be subject to the proposal. Then, this number was doubled to account for the assumption that SWPA are twice as likely to contain a Class V well as an equal area outside of a SWPA. EPA specifically requests comments on this approach, which is described in more detail in the economic analysis available in the docket, as well as suggestions and data that could be used for other approaches.

Once a final list of affected facilities was determined in this manner, EPA estimated which of the affected businesses are primarily small businesses using SBA's size thresholds. Of the 57 SIC categories included in the analysis, 50 of them are made up primarily of small businesses (i.e., at least 95 percent of the facilities fall below the SBA size threshold) and 9,176 of the 9,422 affected entities are considered small businesses.

The proposed rule would require affected Class V motor vehicle waste disposal wells to either close or get a permit that requires waste fluids to meet MCLs at the point of injection, would require affected industrial waste disposal wells to close or meet MCLs at the point of injection, and would ban affected large-capacity cesspools. EPA has determined that these requirements might have a significant economic impact on a substantial number of small entities that use either motor vehicle waste disposal wells or industrial waste disposal wells located in areas delineated for community water systems or non-transient non-community water systems that use groundwater as a

source. The basis for this decision is as follows.

First, if the proposed rule bans Class V motor vehicle waste disposal wells while allowing industrial waste disposal wells to continue operating under specific conditions, about 4,536 to 4,794 (49 to 52 percent) of the affected small entities would incur annualized compliance costs that represent more than 1 percent of their sales (or income for small governments). Furthermore, about 2,036 to 2,160 (22 to 24 percent) of the affected small entities would incur costs that represent more than 3 percent of their sales (or income for small governments).

Second, if the proposed rule allows existing motor vehicle waste disposal wells to continue to operate under permits and industrial waste disposal wells to continue operating under specific conditions, about 4,118 to 4,448 (45 to 48 percent) of the affected small entities would incur costs that represent more than 1 percent of their sales (or income for small governments); whereas, about 1,644 to 1,836 (18 to 20 percent) of the affected small entities would incur costs that represent more than 3 percent of their sales (or income for small governments).

To reduce the impact on small businesses, 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.

As discussed above in section II.C.6 of this preamble, EPA conducted outreach and convened a Small Business Advocacy Review Panel to obtain advice and recommendations of representatives of the affected small entities under section 609(b) of the RFA as amended by the SBREFA of 1996. Today's notice incorporates all of the recommendations made by this Panel in an effort to minimize impacts to small businesses. For example, today's notice offers a co-proposal and an alternative to the proposed ban of motor vehicle waste disposal wells that would give owners or operators of such wells greater flexibility. It also gives UIC Program Directors discretion to extend the deadline for complying with the new requirements when more time is needed by owners or operators, and proposes flexibility to regulate certain drainage wells at commercial and industrial sites like stormwater drainage wells rather than industrial wells, which would be subject to more stringent standards. In addition, today's proposal requests comment on several issues raised by small entity commenters on which the Small Business Advocacy Review Panel

did not reach consensus, including the adequacy of the non-regulatory approach contained in the 1995 proposal, the possibility of allowing injectate to exceed an MCL at the point of injection provided it does not endanger USDWs. See section II.C.6 above for a more complete list and description of changes made to today's proposal in response to recommendations from the Small Business Advocacy Review Panel.

E. Enhancing the Intergovernmental Partnership

To reduce the burden of Federal regulations on state and small governments, the President issued Executive Order 12875, entitled *Enhancing the Intergovernmental Partnership*, on October 28, 1993 (48 FR 58093). Under Executive Order 12875, EPA may not issue a regulation that is not required by statute and that creates a mandate upon a state, local or Tribal government unless the Federal government provides the necessary funds to pay the direct costs incurred by the state, local or Tribal government or EPA provides to the Office of Management and Budget a description of the extent of the Agency's prior consultation and written communications with elected officials and other representatives of affected state, local and Tribal governments, the nature of their concerns, and an Agency statement supporting the need to issue the regulation. In addition, Executive Order 12875 requires EPA to develop an effective process permitting elected officials and other representatives of state, local and Tribal governments "to provide meaningful and timely input in the development of regulatory proposals containing significant unfunded mandates". Moreover, because there is an insignificant number of Class V wells owned by state, local and Tribal governments in SWPAs, this proposed rule does not have significant or unique effects on state, local and Tribal governments.

F. Unfunded Mandates

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), P.L. 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 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 costs to the regulated community is estimated at approximately \$55 million for the option in which motor vehicle wells are required to close and \$45 million for the option in which motor vehicle well owners can apply for a permit. The cost estimates to state governments are still being refined but are not expected to exceed several million dollars. Thus, today's rule is not subject to the requirements of section 202 of the UMRA.

G. National Technology Transfer and Advancement Act

Under section 12(d) of the National Technology Transfer and Advancement Act, the Agency is required to use voluntary consensus standards in its regulatory and procurement 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, business practices, etc.) that are developed or adopted by voluntary consensus

standard bodies. Where available and potentially applicable voluntary consensus standards are not used by EPA, the Act requires the Agency to provide Congress, through MOB, an explanation of the reasons for not using such standards.

The Agency does not believe that this proposed rule addresses any technical standards subject to the NTTAA. A commenter who disagrees with this conclusion should indicate how the Notice is subject to the Act and identify any potentially applicable voluntary consensus standards.

H. 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 proposal provides equal public health protection to communities irrespective of their socio-economic condition and demographic make-up.

I. Effect on States With Primacy

According to regulations at 10 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, motor vehicle waste disposal wells, and industrial 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 would 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 burdensome, because the new requirements are primarily directed toward well owners and operators, not UIC program authorities. For example, if finalized, the ban on motor vehicle waste disposal wells should be self-implementing by owners or operators, with no new reporting, inspection, or other administrative requirements for Primacy States (the new requirements for owners or operators to submit pre-closure notification is reserved for wells in DI Programs). However, if the proposal to allow owners or operators of motor vehicle waste disposal wells to apply for

a permit is finalized, there would be an increased burden to states that choose to adopt this option to review the permit application and site-specific details for each facility wishing to keep its motor vehicle waste disposal well open. Based on this review, states would have to either deny the application or develop and enforce permit requirements to make sure the well does not endanger USDWs.

List of Subjects

40 CFR Parts 144 and 146

Environmental protection, Ground water pollution control, Hazardous waste, Shallow disposal wells, Water supply.

40 CFR Part 145

Environmental protection, Water supply.

Dated: July 17, 1998.

Carol M. Browner,
Administrator.

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

PART 144—UNDERGROUND INJECTION CONTROL PROGRAM

1. 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.*

2. Section 144.1 is amended by adding a new paragraph (f)(1)(vii), revising paragraphs (g)(1) introductory text, (g)(1)(iii), (g)(1)(iv) and (g)(2)(ii), removing paragraph (g)(2)(iii), redesignating paragraphs (g)(2)(iv) and (v) as (g)(2)(iii) and (iv), and revising newly designated paragraph (g)(2)(iv) to read as follows:

§ 144.1 Purpose and scope of part 144.

* * * * *

(f)(1) * * *

(vii) Subpart G 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.

(iv) Any septic system, cesspool, or other well, used solely for the subsurface emplacement of sanitary waste, having the capacity to serve 20 persons or more per day.

(2) * * *

(ii) Any septic system, cesspool, or other well used solely for the subsurface emplacement of sanitary waste, having the capacity to serve fewer than 20 persons a day.

* * * * *

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

* * * * *

3. Section 144.3 is amended by adding new definitions in alphabetical order for "cesspool," "drywell," "improved sinkhole," "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 solely untreated sanitary waste, 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.

* * * * *

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 solely to emplace sanitary waste below the surface and is comprised of a septic tank and subsurface fluid distribution system.

* * * * *

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

* * * * *

Well means:

- (1) A bored, drilled, or driven shaft;
(2) A dug hole whose depth is greater than the largest surface dimension;
(3) An improved sinkhole; or
(4) A subsurface fluid distribution system.

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

4. 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.

(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 described in § 144.81 in subpart G of this part.

5. Section 144.24 is revised to read as follows:

§ 144.24 Class V wells.

A Class V injection well is authorized by rule, subject to the conditions in § 144.84 in subpart G of this part.

§ 144.26 Amended

6. Section 144.26 is amended by removing paragraphs (b)(1)(iii) and (e).

7. 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 well?

144.84 Do I need to get a permit?

Additional Requirements for Class V Cesspools, Motor Vehicle Waste Disposal Wells, and Industrial Wells

144.85 Do these additional requirements apply to me?

144.86 What are the additional requirements?

144.87 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 to you if you own or operate a Class V injection well. You may also have to follow additional requirements listed in the rest of part 144. Where they may apply, these other requirements are referenced rather than repeated below. The requirements described in this subpart and elsewhere in part 144 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 more detail in § 144.6 in subpart A, injection wells are defined as follows:

(a) Class I wells inject hazardous, industrial, or municipal wastes beneath the lowermost formation containing an underground source of drinking water (USDW) within one-quarter mile of the well;

(b) Class II wells inject fluids connected with oil or natural gas recovery or production or for the storage of liquid hydrocarbons;

(c) Class III wells inject fluids for the solution mining of minerals; and

(d) Class IV wells inject hazardous or radioactive waste into or above formations containing a USDW within one-quarter mile of the well.

(e) Class V wells include all other injection wells that do not fit one of the classes listed above. 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. Specific types 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 one of the following well types, all of which qualify as Class V wells:

(a) *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. 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.

(b) *Industrial wells* are used to inject non-hazardous industrial or commercial waste and fluids other than those described for the other types of Class V wells. These include but are not limited to:

(1) Wastewater from petroleum refineries, chemical manufacturers, dry cleaners, electric component manufacturers, small machine manufacturers, die and tool manufacturers, commercial printers, asphalt manufacturers, and other industrial operations; or

(2) Spills from industrial or commercial process areas, storage areas, or loading docks, or drainage highly contaminated by large spills from such areas. This is different than routine stormwater runoff. A well intended for stormwater management that may have the potential to receive insignificant amounts of waste due to unintentional small volume leaks, drips, or spills, and that cannot reasonably be separated from potential sources of contamination qualify as drainage wells, as described below.

(3) Wastewater from carwashes specifically set up to perform engine or undercarriage washing. This does not include wastewater from manual carwashes where people use hand-held hoses to wash the exterior of their cars, trucks, or other vehicles. Wells at such manual carwashes, as well as other car washes not specifically set up to perform engine or undercarriage washing, qualify as other industrial wells. This category includes all other industrial or commercial wells that do not meet the criteria for other classes of wells or for other Class V industrial wells.

(c) *Cesspools* are drywells, which sometimes have an open bottom and/or perforated sides, used to dispose of untreated sanitary waste. They are typically located in areas not served by sanitary sewers. This subpart applies to you only if your cesspool has the capacity to dispose of sanitary waste from 20 persons or more per day (you are exempt from this subpart and from the federal Underground Injection Control program if it is smaller than that). However, if you use your cesspool to dispose of motor vehicle waste or industrial waste, either by themselves or together with sanitary waste, your well qualifies as a motor vehicle waste disposal well or an industrial well rather than a cesspool.

(d) *Septic systems* are septic tanks and fluid distribution systems, such as leachfields or wells, used to dispose of sanitary waste only. Like cesspools, this subpart applies to you only if your septic system has the capacity to dispose of sanitary waste from 20 persons or more per day. However, if you use your septic system to dispose of motor vehicle waste or industrial waste, either by themselves or together with sanitary waste, your well qualifies as a motor vehicle waste disposal well or an industrial well rather than a septic system.

(e) *Drainage wells* consist of a variety of wells used to drain surface and subsurface fluids. These wells include agricultural drainage wells that receive irrigation or stormwater runoff. Drainage wells also include stormwater runoff wells in municipalities. A well at a commercial or industrial site also qualifies as a drainage well, not an industrial well, if it is intended for stormwater management, even if it may have the potential to receive insignificant amounts of waste due to unintentional small volume leaks, drips, or spills, as long as it cannot reasonably be separated from potential sources of contamination. This category does not include mine drainage wells. Mine backfill and drainage wells are defined in paragraph (j) of this section.

(f) *Beneficial use wells* are used to improve either the quality or flow of aquifers or to provide some other ground water management benefit. They include aquifer recharge wells used to re-supply dwindling ground water resources; aquifer storage and recovery wells used to place excess water in the subsurface during periods of high flow and then withdraw the water later when it is needed; subsidence control wells used to inject fluids to prevent the land surface from sinking or settling; injection wells used to help clean up contaminated ground water, either by

injecting solutions to neutralize contamination or to return previously contaminated ground water that has been treated; and wells that inject water to control the intrusion of salt water in coastal areas into freshwater aquifers.

(g) *Fluid return wells* are used to inject fluids associated with the production of geothermal energy for space heating or electric power, the operation of a heat pump, aquaculture, or the extraction of minerals from produced fluids. For example, wells that inject spent geothermal fluids, following extraction of the heat energy, are used to recharge geothermal reservoirs and avoid surface discharges. Other examples of fluid return wells include electric power wells that inject fluids from electric power generation facilities, and wells used to inject spent brines after the extraction of halogens (e.g., bromine) or their salts.

(h) *Sewage treatment effluent wells* are used to inject treated effluent from publicly owned treatment works or treated effluent from privately owned treatment facilities receiving solely sanitary waste. If you inject effluent from a privately owned treatment facility that receives industrial waste, your well qualifies as an industrial well rather than a sewage treatment effluent well. Also, if you own or operate a well that injects sewage treatment effluent beneath the lowermost formation containing a USDW, it qualifies as a Class I well rather than a Class V well.

(i) *Experimental technology wells* include any well that is an integral part of an unproven subsurface injection technology other than waste disposal, such as in situ coal liquefaction, in situ oil shale retorting, tracer studies, and secondary water recovery (e.g., using air to force underground water bound in the unsaturated zone into the saturated zone where it can be recovered).

(j) *Mine backfill and drainage wells* are used to place mine drainage or slurries of sand, gravel, cement, mill tailings/refuse, fly ash, or other solids into underground mines, whether what is injected is a radioactive waste or not. Mine backfill and drainage wells may serve a variety of purposes, including subsidence prevention, filling dangerous mine openings, disposing of wastes from mine operations, and fire control.

(k) *In-situ recovery and solution mining wells* are used to inject fluids for the purpose of producing energy or minerals. Wells used for in-situ recovery of lignite, coal, tar sands, oil shale, and geothermal energy are designed to deliver particular solutions (such as water, air, oxygen, solvents, combustibles, or explosives) into

subsurface target formations to liberate the desired products that can be brought to the surface via recovery wells. Solution mining wells use injection and recovery techniques to bring minerals from underground deposits to the surface. Solution mining of conventional mines such as stopes leaching is included in Class V. However, in-situ production of uranium or other metals from ore bodies that have not been conventionally mined is included in Class III (see § 144.6(c)). Similarly, mining of sulfur by the Frasch process is included in Class III, not Class V.

(l) *Other industrial wells* inject industrial and commercial wastes, which either contain lower concentrations of contaminants or are more like sanitary waste than wastes injected into Class V industrial wells described in paragraph (b) of this section. The category of other industrial wells was created to exclude these wells from the additional requirements in § 144.85 that apply to industrial wells. There are four types of other industrial wells:

- (1) Wells used to inject fluids from carwashes that are not specifically set up to perform engine or undercarriage washing (including manual carwashes where people use hand-held hoses to wash the exterior of their vehicles);
- (2) Wells used to inject noncontact cooling water that contains no additives and has not been chemically altered, meaning that it has not been mixed with or come into contact with a contaminated waste stream;
- (3) Wells used to inject fluids from laundromats where no onsite dry cleaning is performed or where no organic solvents are used for laundering; and
- (4) Wells used to inject wastewater from food processing operations.

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 listed above, the regulations below require that you cannot allow movement of injection fluid into USDWs that might cause endangerment, you must properly close your well when you are through using it, 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. 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 MCLs in 40 CFR part 142 or may otherwise adversely affect the health of persons. This prohibition applies to your well construction, operation, maintenance, conversion, plugging, abandonment, 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.* Prior to abandoning your well, 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 at a local level. 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 well?

Yes, you need to provide basic "inventory information" about your well, if you haven't already. You also need to provide any other 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, and you have not since converted your well into an industrial well, you must give your UIC Program Director certain information about yourself and your injection operation.

(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, which run the Class V UIC Program) * * * <i>Alabama, Arkansas, Commonwealth of Northern Mariana Islands, Connecticut, Delaware, Florida, Georgia, Guam, Idaho, Illinois, Kansas, Louisiana, Maine, Maryland, Massachusetts, Mississippi, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Puerto Rico, Rhode Island, South Carolina, Texas, Utah, Vermont, West Virginia, Wisconsin, Washington, or Wyoming</i></p>	<p>Or you're in one of these locations ("Direct Implementation" or DI Programs, where EPA runs the Class V UIC Program) * * * <i>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</i></p>
<p>New (construction not yet started).</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 (below) prior to constructing your well.</p>
<p>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 notifies you that injection may not resume or may resume sooner.</p>

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

(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) You must submit the above information plus the additional information described here if you own or operate an industrial well, a mine backfill and drainage well, a fluid return well, or an experimental technology well. The UIC Program Director may also require the owners and operators of other types of Class V wells to submit this additional information. In these cases, you must provide a listing of all Class V wells that you own or operate along with the following information for each well (a single description of wells at a single facility with substantially the same characteristics is acceptable as long as the number of wells and their location is described):

(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 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.

(iii) If you convert your well into an industrial well any time after you submit the inventory information listed in paragraph (a)(2)(i) and (ii), you must resubmit the information noting the changes in your well type, status, and operations.

(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) The Director may require you 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 well if you fail to comply with the written request within the time frame specified. You can start injecting again only if you get a permit.

§ 144.84 Do I need to get a permit?

No, as long as certain conditions do not apply to you.

(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 Action is Required.* If you fit into one of the categories listed below, your Class V well is no longer authorized by rule. This may mean that you have to get a permit, if you want to keep using your 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 might 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) above (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) *Proposal 1:* You own or operate a Class V cesspool or motor vehicle waste disposal well in a source water protection area (in which case, you must

close your well as specified in the additional requirements below);

(2) *Proposal 2:* You own or operate a Class V cesspool in a source water protection area (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 source water protection area (in which case, you must either close your well or get a permit as specified in the additional requirements below);

(3) You own or operate a Class V industrial well in a source water protection area, and the fluid you put down your well has chemical concentrations above the drinking water MCLs (in which case, you must either close your well or make sure your waste fluids meet the MCLs at the point of injection as specified in the additional requirements below);

(4) 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;

(5) 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

(6) 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 Cesspools, Motor Vehicle Waste Disposal Wells, and Industrial Wells

§ 144.85 Do these additional requirements apply to me?

(a) Whether and when these additional requirements apply to you depends on the location of your Class V cesspool, motor vehicle waste disposal well, or industrial well relative to delineated source water protection areas, and on the status of your state's source water assessment program.

(1) If the source water assessment program in your state is complete before May 2003 (i.e., the state program has been approved by EPA and all its local assessments for community and

nontransient noncommunity water systems have been completed. This means that all local assessments within a state have performed the three required steps of delineation, source identification, and susceptibility analysis), the additional requirements apply to you only if your well is in a source water protection area delineated for community water systems and nontransient non-community water systems that use ground water as a source. The additional requirements start applying to you 90 days after the local program that covers you is completed. The UIC Program Director may extend this deadline for up to one year if you have to hook up to a sanitary sewer or install new treatment systems in order to comply with the additional requirements.

(2) If the source water assessment program in your state is not complete, and it is before May 2003, the additional requirements apply to you only if your well is in a source water protection area delineated by a complete local program for community water systems and nontransient non-community water systems that use ground water as a source. The additional requirements start applying to you 90 days after your local program is completed. Again, the UIC Program Director may extend this deadline for up to one year if you have to hook up to a sanitary sewer or install new treatment systems in order to comply with the additional requirements.

(3) If the source water assessment program in your state is not complete, and it is after May 2003 (i.e., the state program has not been approved by EPA or the state has not completed its local assessments for community and nontransient noncommunity water systems), the additional requirements apply to you regardless of the location of your well relative to delineated source water protection areas and regardless of the status of any local program that covers your area. In other words, the additional requirements apply statewide.

(b) *Source water assessment program.* This is a new approach to protecting drinking water sources, specified in the 1996 Amendments to the Safe Drinking Water Act. States must prepare and submit for EPA approval a program to:

(1) Delineate the boundaries of areas providing source waters for public water systems (called "source water protection areas");

(2) Inventory significant potential sources of contaminants of concern in such areas, to the extent practical; and

(3) Determine the susceptibility of public water systems in the delineated areas to contaminants of concern.

(c) *Source water protection area.* A source water protection area is a geographic area defined by a state as supplying ground water and/or surface water for a public drinking water system. Such an area receives priority for the protection of public drinking water supplies. The additional requirements in § 144.86 apply to you only if your Class V well is in an area delineated for ground water (rather than surface water) and for either community water systems or non-transient non-community water systems. In many states, these areas will be the same as Wellhead Protection Areas that have been delineated previously.

(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.* States may define the boundaries of a source water protection area in a variety of ways. Regardless of the methods used, the delineation will be presented in a format that is understandable to the public so you will know if your Class V injection well is in a delineated source water protection area or not. In most instances, maps will be used to show the boundaries of the source water protection area.

(g) *How to find out if your well is in a source water protection area.* States are supposed to make their delineations widely available to the public through a variety of methods right after the results are done. You can find out if your Class V well is in a source water protection area by contacting the state or local agency responsible for source water protection 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 information. Alternatively, you may be able to get this information by calling a special telephone number in your state (if your state has set one up), calling your local water supplier, calling the EPA Program Office, following your local news (paper, radio and TV), looking on the Internet, or getting a copy of your state's Clean Water Act Section 305(b) report. Your state may also send you information in your water bill, send each household a newsletter or flyer,

advertise the availability of information in a local newspaper, and develop a database of information that people can access through a computer homepage. Even though you may get information from these and other sources, the state office responsible for implementing the source water assessment program in your area is the source that makes the final and official determination of boundaries for source water protection areas.

(h) *When a state does not have a complete program by May 2003.* The Source Water Assessment and Protection Program requires states to delineate priority areas for the protection of their public drinking water systems. If states do not do this, there is no way to tell if your large-capacity cesspool, motor vehicle waste disposal well, or industrial well is in an area that overlies ground water serving as a drinking water supply source. In order to assure protection of public drinking water supplies, therefore, these requirements will apply statewide if a state has failed to complete its source water delineations and assessments by May 2003. The additional requirements apply statewide permanently, even if the state eventually completes its source water delineations and assessments sometime after May 2003.

(i) *Changes in your status.* Over time, three changes in your state's source water assessment program might occur and affect whether the additional regulations apply to you:

(1) Before May 2003, if the local source water assessment program responsible for your area becomes completed, the additional regulations apply to you if your well is in a source water protection area delineated for community water systems and nontransient non-community water systems that use ground water as a source. The additional regulations start applying to you 90 days after your local program is completed. The UIC Program Director responsible for your area may extend this deadline for up to one year if you have to hook up to a sanitary sewer or install new treatment systems in order to comply with the additional requirements.

(2) After May 2003, if your state fails to complete its source water program by that time (meaning all of the local programs in your state are not complete), the additional regulations apply to you even if your well is not in a delineated source water protection area.

(3) After May 2003, if your state's source water program was completed before that time, your state may delineate a source 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 extend the boundaries of a source water protection area delineated previously. This would make the additional regulations apply to you if your well is in such an area. The additional regulations start applying to you 90 days after the local program responsible for the new or extended area is completed. The UIC Program Director responsible for your area may extend this deadline for up to one year if you have to hook up to a sanitary sewer or install new treatment systems in order to comply with the additional requirements.

(j) *Application of the additional requirements outside of source water protection 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 source water protection areas (e.g., 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; susceptible 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, prevailing land-use practices, and documented ground water contamination). 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 do not meet the criteria in paragraph (a) of this section.

§ 144.86 What are the additional requirements?

The additional requirements are specified in the following table:

ADDITIONAL REQUIREMENTS FOR LARGE-CAPACITY CESSPOOLS IN SOURCE WATER PROTECTION AREAS

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

If your cesspool is * * * (well Status)	Then you * * * (requirement)	By * * * (deadline)
Existing (operational or under construction by [insert effective date]).	Must close the well Must notify the UIC Program Director in your EPA Region (if you are in one of the DI Programs listed in the table above) of your intent to close the well. Must meet any state-established reporting requirements (if you are in one of the Primacy States listed in the table above). Are prohibited	[insert date five years from effective date]. At least 30 days prior to abandonment. The date in state-established reporting requirements. [insert effective date].
New or converted (construction not started before [insert effective date]).	Are prohibited	[insert effective date].

ADDITIONAL REQUIREMENTS FOR MOTOR VEHICLE WASTE DISPOSAL WELLS IN SOURCE WATER PROTECTION AREAS

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

If your motor vehicle waste disposal well is * * * (well status)	Then you * * * (requirement)	By * * * (deadline)
Existing (operational or under construction by [insert effective date]).	<p><i>Proposal 1:</i> Must close the well</p> <p><i>Proposal 2:</i> Must close the well or apply for a waiver from the ban by seeking a permit.</p> <p><i>Proposal 2:</i> Must meet MCLs at the point of injection while your permit application is under review, if you choose to keep operating your well.</p> <p><i>Proposal 2:</i> Must comply with all permit conditions, if you choose to keep operating your well, including requirements to meet MCLs at the point of injection, follow best management practices, and monitor your injectate and sludge quality.</p> <p><i>Both proposals:</i> Must notify the UIC Program Director in your EPA Region (if you are in one of the DI Programs listed in the table above) of your intent to abandon the well.</p>	<p>Within 90 days of the completion of your local source water assessment program, starting [insert effective date]; your UIC Program Director may extend the closure deadline for up to one year if the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technology.</p> <p>Within 90 days of the completion of your local source water assessment program, starting [insert effective date]; 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.</p> <p>The date you submit your permit application.</p> <p>The date(s) specified in your permit.</p> <p>At least 30 days prior to abandonment.</p>

ADDITIONAL REQUIREMENTS FOR MOTOR VEHICLE WASTE DISPOSAL WELLS IN SOURCE WATER PROTECTION AREAS—
Continued

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

If your motor vehicle waste disposal well is * * * (well status)	Then you * * * (requirement)	By * * * (deadline)
New or converted (construction not started before [insert effective date]).	<p><i>Both proposals:</i> Must meet any state-established reporting requirements (if you are in one of the Primacy States listed in the table above). Are prohibited</p>	<p>The date in state-established reporting requirements. [insert effective date].</p>

ADDITIONAL REQUIREMENTS FOR CLASS V INDUSTRIAL WELLS IN SOURCE WATER PROTECTION AREAS

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

If your industrial well is * * * (well status)	Then you * * * (requirement)	By * * * (deadline)
Existing (operational or under construction by [insert effective date]).	<p>Must close the well or make sure fluids in the well meet the primary MCLs listed in 40 CFR Part 142 or other health-based limits selected by the Director for contaminants without primary MCLs. Must notify the UIC Program Director in your EPA Region (if you are in one of the DI Programs listed in the table above) of your intent to abandon the well. Must meet any state-established reporting requirements (if you are in one of the Primacy States listed in the table above).</p>	<p>Within 90 days of the completion of your local source water assessment program, starting [insert effective date]; your UIC Program Director may extend this deadline for up to one year if the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technology. At least 30 days prior to abandonment. The date in state-established reporting requirements.</p>
New or converted (construction not started before [insert effective date]).	<p>Are prohibited unless you make sure fluids in the well are always below the primary MCLs listed in 40 CFR Part 142 or other health-based limits selected by the Director for contaminants without primary MCLs.</p>	<p>[insert effective date].</p>

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

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

(a) *Closure.* (1) Prior to closing a Class V cesspool, motor vehicle waste disposal well, or industrial 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) above. 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.

(2) This 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, disposing of it through a publicly owned treatment works; or, 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.

(b) [Reserved]

PART 145—STATE UIC PROGRAM REQUIREMENTS

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

Authority: 42 U.S.C. 300f *et seq.*

§ 145.11 [Amended]

9. Section 145.11 is amended by adding paragraph (a)(32) and revising the first sentence in paragraph (b)(1):

§ 145.11 Requirements for permitting.

(a) * * *

(32) Section 144.86—(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.

* * *

* * * * *

PART 146—UNDERGROUND INJECTION CONTROL PROGRAM: CRITERIA AND STANDARDS

10. 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.*

11. Section 146.3 is amended by adding the following new definitions in alphabetical order: “cesspool,” “drywell,” “improved sinkhole,” “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 solely untreated sanitary waste, 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 which has been modified by man for the purpose of directing and emplacing fluids into the subsurface.

* * * * *

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 solely to emplace sanitary waste below the surface and is comprised of a septic tank and subsurface fluid distribution system.

* * * * *

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

* * * * *

Well means:

- (1) A bored, drilled, or driven shaft;
- (2) A dug hole whose depth is greater than the largest surface dimension;
- (3) An improved sinkhole; or
- (4) A subsurface fluid distribution system.

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

* * * * *

12. Section 146.5 is amended by adding a new paragraph (a)(3) and revising paragraph (e) 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 described in § 144.81 in subpart G of 40 CFR part 144.

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