perform a mid-course review to December 31, 2004. EPA proposes to approve this revised commitment.

8. Summary of Conclusions and Proposed Action

This revision is being proposed under a procedure called parallel processing, whereby EPA proposes rulemaking action concurrently with the State's procedures for amending its regulations. If the proposed revision is substantially changed in areas other than those identified in this document, EPA will evaluate those changes and may publish another notice of proposed rulemaking. If no substantial changes are made other than those areas cited in this document, EPA will publish a final rulemaking on the revisions. The final rulemaking action by EPA will occur only after the SIP revision has been adopted by New Jersey and submitted formally to EPA for incorporation into the SIP.

EPA is proposing to approve New Jersey's proposed SIP revision submitted on January 31, 2003. This submittal revises New Jersey's 1996, 2005, and 2007 motor vehicle emission inventories and 2005 and 2007 motor vehicle emissions budgets using MOBILE6, modifies the planned date to complete the State's mid-course review to December 31, 2004, and updates the general conformity emissions budgets for McGuire Air Force Base. New Jersey has demonstrated that its revised 1-Hour Attainment Demonstration SIP for the Northern New Jersey NAA and the Trenton NAA continues to demonstrate attainment with the revised MOBILE6 inventories.

9. Statutory and Executive Order Reviews

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this proposed action is not a ''significant regulatory action'' and therefore is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355, May 22, 2001). This proposed action merely proposes to approve state law as meeting Federal requirements and imposes no additional requirements beyond those imposed by state law. Accordingly, the Administrator certifies that this proposed rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Because this rule proposes to approve pre-existing requirements under state law and does not impose any additional enforceable duty beyond that required by state law, it does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104–4).

This proposed rule also does not have tribal implications because it will not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified by Executive Order 13175 (65 FR 67249, November 9, 2000). This action also does not have Federalism implications because it does not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999). This action merely proposes to approve a state rule implementing a Federal standard, and does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. This proposed rule also is not subject to Executive Order 13045 ''Protection of Children from Environmental Health Risks and Safety Risks'' (62 FR 19885, April 23, 1997), because it is not economically significant.

In reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. In this context, in the absence of a prior existing requirement for the State to use voluntary consensus standards (VCS), EPA has no authority to disapprove a SIP submission for failure to use VCS. It would thus be inconsistent with applicable law for EPA, when it reviews a SIP submission, to use VCS in place of a SIP submission that otherwise satisfies the provisions of the Clean Air Act. Thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. This proposed rule does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Hydrocarbons, Intergovernmental relations, Oxides of Nitrogen, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: April 22, 2003.

Jane M. Kenny,

Regional Administrator, Region 2.

[FR Doc. 03–10999 Filed 5–2–03; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 146

[FRL–7488–7]

Underground Injection Control Program—Revision of Underground Injection Control Requirements for Class I Municipal Wells in Florida; Notice of Data Availability

AGENCY: Environmental Protection Agency.

ACTION: Notice of data availability.

SUMMARY: On July 7, 2000, the Environmental Protection Agency (EPA) proposed revisions to the Underground Injection Control (UIC) regulations that would allow for continued wastewater injection by existing Class I municipal wells that have caused or may cause the movement of fluid into or between underground sources of drinking water (USDWs) in specific areas of South Florida. The revisions would provide owners and operators of such wells with an alternative for compliance with the existing UIC regulations, which prohibit such fluid movement, by allowing them to continue using their wells provided the injection does not endanger USDWs. Also in 2000, in a separate but related initiative, Congress directed EPA to conduct a relative risk assessment of four management options for treated municipal wastewater in South Florida: deep (Class I municipal) well injection, ocean disposal, surface discharge, and aquifer recharge. A separate document in today's **Federal Register** announces the availability and summarizes the findings of this relative risk assessment required by Congress. In this notice of data availability, EPA solicits public comment on how information on deep (Class I municipal) well injection in the relative risk assessment should inform the Agency's action on the July 7, 2000, proposed rule.

DATES: Comments on this notice of data availability must be in writing and either postmarked or received by the docket by July 7, 2003.

ADDRESSES: Send written comments to: Nancy H. Marsh, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW., Atlanta, GA 30303–8960. Comments may be submitted

electronically to *marsh.nancy@epa.gov*. For additional information see Additional Docket Information in the **SUPPLEMENTARY INFORMATION** section of this **Federal Register** document.

FOR FURTHER INFORMATION CONTACT: For inquiries, contact Nancy H. Marsh, Ground Water & UIC Section, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW., Atlanta, GA 30303–8960 (phone: 404–562–9450; E-mail: *marsh.nancy@epa.gov*) or Howard Beard, Office of Ground Water and Drinking Water, U.S. Environmental Protection Agency, EPA East, 1200 Pennsylvania Ave., NW., Mail Code 4606M, Washington, DC, 20460 (phone: 202–564–3874; E-mail: *beard.howard@epa.gov*) or contact the Safe Drinking Water Hotline, phone 800–426–4791. The Safe Drinking Water Hotline is open Monday through Friday, excluding Federal holidays, from 9 a.m. to 5:30 p.m. eastern daylight-saving time.

SUPPLEMENTARY INFORMATION:

Table of Contents

I. General Information
A. Who are Regulated Entities?
B. Additional Docket Information
C. Will There Be Public Meetings?
II. Background
A. Definition of Class I Municipal Wells
B. Proposed Rule for Class I Municipal Wells in Florida
C. Relative Risk Assessment of Management Options for Treated Municipal Wastewater in South Florida
III. Findings of the Relative Risk Assessment Pertaining to Deep Well Injection
A. What Level of Treatment and Disinfection is Provided for Deep Well Injection?
B. What Stressors Remain (After Treatment) That May Be a Concern for Deep Well Injection?
C. What Exposure Pathways Are (Or May Be) of Significance for Deep Well Injection?
D. What is the Overall Estimate of Risk for Deep Well Injection?
E. What Are the Important Data or Knowledge Gaps for Deep Well Injection?
IV. Relevance of These Findings for the Final Rule for Class I Municipal Wells in South Florida
A. Additional Wastewater Treatment Prior to Injection
B. Feasibility of a Hydrogeologic Demonstration
C. Some Deep Wells May Have Been Misclassified as Class I, When They Are Actually Class V
V. Solicitation of Comment

I. General Information

A. Who Are Regulated Entities?

This notice is limited in application to the owners and/or operators of existing deep (Class I) underground injection wells that inject domestic wastewater effluent in specific counties in Florida. The counties are: Brevard, Broward, Charlotte, Collier, Dade, Flagler, Glades, Hendry, Highlands, Hillsborough, Indian River, Lee, Manatee, Martin, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Pinellas, St. Johns, St. Lucie, Sarasota, and Volusia. Regulated categories and entities include:

Category	Examples of entities
Municipalities and Local Government	Class I municipal injection wells disposing of domestic wastewater effluent in certain parts of Florida.
Private	Class I municipal injection wells disposing of domestic wastewater effluent in certain parts of Florida.

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 by this action. To determine whether your injection well might be regulated, you should carefully examine the applicability criteria in 40 CFR 146.15 of the July 7, 2000, proposed revisions to the Class I UIC regulations (65 FR 42234). If you have questions regarding the applicability of this action to a particular entity, consult one of the persons listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

B. Additional Docket Information

When submitting written comments (see **ADDRESSES** section) please submit an original and three copies of your comments and enclosures (including any references). The record is available for inspection from 8 a.m. to 3:30 p.m. Eastern daylight-saving time, Monday through Friday, excluding legal holidays, at the Environmental Protection Agency, Region 4 Library (9th Floor), Sam Nunn Atlanta Federal Center, 61 Forsyth St., SW., Atlanta, GA 30303–8960. For information on how to access Docket materials, please call 404–562–8190 and refer to the Florida UIC docket.

C. Will There Be Public Meetings?

EPA plans to have public meetings in Florida during the comment period. EPA will announce the dates, times and locations of those public meetings in a subsequent **Federal Register** document.

II. Background

A. Definition of Class I Municipal Wells

Class I injection wells are wells that inject fluids beneath the lowermost formation containing, within one-quarter mile of a well bore, a USDW (40 CFR 144.6(a)). Class I wells can be used to inject hazardous, industrial, or municipal wastes. Class I municipal wells inject treated wastewater from publicly or privately owned and operated facilities that treat domestic wastewater, which is principally derived from dwellings, business buildings, and institutions. Domestic wastewater is commonly referred to as sanitary wastewater or sewage. Treated wastewater from industrial facilities, often controlled through pretreatment standards, may also be found in this wastewater. Currently, Class I municipal wells are located only in the State of Florida.

B. Proposed Rule for Class I Municipal Wells in Florida

EPA has established minimum requirements for Class I municipal wells and other underground injection activities through a series of UIC regulations at 40 CFR parts 144 through 147, developed under the authority of the Safe Drinking Water Act (SDWA). These regulations ensure that Class I municipal wells will not endanger USDWs by prohibiting the movement of any contaminant into USDWs.

On July 7, 2000, EPA proposed revisions to the UIC regulations that would allow continued wastewater injection by existing Class I municipal wells that have caused or may cause movement of contaminants into USDWs in specific areas of Florida (65 FR 42234). Continued injection would be allowed only if owners or operators meet certain additional requirements that provide adequate protection for USDWs. If new requirements are not promulgated, owners and/or operators of wells affected by the proposal would

be required to close their wells and adopt different wastewater disposal practices, which could consist of surface water disposal, ocean outfall, and/or reuse. Use of these alternative disposal practices would likely require the construction of facilities with advanced wastewater treatment, nutrient removal, and high-level disinfection.

EPA proposed two primary options for the additional requirements: Option 1—Facilities must provide advanced wastewater treatment and high-level disinfection with a demonstration that the injectate will not cause a USDW to exceed any national primary drinking water regulations in 40 CFR part 141 and other health-based standards (*e.g.,* Federal or State health advisories approved by the UIC Program Director, if a national primary drinking water regulation is not available for specific pollutants); and Option 2—Facilities must conduct an in-depth hydrogeologic demonstration that the injection operation would not cause fluids that will migrate into the USDW to exceed any national primary drinking water regulations in 40 CFR part 141 and other health-based standards and, if the demonstration is not successful, must provide advanced treatment, as necessary, to ensure that injectate will not cause a USDW to exceed any national primary drinking water regulations in 40 CFR part 141 and other health-based standards. This second option also proposed a provision whereby all facilities qualifying for authorization to inject under this option would be required to install advanced wastewater treatment and high-level disinfection by 2015. The preamble to the proposal describes in detail the history of domestic wastewater injection in Florida, along with the features of Florida geology that have allowed some of that injected wastewater to enter USDWs. EPA received approximately 1,200 comments on the proposal (the comment period closed on October 22, 2000). The Agency will address these comments, along with comments received in response to this notice of data availability, as part of the final action on this rulemaking.

C. Relative Risk Assessment of Management Options for Treated Municipal Wastewater in South Florida

As part of EPA's fiscal year 2000 appropriations bill, Congress included the following provision: ''Within available funds, the conferees direct EPA to conduct a relative risk assessment of deep well injection, ocean disposal, surface discharge, and aquifer recharge of treated effluent in South Florida, in close cooperation with the Florida Department of Environmental Protection and South Florida municipal water utilities.'' Because this directive came at a time when EPA's work on the July 7, 2000, proposal was substantially complete, the Agency decided to proceed with the proposal and the relative risk assessment along separate but converging paths. First, EPA published and sought comment on the proposal based on information available at that time. Second, EPA initiated and conducted the relative risk assessment with the intent of using relevant findings to inform the final rulemaking.

EPA started the relative risk assessment by working with stakeholders to develop an appropriate methodology. The Agency first outlined a proposed methodology following standard risk assessment principles and guidance, such as the ''Guide for Developing Conceptual Models for Ecological Risk Assessments.'' [1] EPA then held a stakeholders meeting on March 20, 2001, in Tallahassee, Florida to discuss the proposed methodology. The meeting was attended by 17 stakeholders representing municipal water utilities, regulators, and community and environmental groups. Participants offered comments on the proposed methodology, which EPA adopted accordingly.

The methodology involved a process for investigating the four very different wastewater disposal options: deep well injection, aquifer recharge, discharge to ocean outfalls, and discharge to other (non-ocean) surface water bodies. Each option has its own specific stressors (hazards), exposure pathways, receptors, and effects. Parameters that are relevant to one particular disposal option are not necessarily relevant to the remaining three. Therefore, a strictly quantitative comparison between the four options was not possible.

Instead, EPA conducted what is termed a relative risk assessment to both assess the risks and allow comparisons. Individual risk assessments were completed for each wastewater disposal option and the risks associated with each were characterized. The risks and risk factors identified through each option-specific disposal option were then evaluated and described. The overall comparisons and conclusions were then presented as relative risk assessment matrices.

The steps involved in the relative risk assessment included developing a Generic Risk Analysis Framework followed by conducting analyses of option-specific conceptual models. Data from many sources were used to support the analyses. These sources include the Florida Department of Environmental Protection, utilities (and the South Florida Water Environment Utility Council), and municipalities in South Florida. EPA also worked with a panel of experts both inside and outside of EPA and from a variety of fields to review and incorporate data and information acquired through exhaustive searches of the relevant scientific research literature. Risk characterization for each option included identifying and describing the associated risks, their potential magnitude, and the potential effects on human and ecological health. The relative risk assessment then described and compared risks for all four wastewater management options. Finally, the relative risk assessment was peer reviewed in accordance with the Agency's Peer Review Handbook.

III. Findings of the Relative Risk Assessment Pertaining to Deep Well Injection

The relative risk assessment offers comparisons of deep well injection, ocean disposal, surface discharge, and aquifer recharge of treated municipal wastewater in South Florida. Findings related to each of these management options are highlighted in a separate notice in today's **Federal Register** and presented in greater detail in the relative risk assessment report. EPA is seeking comment in sections IV and V below on how these findings should inform the final rulemaking on Class I municipal wells in Florida. To provide background and context for those following sections, the remainder of this section summarizes how the relative risk assessment addresses five key questions specifically related to deep well injection.

A. What Level of Treatment and Disinfection Is Provided for Deep Well Injection?

All facilities that manage municipal wastewater by deep well injection in Florida are required to provide, at a minimum, secondary treatment of the wastewater prior to injection. Secondary treatment comprises biological removal of dissolved organic and inorganic matter, commonly through such methods as activated sludge and trickling filter processes. By itself, secondary treatment does not remove microorganisms by either disinfection (through the addition of chlorine, for example) or filtration.

[1] Prepared by G.W. Suter II of Oak Ridge National Laboratory for the U.S. Department of Energy. Report No. ES/ER/TM–186 issued in May 1996. Available at *http://www.esd.ornl.gov/programs/ecorisk/tm186.pdf.*

Utilities that employ deep well injection in South Florida must maintain disinfection capability, but many do not disinfect treated effluent prior to injection. For example, treatment of wastewater that is injected by Class I municipal wells in Dade and Brevard Counties consists of secondary treatment with no disinfection, although backup disinfection capability is required. In contrast, in Pinellas County, wastewater is treated to reclaimed water standards before being discharged into Class I municipal wells, because the Class I wells are used to dispose of reclaimed water during periods of wet weather. Reclaimed water standards, as specified by the State of Florida, include secondary treatment and a variety of techniques to address pathogenic microorganisms, including filtration and high-level disinfection.

B. What Stressors Remain (After Treatment) That May Be a Concern for Deep Well Injection?

''Stressors'' include chemical or biological agents that may cause adverse effects if exposure levels are high enough. They may pose a risk to human health and/or ecological health if they reach receptors (USDWs, drinking water supply wells, surface waters) at sufficiently high concentration levels. EPA has included USDW's as a receptor because of the Agency's responsibility under the Safe Drinking Water Act to prescribe regulations for State underground injection programs, like Florida's, that contain minimum requirements to prevent underground injection from endangering USDW's.

In cases where injectate has received secondary treatment only, bacteria, viruses, and protozoa (*e.g., Cryptosporidium* and *Giardia*) are generally not inactivated prior to deep well injection in South Florida. In cases, such as Pinellas County, where injectate has been treated to reclaimed water standards, viruses and bacteria have likely been largely inactivated through disinfection and protozoa have been largely removed through filtration.

Disinfection (or chlorination) by-products such as trihalomethanes may also be present in some wastewater, although no data are available to suggest that such by-products are a serious concern for deep well injection or any of the other wastewater management options studied in South Florida. EPA would not expect such by-products to be present in wastewaters that have not undergone basic disinfection, as is often the case for Class I injectate.

Nutrients are potential ecological stressors for deep well injection, assuming the injected wastewater contains significant quantities of nutrients and assuming the injected wastewater is able to migrate underground and discharge into the ocean or into other surface water bodies. Nutrients can potentially stimulate production of algae, which can lead to adverse side effects such as eutrophication. Nitrogen is the primary nutrient concern for Class I injection, because of its mobility in ground water. Nitrogen is also the primary nutrient of concern if it migrates to the ocean, because it is generally the limiting nutrient for algae production in the ocean. Phosphorus is of less concern for underground injection because it tends to adsorb quickly to sediment or soil.

C. What Exposure Pathways Are (or May Be) of Significance for Deep Well Injection?

An ''exposure pathway'' is the course a stressor takes from a source of release to an exposed organism. It is defined by the different environmental media through which a stressor migrates (*e.g.*, air, surface water, ground water) as well as the mechanism by which an organism is actually exposed (*e.g.*, inhalation, drinking).

There are documented impacts to USDWs resulting from deep well injection in South Florida, which raise concerns about potential human exposures via the drinking water pathway. Beginning in the late 1980s, ground water monitoring wells at 18 of the 45 municipal facilities that utilize Class I deep well injection in South Florida began to detect the movement of fluid outside of the permitted injection zones. Movement of effluent into USDWs either has been confirmed or is suspected at nine facilities, as evidenced by levels of nitrates and ammonia, as well as significant changes in dissolved solids concentrations.

Contaminants released by deep well injection can migrate through the subsurface and discharge into marine and/or surface waters, where they could pose risk via other pathways if loadings were sufficiently large. Such subsurface transport is especially a concern where contaminants can migrate relatively rapidly and with relatively little attenuation through preferential flow paths (fractures, faults, and solution cavities) common in the carbonate rocks in South Florida. Potential concerns associated with injectate migrating into the ocean or other surface water bodies could include the risk of ecological damage as well as the risk of human exposure to contaminants through such recreational activities as fishing, swimming, and boating.

D. What Is the Overall Estimate of Risk for Deep Well Injection?

The human health risks associated with deep well injection of treated municipal wastewater in South Florida are generally low. Several factors affect risk levels at particular sites.

The degree of wastewater treatment, and in particular the level of disinfection and filtration of pathogenic microorganisms (*e.g., Cryptosporidium, Giardia*), is one such factor. Risks are lower when wastewater has been treated to remove microorganisms. For wastewater that has received only secondary treatment, risk would be high in situations where the injectate migrates through fractures, faults, and solution cavities and lower in situations where the injection is dominated by porous media flow, characterized by long travel times to current or potential drinking water sources, and flows through fine pore spaces capable of retaining microorganisms.

Once *Cryptosporidium, Giardia*, and other stressors are released to the environment, the level of risk they pose to human health depends largely on how likely they are to enter drinking water supplies and over what time horizon. The record shows that such contamination of drinking water supplies or USDWs is a possibility as a result of the movement of fluid found at some injection facilities. In some cases, the time frames for fluid to potentially reach USDWs are short enough that treatment of injectate (*i.e.*, inactivation, filtration) may be warranted.

Overall, the risk to surface water ecosystems is low when treated wastewater is managed by deep well injection in South Florida. The potential for damage may be higher where treated wastewater is released in proximity to surface water that already has impaired water quality, which is the case for many surface water bodies in South Florida. In these cases, the nutrients that might enter impaired waters could exacerbate existing water quality and ecological problems. The dynamics of potential fluid movement from UIC wells to surface waters is still not well understood, however, at present there is no evidence of contamination of surface water by Class I injectate.

Deep well injection could also pose a risk to marine ecology if contaminants readily migrate and discharge to offshore waters. However, whether this actually happens in South Florida, and whether it poses a real threat in the ocean, is unknown. Given, however, that direct discharge of effluent which has received only secondary treatment and basic disinfection to the ocean

appears to pose little risk due to rapid dilution, it is unlikely that seepage from ground water to the ocean would pose a significant risk.

E. What Are the Important Data Or Knowledge Gaps for Deep Well Injection?

In conducting the relative risk assessment, EPA found that there is a lack of definitive studies in South Florida that use a physical or chemical tracer or indicator to show whether stressors detected in aquifers come from treated wastewater managed by deep well injection, and if so, by what likely contaminant transport pathways (porous versus conduit flow). In addition, without more definitive tracer studies, it is difficult to assess the potential effects of local geochemical conditions on the fate and transport of injected treated wastewater.

While results from ground water monitoring around some Class I municipal wells in South Florida confirm that fluids have migrated out of the permitted injection zone, the full areal extent of USDW contamination is not known. This is not only because available monitoring data are limited, but also because the location and connectivity of natural conduits for fluid flow (fractures and solution cavities in the underground formations) are difficult to predict.

The fate and transport of pathogens in South Florida's aquifers are not completely understood. For example, the rates of microbial survival, inactivation, and transport are difficult to predict. Also uncertain are the rates of microbial straining or filtration by geological materials under different fluid flow scenarios, including porous media and conduit flow. Even with the most sophisticated modeling, or with expensive monitoring, this information is difficult to verify since the formations are thousands of feet underground. There is also insufficient data at present on the presence and viability of pathogens in injectate that has migrated out of the injection zone. However, the presence of coliform bacteria in injectate that has migrated, a long accepted indicator of the presence of sewage, indicates the likely presence of pathogenic microorganisms.

IV. Relevance of These Findings for the Final Rule for Class I Municipal Wells in South Florida

EPA requests comment on how the findings from the relative risk assessment, and identified data gaps, help inform the final regulatory action on the July 7, 2000, proposal. EPA specifically requests comment on the three issues discussed below.

A. Additional Wastewater Treatment Prior to Injection

EPA believes the following findings from the relative risk assessment are relevant to the question of the extent to which additional treatment may be needed for Class I injectate that has a potential to reach USDWs.

1. Wastewater that does not undergo disinfection contains viruses and pathogenic bacteria and protozoa that have not been inactivated. Although the fate and transport of these pathogens in South Florida's subsurface is not well known, monitoring and modeling data suggest that, at some sites, fluid may migrate at rates that are sufficient to transport active and infective pathogens into USDWs. For example, using first order analytical modeling with conservative parameters and assuming flow is dominated by bulk flow through preferential flow paths, travel times to the base of the USDW of 170 days, 14 years, and 86 years have been estimated for Pinellas, Dade, and Brevard Counties respectively. There is significant uncertainty as to how long the viruses, protozoa, and bacteria will remain alive and to what extent they may affect existing and future sources of drinking water, although it is expected that significant attenuation and die-off would occur in the deep subsurface over long travel times. The limited data that are currently available show one-log (90%) inactivation rates in aquatic media ranging from 40 to 200 days for *Cryptosporidium*, 6 to 50 days for bacteria, and 1 to 30 days for viruses. This suggests that pathogen contamination would likely be a concern in areas where travel times are potentially short (*e.g.*, Pinellas County). For such areas, additional treatment (*e.g.*, primary treatment, coagulation, settling, filtration, and high-level disinfection) would likely be needed to inactivate, remove, or greatly reduce pathogens in order to increase the level of protection for current and future sources of drinking water. (As noted above, wastewater in Pinellas County is already treated to reclaimed water standards, which include both disinfection and filtration.) Additional treatment beyond secondary may also be appropriate to address pathogenic microorganisms in cases where injection of large volumes of wastewater increases the uncertainty regarding the areal extent of fluid movement and travel times for fluid to potentially reach USDWs.

2. Insufficient confinement is evident at some facilities and locations. At nine facilities, there is either confirmed or suspected contamination of USDWs as a result of the movement of fluid from designated injection zones. This is a violation of Federal and State Class I UIC requirements, which prohibit any contaminants from entering USDWs. At nine other facilities, there is evidence of movement outside of the injection zone, though not yet into USDWs. Monitoring reports from some facilities suggest that fluid movement has resulted in fluctuations in total dissolved solids (TDS) concentrations and less pronounced changes in the concentrations of other potential stressors (*e.g.*, fecal coliform, nitrate, ammonia, and total Kjeldahl nitrogen). Such fluid may have the potential to contaminate future sources of drinking water and place existing public and private water supplies at risk.

3. The full areal extent of fluid movement is not known. Nearly 500 million gallons per day (mgd) are disposed of through deep well injection at 42 sites in South Florida, with rates for individual wells ranging from less than 1 to more than 100 million gallons per day (mgd). While the dynamics of horizontal movement at any of these 42 sites of this quantity of water are not well understood, there is some evidence that water with the potential to reach USDWs (due to inadequate confinement) may not travel far. The first-order analytical modeling results presented in the relative risk assessment show horizontal travel distances at the surface ranging from 0.1 to 1.6 miles assuming rapid (bulk) vertical flow, and ranging from 1.2 to 16 miles assuming slow (porous media) flow. Note that a travel distance of 16 miles is modeled to occur only under a very long time horizon (1,188 years). Two members of EPA's External Peer Review Panel expressed concern, however, regarding the feasibility of using numerical models to assess the pattern of flow in and around the discharge zone (known as the Boulder zone), and to account for several trillion gallons of treated municipal wastewater that has been injected into the Boulder zone since the inception of Florida's Class I UIC program. These Panel members also pointed out that the risk could be significantly higher to USDWs than the modeling calculations that assumed porous media flow suggest, due to large uncertainties that were not accounted for in this modeling. In response to these concerns, EPA developed a second model assuming bulk flow through preferential flow paths, with travel times for injectate to reach USDWs and drinking water wells that were an order

of magnitude shorter than the porous media flow model. EPA believes, and the reviewers agreed, that this second model largely addresses the concerns raised, but recognizes that significant uncertainty regarding the dynamics of underground fluid movement remain.

4. The location and connectivity of natural conduits for flow (*i.e.*, fractures, faults, and solution cavities) are unknown, although their existence is well known by the type of rock present (*e.g.*, limestone) and confirmed by logs during deep well construction. Where such conduits are present, they may contribute to rapid migration of injected fluids or displaced formation water, with little attenuation of contaminant concentrations. Furthermore, such conduits may result in unpredictable patterns of movement in the subsurface. The relative risk assessment attempts to simulate such flows on a regional (not site-specific) basis using a first order analytical model with conservative parameter assumptions. However, there is significant uncertainty in these results.

B. Feasibility of a Hydrogeologic Demonstration

Option 2 proposed on July 7, 2000, (as described above) would allow facilities operating Class I municipal wells that have caused or may cause fluid movement in South Florida to continue injection if they perform a detailed hydrogeologic demonstration showing that injection will not cause fluids to migrate and cause USDWs to exceed any national primary drinking water regulations in 40 CFR part 141, and other health-based standards. Where this demonstration cannot be made, Option 2 would require facilities to provide additional treatment as necessary to address contaminants of concern and ensure that the continued injection does not endanger USDWs. All facilities qualifying for authorization to inject in accordance with Option 2 would be required to have advanced wastewater treatment and high-level disinfection in place by the year 2015. This requirement to phase in additional treatment by 2015 was intended to provide municipalities with more time to provide additional treatment if the municipality could conduct a successful hydrogeologic demonstration.

EPA believes the following relative risk assessment findings are relevant for assessing the feasibility of conducting a credible detailed hydrogeologic demonstration, as proposed under Option 2.

1. As noted in the preceding section, the specific location, extent, and connectivity of natural conduits for flow are unknown and unpredictable in the South Florida areas targeted by the proposal. Therefore, some of the key parameter values that would be used in ground water modeling may be highly uncertain, and this may lead to a broad range of predicted results for the location and movement of the injected fluid. The relative risk assessment attempted to address this issue on a regional (not site specific) basis by using first order analytical methods to modeling bulk/preferential flow. This may or may not be practicable for site-specific numerical modeling.

2. The ground water monitoring wells (or networks of monitoring wells) at most deep well facilities in South Florida are sufficient only for the purpose of providing an early warning of fluid movement. Typically, ground water monitoring networks are used at waste management facilities (*e.g.*, hazardous waste landfills) to detect and characterize the movement of relatively small volumes of contaminants in shallow ground water. No deep well municipal waste disposal facilities in South Florida have designed, constructed, and implemented ground water monitoring programs capable of describing the full areal extent of fluid movement, especially where natural conduits for flow are present. In addition, few facilities perform extensive monitoring between the base of the lowermost USDWs and the shallower surficial aquifers. As noted above, however, modeling results suggest that the areal extent of contamination that reaches the surface rapidly through preferential flow may be limited (up to a few miles), although there is significant uncertainty in these results due to the volumes of fluid being injected and the possibility of fairly rapid horizontal movement in the Boulder zone below the USDW, which was not explicitly modeled.

3. It is unclear whether it would be practicable to provide enough additional ground water monitoring wells to provide the information needed to demonstrate that fluid movement is not occurring and USDWs are not being contaminated at sites where natural conduits for flow exist. Because flow could well progress at different rates in different directions, monitoring results for well locations at such sites would not necessarily be representative of conditions at unmonitored locations. Furthermore, there could be concern about the installation of many monitoring wells to examine a particular site, because they may penetrate rock and other materials that are otherwise barriers to fluid movement. If such monitoring wells are constructed or managed improperly, they could present man-made conduits for fluid movement.

C. Some Deep Wells May Have Been Misclassified as Class I, When They Are Actually Class V

Given the extent of fluid movement documented at some sites, as well as information concerning the geology and the construction of some municipal wells in South Florida, it is possible that some wells may have been misclassified as Class I when they are actually Class V. According to the Federal UIC regulations, Class I wells ''inject fluids beneath the lowermost formation containing, within one quarter mile of the well bore, an underground source of drinking water'' (40 CFR 144.6(a)(2)). Class V wells are defined as wells that are not included in Class I, II, III, or IV. Typically, Class V wells release non-hazardous fluids into or above formations containing USDWs.

Separate from the issue of how Class I and Class V wells are defined, the Federal Class I and Class V UIC programs differ in their basic approach to protecting USDWs. The basic standard of protection in the Class I program is to ensure that there is no movement of any contaminant into USDWs. This standard is achieved through a Class I regulatory program that focuses on the development and enforcement of stringent permit requirements, including, but not limited to, criteria for well siting, construction, and operation and maintenance. A key component of the Class I program is ensuring that adequate confinement exists between the permitted injection zone and USDWs at a given site.

Since most Class V wells release fluids either directly into or above USDWs, they by definition cause the movement of fluid, which may contain contaminants, into or above USDWs. Therefore, the basic standard of protection in the Class V program is to prevent any contaminants in the fluid from endangering USDWs. Protection efforts in the Class V program mainly focus on regulating and monitoring injectate quality to ensure that the movement of injected fluid will not contain any contaminants that may endanger USDWs. This standard is achieved through inventory and assessment requirements, additional reporting requirements, closure requirements, and other requirements (possibly including permitting requirements) believed by UIC program staff to be necessary to protect drinking water supplies.

The failures of confinement that have been documented at some municipal

well sites in South Florida, which are most likely attributable to the presence of natural conduits for flow in the subsurface, suggest that the injection zones used by these municipal wells are not sufficiently separated from overlying USDWs by a confining layer to prevent fluid movement upward into the USDW. The injectate from these wells is, therefore, entering into a USDW. Injection zones in South Florida often share a ''degree of lithologic homogeneity'' (as specified in the 40 CFR 144.3 definition of ''formation'') with the overlying ''confining layers'' and USDWs (*i.e.*, each consists of carbonate sequences). In some locations, the injection zones, ''confining layers,'' and USDWs may be said to exist within one formation. It is possible that a well injecting at such a location may not be appropriately classified as a Class I well.

Information collected for the relative risk assessment raises a question as to whether certain South Florida municipal disposal wells should have been classified as Class V at the time they were first permitted. In particular, all of the lithologic units of the upper Floridan Aquifer in Pinellas County and the lower Floridan Aquifer in Miami-Dade consist of limestone and dolomite that have shown evidence of solution cavities and fractures. These natural conduits for fluid flow raise a question as to whether lithologic units in these aquifers are effective confining layers and whether the injection zones and overlying USDWs are in different and distinct formations, as they were believed to be when the wells were originally sited, constructed, and permitted as Class I wells.

V. Solicitation of Comment

In the July 7, 2000, proposed rule (65 FR 42234), EPA proposed regulatory options that would allow for continued wastewater injection by existing Class I municipal wells that have caused or may cause fluid movement in specific areas of Florida. The relative risk assessment described in this notice and in a companion notice appearing elsewhere in today's **Federal Register** contains some new information regarding the potential risks of deep well injection of municipal wastewater in South Florida. The Agency is soliciting comment on whether and how the findings of the relative risk assessment should inform the Agency in developing the final rule for wells currently classified as Class I deep municipal wells in South Florida.

In addition to the issues discussed above, the Agency is soliciting comment on the following three issues:

1. The Agency solicits comment on an alternative option for defining the appropriate level of wastewater treatment required for continued injection in deep municipal wells in South Florida. The proposed rule solicited comment on four levels of advanced wastewater treatment, nutrient removal, and high-level disinfection that, under Option 1 and by the year 2015 under Option 2, would be required of facilities operating wells that have caused or may cause fluid movement. The alternatives proposed under Option 1 were: (1) Treatment to 10–24 mg/l biochemical oxygen demand (BOD) with disinfection; (2) treatment to 10–24 mg/l BOD with disinfection and nutrient removal; (3) treatment to <10 mg/l BOD with disinfection; and (4) treatment to <10 mg/l BOD with disinfection and nutrient removal. These levels were used by the 1996 Clean Water Needs Survey Manual to delineate and cost levels of advanced treatment. To achieve high-level disinfection, the proposal said owners and/or operators must allow the wastewater to remain in contact with at least 1.0 mg/l of free chlorine for at least 15 minutes of contact with no fecal coliform.

Several commenters suggested that the proposed standards for BOD removal are inappropriate for the protection of ground water for the purpose of protecting human health. These commenters stated that BOD levels are typically used for the protection of ecological values in surface water, not the protection of human health associated with drinking ground water. The commenters also pointed out that the main stressor of concern in the injectate is pathogens, not BOD. Separately, commenters noted that EPA's proposed definition of high-level disinfection differs from the State of Florida's definition of the same term in Rule 62–600.440, F.A.C., which commenters thought would result in confusion. Other commenters suggested that any new EPA wastewater treatment requirements should be consistent with corresponding state requirements. For example, Florida's regulations for waste treatment and disinfection applicable to reclaimed water that may come into human contact (Rule 62–610.460, F.A.C.) and ground water disposal by underground injection in Class V wells (Rule 62–600.540(2) and (Rule 62–600.440(5), F.A.C.) are similar to the more advanced levels of treatment envisioned under Option 1 of the proposed rule that require filtration before disinfection. As stated in the Florida regulations, by removing TSS before disinfection, filtration serves to increase the ability of the disinfection process to inactivate viruses and other pathogens. Filtration also serves as the primary barrier for removal of protozoan pathogens (*Cryptosporidium, Giardia,* and others).

Based on these comments, EPA is now considering and soliciting comments on prescribing wastewater treatment requirements in language that differs from the four alternatives proposed on July 7, 2000 but conforms with relevant state requirements. The Agency is not asking for additional comment on the four levels of advanced wastewater treatment, nutrient removal, and disinfection described in the proposal. Under this alternative, the Agency would simply adopt, in lieu of the four standards in the proposal, the Florida standards in Rule 62–610.460, F.A.C. (for waste treatment and disinfection applicable to reclaimed water that may come into contact with people) or the standards in Rule 62–600.540(2) and Rule 62–600.440(5), F.A.C. (for ground water disposal by underground injection in Class V wells). Specifically, EPA would require advanced wastewater treatment that results in treated water meeting, at a minimum, secondary treatment and high-level disinfection as defined in the Florida regulations. Also, filtration would be required for TSS control prior to disinfection, which would specify that the treated wastewater not contain more than 5.0 mg/l of TSS before the application of the disinfectant. EPA believes that this treatment standard might offer some important advantages over the alternatives proposed before. In particular, it might better address the risks associated with pathogens, and it would be consistent with the standards already adopted and implemented in Florida for reclaimed water and wastewater disposed of through Class V injection wells, which are part of domestic wastewater treatment systems.

The Agency asks commenters if this standard for advanced treatment and high-level disinfection should be specified in the final rule and requests that commenters describe the type of treatment that would be necessary to achieve the performance standards (*i.e.*, national primary drinking water regulations and other health-based standards). Although the Agency believes that the design and construction costs of this option are equivalent to those for the earlier proposed treatment options that required treated effluent concentration of less than 10 milligrams per liter of BOD, the Agency requests that

commenters provide any information they have on the costs of this option.

2. The proposed rule solicited comment on a second option, Option 2, that would allow facilities operating wells that have caused or may cause fluid movement to conduct hydrogeologic demonstrations to show that injection will not cause fluids that exceed any national primary drinking water regulations in 40 CFR part 141 and other health-based standards to enter any USDW. Option 2 would also require well owners and/or operators that cannot make this demonstration to provide additional treatment as needed to address contaminants of concern. Further, Option 2 requires advanced wastewater treatment and high-level disinfection to be in place by 2015. The Agency requests comment on whether the findings from the relative risk assessment, specifically those regarding deep well injection, suggest anything regarding the practicability and feasibility of this approach. Should facilities be granted the opportunity to conduct hydrogeologic demonstrations (and expend the resources and funds necessary) despite the inherent difficulties and uncertainties regarding the extent, location, and connectivity of possible natural conduits for flow identified in the relative risk assessment? If facilities should be granted this opportunity, how should the UIC director in his/her review of a demonstration, address the technical difficulties in determining the extent of the contamination, and the location of conduits for flow into USDWs, so that the demonstration may be deemed adequate? Given the uncertainty that accompanies the effort to analytically or numerically simulate the fate and transport of fluid and stressors in South Florida's deep underground environment, EPA solicits comment on ways that a satisfactory hydrogeological demonstration can be conducted. Finally, the proposed rule included a ''sunset provision'' (requiring advanced wastewater treatment and high-level disinfection by 2015) as part of this option even if protection of USDWs is being demonstrated. EPA requests comment on an alternative that would allow the State Director to authorize updated hydrogeologic assessments and defer treatment requirements beyond 2015 if the assessments continued to demonstrate adequate protection of the USDW.

3. One option to address the fluid movement that has occurred, while also preventing the endangerment of USDWs, might be to promulgate new Class V requirements specific to deep municipal wells in South Florida. In a 1999 stakeholders meeting, the Agency discussed two options for reclassifying these wells as Class V. One of these options would reclassify the wells based on a determination that the wells no longer meet the regulatory definition of a Class I well. Another option would involve converting the wells to Class V by physically altering the wells so that they inject directly into or above formations containing the lowermost USDW. Two other options discussed at the stakeholders meeting were (1) to make no regulatory change (and enforce the existing requirements) and (2) to amend the Class I regulations to address the fluid movement issues. EPA ultimately proposed this last option and published proposed revisions to the Class I requirements. EPA stated in the preamble to the July 7, 2000, proposal (65 FR 42237): ''The Agency is not planning to allow reclassification unless the well was misclassified in the first instance. Misclassification might have occurred if the well did not originally meet the definition of a Class I well. The facility could demonstrate this if new information has become available that proves that the well originally was injecting into a USDW and therefore would meet the definition of a Class V well.''

EPA is now reconsidering the reclassification option. Reclassification could be accomplished without any regulatory changes to the Class I definitions or the Class I ''no fluid movement'' requirements. Following publication of this NODA and receipt of comments on this option, EPA, if it chose the reclassification option, would publish final revisions to the Class V regulations that include the same operating conditions that EPA would have promulgated as revisions to the Class I regulations. This option is contrasted with the approach discussed more fully in the July 7, 2000, proposal to keep the wells as Class I and add the necessary operating conditions to the Class I regulations. Either approach could be used to place the same operating conditions on continued injection activities and provide identical protection to USDWs.

In addition, EPA is considering whether there might be a need to promulgate the operating conditions under consideration as final regulations under both the Class I and Class V regulatory frameworks. This might be necessary in order to ensure that the new requirements apply to all municipal waste disposal wells in South Florida that cause or may cause fluid movement into a USDW, regardless of whether it is determined that a particular well may be reclassified as Class V or must remain in Class I. EPA invites comment on the need for incorporating the proposed operating conditions into either, or both, the Class I and Class V regulations. EPA notes that the costs of installing a specified level of treatment would be the same, regardless of whether a particular well is classified as Class I or Class V.

One potential advantage of the reclassification option is that it could correct any previous misclassification of wells in South Florida.

A potential disadvantage of the reclassification option is that it could lead to reclassification requests associated with other wells in other parts of the country and could limit the flexibility of local permit writers to make classification determinations.

In summary, with regard to reclassification of Class I wells, the Agency requests comment on whether the findings from the relative risk assessment, specifically those regarding deep well injection, suggest that some South Florida wells may have been misclassified as Class I wells? Do the findings suggest that some wells in South Florida may, in fact, discharge directly to (and not below) formations containing a USDW? Do the findings suggest that this misclassification should be accepted for the entire group of South Florida municipal wells, or only a subset? Should the regulatory requirements under consideration be promulgated under provisions for Class I or Class V? If reclassification is only appropriate for some of the covered South Florida wells, should the regulatory requirements under consideration be promulgated under provisions for both Class I and Class V.

Dated: April 17, 2003.

G. Tracy Mehan III,

Assistant Administrator for Water.

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 146

[FRL–7488–8]

Underground Injection Control Program—Relative Risk Assessment of Management Options for Treated Wastewater in South Florida; Notice of Availability

AGENCY: Environmental Protection Agency.

ACTION: Notice of availability.

SUMMARY: On July 7, 2000, the Environmental Protection Agency (EPA)