U.S. Department of Transportation
Federal Highway Administration

Memorandum

Subject: Guidelines for Consideration of the Requirements of Federally Enacted Safe Drinking Water Legislation

Date: 28 JUN 1990

From: Acting Director, Office of Environmental Policy
Washington, D.C. 20590

Reply to Attn of: HEV-20

To: Regional Federal Highway Administrators
Federal Lands Highway Program Administrator

This memorandum transmits an up-to-date guidance package on the subject of Safe Drinking Water. We suggest that one copy of this memorandum and attachment be placed in Section 5 of the Environmental Guidebook for reference until the next annual revision is distributed in January of 1991. All material presently in Section 5 of the Guidebook is hereby superseded.

Please direct any comments or questions to either Messrs. Robert Falkenstein or Charles DesJardins at FTS 366-2070 or 366-2068, respectively.

Kevin E. Heanue

Attachment

GUIDELINES FOR CONSIDERATION OF THE REQUIREMENTS OF FEDERALLY ENACTED SAFE DRINKING WATER LEGISLATION

ENVIRONMENTAL ANALYSIS DIVISION
OFFICE OF ENVIRONMENTAL POLICY
FEDERAL HIGHWAY ADMINISTRATION

JUNE 1990

TABLE OF CONTENTS

Guidelines for Consideration of the Requirements of Federally Enacted Safe Drinking Water Legislation

I. Background

In an effort to protect the public health and welfare that could be affected by the contamination of drinking water sources, Congress passed the Safe Drinking Water Act (SDWA) of 1974 (PL-93-523, Dec 16, 1974. Subsequent amendments to the SDWA include:

Public Law No.	Date
PL 94 - 317	6-23-76
PL 94 - 484	10-12-76
PL 95 - 190	11-16-77
PL 96 - 63	9-06-79
PL 96 - 502	12-05-80
PL 98 - 620	11-11-84
PL 99 - 339	6-19-86
PL 100 - 572	10-31-88

The applicable sections of the SDWA, as amended, are located in Appendix A of this guidance.

II. Applicability of the SDWA to the Highway Program

A. Public Water Systems Sections 1411 and 1412

1. The SDWA requires EPA (and States with delegated responsibility) to develop, promulgate, and enforce national primary drinking water regulations (standards) which protect the public health according to a phased schedule and process beginning in 1987, with a target of regulating 83 probable contaminants by 1990 and with additional contaminants regulated thereafter. The primary drinking water regulation for each contaminant specifies a maximum contaminant level (MCL) which is the maximum permissible level of the contaminant in public drinking water that is economically and technologically feasible to achieve. With each MCL, a maximum contaminant level goal (MCLG) is also promulgated which is usually not enforceable and represents a level of the contaminant (lower than the MCL) at which no known or anticipated adverse health effects occur and which allows an adequate margin of safety. The SDWA also requires EPA to develop and promulgate secondary drinking water regulations which are required to protect the public welfare from the effects of adverse odor or appearance of public drinking waters, or other adverse effect of such water on the public welfare. MCLs (and infrequently MCLGs) are also important in that they may be used as the designated target level for various environmental cleanup requirements (e.g., RCRA, CERCLA, Clean Water Act).

2. Water supply facilities for use by the public are usually found in safety rest areas. It is FHWA's policy "that drinking water supply systems shall be designed, constructed, and maintained to provide water which meets drinking water standards established by EPA in 40 CFR Part 141 promulgated pursuant to the SDWA, 42 U.S.C. 300f et seq., as amended, or State standards, whichever are more stringent."

   This policy and other FHWA procedures for water supply can be found in 23 CFR Section 650.501 et seq., which has been included in this guidance as Appendix B. Sections 1411 and 1412 are Appendices A-2 and A-3, respectively.

B. Protection of Underground Sources of Drinking Water

1. Sole Source Aquifers Section 1424(e)

   The protection of underground sources of drinking water is primarily focused on control programs for underground injection activities. Within this Section, Paragraph 1424(e), is the provision which precludes the commitment of Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) for any project which the EPA Administrator determines may contaminate an aquifer which is the sole or principal drinking water source of an area and would, if contaminated, create a significant hazard to public health. (Appendix A-5) The EPA Administrator may officially determine that an area has such an aquifer on his or her own initiative or upon petition by others, and then publish a notice of that determination in the Federal Register. The approval authority for designation of a sole source aquifer and subsequent evaluation of project impacts on the aquifer has been delegated to each EPA Regional Administrator. A listing of officially designated sole source aquifers is found in Appendix C. (As of June 1990, no sole source aquifers have been designated in FHWA's Regions 7 and 8.)

   There is no national EPA regulation or guidance concerning this program. The EPA Headquarters office recommends that the project Review Criteria for the Edwards Aquifer (40 CFR 149, subpart B) be used as a guide. See Appendix G. EPA regional procedures for the review of projects which may affect designated Section 1424(e) aquifers are established in cooperation with each affected Federal agency. These procedures are usually incorporated into a Memorandum of Understanding (MOU) between the regional EPA office and the FHWA regional office. Some of the early MOUs were developed for each aquifer as it was identified. Current MOUs are being written to cover any and all aquifers in that region. As an example, a copy of the EPA Region 5 guidelines for developing a Section 1424(e) groundwater impact assessment are located in Appendix E and are included for your information.

It is recommended that the current MOU or other written regional (EPA or FHWA) procedures be inserted as Appendix F of this guidance, before distribution to the division offices and before filing in the Environmental Guidebook.

Additional FHWA guidance for the consideration of sole source aquifers in the project development process is found in Section 10 of the FHWA Technical Advisory T-6640.8A (Appendix D)

Federal Lands Highway Projects

As defined in 40 CFR 149, Subpart B, Section 149.101(g), "Federal financial assistance" excludes actions or programs carried out by the Federal Government itself or actions performed by contractors for the Federal Government. This regulatory definition, however, only applies to the Edwards Underground Reservoir in San Antonio, Texas. The EPA anticipated that the San Antonio regulations including this definition would be consolidated with national regulations at a later date; however, such regulations have never been developed.

Although the EPA Office of General Counsel determined that only projects or actions receiving Federal financial assistance as defined above are subject to review under Section 1424(e), they go onto say that "direct Federal actions are covered under Executive Order 11752" (Federal Register Vol 42, No. 189 - Thursday Sept. 29, 1977). Executive Order 11752 has since been replaced by Executive Order 12088 - "Federal Compliance with Pollution Control Standards." The bottom line effect of this order requires the Federal agency to cooperate and consult with the EPA Administrator, among others, concerning pollution control standards established by the SDWA.

Therefore, it is the policy of FHWA that Federal Lands Highway projects shall document coordination with the appropriate EPA Regional Administrator if and/or when a project is located within the recharge area or may otherwise contaminate a listed sole source aquifer so as to create a significant hazard to public health. Such actions shall also comply with the National Pollutant Discharge Elimination System, State water quality standards and any other regulations promulgated as a result of the SDWA.

2. Sole Source Aquifer Demonstration Program Section 1427

Procedures governing the development of demonstration programs to protect critical aquifer protection areas (CAPA), within designated sole/principal source aquifers are authorized by Section 1427 of the Act which was added by amendment in 1986 (Appendix A-6).

These critical areas are selected by the individual States and approved by the Regional Administrator of EPA. CAPA protection plans may include limits on federally assisted activities or projects which may contribute to degradation of groundwater or any loss of natural surface and subsurface infiltration or purification capability of the special protection watershed (1427(f)(2)(c)). It is important that the State highway agency be aware of the existence of all CAPAs within the State and coordinate with the appropriate State agency and EPA when considering project effects. (See Appendices G and H)

3. Wellhead Protection Areas Section 1428

Section 1428 of the Act was also added by amendment in 1986 (Appendix A-7). These provisions require that each State develop plans to assure protection of wellhead areas from contaminants which may have any adverse health effect. As with CAPAs, it is important that State highway agencies be aware of such plans and comply with their requirements when and where appropriate. (See also Appendix H). As of June 1990, no wellhead protection areas have been designated.

Appendix A

APPLICABLE SECTIONS OF THE SAFE DRINKING ACT OF 1974 As Amended

SAFE DRINKING WATER ACT

(Enacted by PL 93-523, December 16, 1974, 88 Stat. 1660; 42 U.S.C. 300f et seq.; Amended by PL 94-317, June 23, 1976; PL 94-484, October 12, 1976; PL 95-190, November 16, 1977; PL 96-63, September 6, 1979; PL 96-502, December 5, 1980; PL 98-620, November 11, 1984; PL 99-339, June 19, 1986; PL 100-572, October 31, 1988)

"PART A — DEFINITIONS

"Definitions

"Sec. 1401. For purposes of this title:

"(1) The term 'primary drinking water regulation' means a regulation which —

"(A) applies to public water systems;

"(B) specifies contaminants which, in the judgment of the Administrator, may have any adverse effect on the health of persons;

"(C) specifies for each such contaminant either —

"(i) a maximum contaminant level, if, in the judgment of the Administrator, it is economically and technologically feasible to ascertain the level of such contaminant in water in public water systems, or

"(ii) if, in the judgment of the Administrator, it is not economically or technologically feasible to so ascertain the level of such contaminant, each treatment technique known to the Administrator which leads to a reduction in the level of such contaminant sufficient to satisfy the requirements of section 1412; and

"(D) contains criteria and procedures to assure a supply of drinking water which dependably complies with such maximum contaminant levels; including quality control and testing procedures to insure compliance with such levels and to insure proper operation and maintenance of the system, and requirements as to (i) the minimum quality of water which may be taken into the system and (ii) siting for new facilities for public water systems.

"(2) The term 'secondary drinking water regulation' means a regulation which applies to public water systems and which specifies the maximum contaminant levels which, in the judgment of the Administrator, are requisite to protect the public welfare. Such regulations may apply to any contaminant in drinking water (A) which may adversely affect the odor or appearance of such water and consequently may cause a substantial number of the persons served by the public water system providing such water to discontinue its use, or (B) which may otherwise adversely affect the public welfare. Such regulations may vary according to geographic and other circumstances.

"(3) The term 'maximum contaminant level' means the maximum permissible level of a contaminant in water which is delivered to any user of a public water system.

"(4) The term 'public water system' means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves at least twenty-five individuals. Such term includes (A) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (B) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

"(5) The term 'supplier of water' means any person who owns or operates a public water system.

"(6) The term 'contaminant' means any physical, chemical, biological, or radiological substance or matter in water.

"(7) The term 'Administrator' means the Administrator of the Environmental Protection Agency.

"(8) The term 'Agency' means the Environmental Protection Agency.

"(9) The term 'Council' means the National Drinking Water Advisory Council established under section 1446.

"(10) The term 'municipality' means a city, town, or other public body created by or pursuant to State law, or an Indian Tribe.

[1401(10) amended by PL 99-3]

"(11) The term 'Federal agency' means any department, agency, or instrumentality of the United States.

"(12) The term 'person' means an individual, corporation, company, association, partnership, State, municipality, or Federal agency (and includes officers, employees, and agents of any corporation, company, association, State, municipality, or Federal agency).

[1401(12) amended by PL 95-190]

"(13) The term 'State' includes, in addition to the several States, only the District of Columbia, Guam, and Commonwealth of Puerto Rico, the Northern Mariana Islands, the Virgin Islands, American Samoa, and the Trust Territory of the Pacific Islands.

[1401(13) added by PL 94-317; amended by PL 94-484]

"(14) The term 'Indian Tribe' means any Indian tribe having a Federally recognized governing body carrying out substantial governmental duties and powers over any area.

[1401(14) added by PL 99-339]

"PART B — PUBLIC WATER SYSTEMS

"Coverage

"Sec 1411. Subject to sections 1415 and 1416, national primary drinking water regulations under this part shall apply to each public water system in each State; except that such regulations shall not apply to a public water system —

"(1) which consists only of distribution and storage facilities (and does not have any collection and treatment facilities);

"(2) which obtains all of its water from, but is not owned or operated by, a public water system to which such regulations apply;

"(3) which does not sell water to any person; and

"(4) which is not a carrier which conveys passengers in interstate commerce.

"National Drinking Water Regulations

"Sec 1412. "(a)(1) Effective on the enactment of the Safe Drinking Water Act Amendments of 1986, each national interim or revised primary drinking water regulation promulgated under this section before such enactment shall be deemed to be a national primary drinking water regulation under subsection (b). No such regulation shall be required to comply with the standards set forth in subsection (b)(4) unless such regulation is amended to establish a different maximum contaminant level after the enactment of such amendments.

"(2) After the enactment of the Safe Drinking Water Act Amendments of 1986 each recommended maximum contaminant level published before the enactment of such amendments shall be treated as a maximum contaminant level goal.

"(3) Whenever a national primary drinking water regulation is proposed under paragraph (1), (2), or (3) of subsection (b) for any contaminant, the maximum contaminant level goal for such contaminant shall be proposed simultaneously. Whenever a national primary drinking water regulation is promulgated under paragraph (1), (2), or (3) of subsection (b) for any contaminant, the maximum contaminant level goal for such contaminant shall be published simultaneously.

"(4) Paragraph (3) shall not apply to any recommended maximum contaminant level published before the enactment of the Safe Drinking Water Act Amendments of 1986.

[1412(a) revised by PL 99-339]

[1412(b)(1) — (3) revised by PL 99-339]

"(b)(1) In the case of those contaminants listed in the Advance Notice of Proposed Rulemaking published in volume 47, Federal Register, page 9352, and in volume 48, Federal Register, page 45502, the Administrator shall publish maximum contaminant level goals and promulgate national primary drinking water regulations —

"(A) not later than 12 months after the enactment of the Safe Drinking Water Act Amendments of 1986 for not less than 9 of those listed contaminants;

"(B) not later than 24 months after such enactment for not less than 40 of those listed contaminants; and

"(C) not later than 36 months after such enactment for the remainder of such listed contaminants.

"(2)(A) If the Administrator identifies a drinking water contaminant the regulation of which, in the judgment of the Administrator, is more likely to be protective of public health (taking into account the schedule for regulation under paragraph (1)) than a contaminant referred to in paragraph (1), the Administrator may publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for such identified contaminant in lieu of regulating the contaminant referred to in such paragraph. There may be no more than 7 contaminants in paragraph (1) for which substitutions may be made. Regulation of a contaminant identified under this paragraph shall be in accordance with the schedule applicable to the contaminant for which the substitution is made.

"(B) If the Administrator identifies one or more contaminants for substitution under this paragraph, the Administrator shall publish in the Federal Register not later than one year after the enactment of the Safe Drinking Water Act Amendments of 1986 a list of contaminants proposed for substitution, the contaminants referred to in paragraph (1) for which substitutions are to be made, and the basis for the judgment that regulation of such proposed substitute contaminants is more likely to be protective of public health (taking into account the schedule for regulation under such paragraph). Following a period of 60 days for public comment, the Administrator shall publish in the Federal Register a final list of contaminants to be substituted and contaminants referred to in paragraph (1) for which substitutions are to be made, together with responses to significant comments.

"(C) Any contaminant referred to in paragraph (1) for which a substitution is made, pursuant to subparagraph (A) of this paragraph, shall be included on the priority list to be published by the Administrator not later than January 1, 1988, pursuant to paragraph (3)(A).

"(D) The Administrator's decision to regulate a contaminant identified pursuant to this paragraph in lieu of a contaminant referred to in paragraph (1) shall not be subject to judicial review.

"(3)(A) The Administrator shall publish maximum contaminant level goals and promulgate national primary drinking water regulations for each contaminant (other than a contaminant referred to in paragraph (1) or (2) for which a national primary drinking water regulation was promulgated) which, in the judgment of the Administrator, may have any adverse effect on the health of persons and which is known or anticipated to occur in public

Sect. 1412 (cont)

water systems. Not later than January 1, 1988, and at 3 year intervals thereafter, the Administrator shall publish a list of contaminants which are known or anticipated to occur in public water systems and which may require regulation under this Act.

"(B) For the purpose of establishing the list under subparagraph (A), the Administrator shall form an advisory working group including members from the National Toxicology Program and the Environmental Protection Agency's Offices of Drinking Water, Pesticides, Toxic Substances, Ground Water, Solid Waste and Emergency Response and any others the Administrator deems appropriate. The Administrator's consideration of priorities shall include, but not be limited to, substances referred to in section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, and substances registered as pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act.

"(C) Not later than 24 months after the listing of contaminants under subparagraph (A), the Administrator shall publish proposed maximum contaminant level goals and national primary drinking water regulations for not less than 25 contaminants from the list established under subparagraph (A).

"(D) Not later than 36 months after the listing of contaminants under subparagraph (A), the Administrator shall publish a maximum contaminant goal and promulgate a national primary drinking water regulation for those contaminants for which proposed maximum contaminant level goals and proposed national primary drinking water regulations were published under subparagraph (C).

[New 1412(b)(4) — (8) added by PL 99-339]

"(4) Each maximum contaminant level goal established under this subsection shall be set at the level at which no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety. Each national primary drinking water regulation for a contaminant for which a maximum contaminant level goal is established under this subsection shall specify a maximum level for such contaminant which is as close to the maximum contaminant level goal as is feasible.

"(5) For the purposes of this subsection, the term 'feasible' means feasible with the use of the best technology, treatment techniques and other means which the Administrator finds, after examination for efficacy under field conditions and not solely under laboratory conditions, are available (taking cost into consideration). For the purpose of paragraph (4), granular activated carbon is feasible for the control of synthetic organic chemicals, and any technology, treatment techniques, or other means found to be the best available for the control of synthetic organic chemicals must be at least as effective in controlling synthetic organic chemicals as granular activated carbon.

"(6) Each national primary drinking water regulation which establishes a maximum contaminant level shall list the technology, treatment techniques, and other means which the Administrator finds to be feasible for purposes of meeting such maximum contaminant level, but a regulation under this paragraph shall not require that any specified technology, treatment technique, or other means be used for purposes of meeting such maximum contaminant level.

"(7)(A) The Administrator is authorized to promulgate a national primary drinking water regulation that requires the use of a treatment technique in lieu of establishing a maximum contaminant level, if the Administrator makes a finding that it is not economically or technologically feasible to ascertain the level of the contaminant. In such case, the Administrator shall identify those treatment techniques which, in the Administrator's judgment, would prevent known or anticipated adverse effects on the health of persons to the extent feasible. Such regulations shall specify each treatment technique known to the Administrator which meets the requirements of this paragraph, but the Administrator may grant a variance from any specified treatment technique in accordance with section 1415(a)(3).

"(B) Any schedule referred to in this subsection for the promulgation of a national primary drinking water regulation for any contaminant shall apply in the same manner if the regulation requires a treatment technique in lieu of establishing a maximum contaminant level.

"(C)(i) Not later than 18 months after the enactment of the Safe Drinking Water Act Amendments of 1986, the Administrator shall propose and promulgate national primary drinking water regulations specifying criteria under which filtration (including coagulation and sedimentation as appropriate) is required as a treatment technique for public water systems supplied by surface water sources. In promulgating such rules, the Administrator shall consider the quality of source waters, protection afforded by watershed management, treatment practices (such as disinfection and length of water storage) and other factors relevant to protection of health.

"(ii) In lieu of the provisions of section 1415 the Administrator shall specify procedures by which the State determines which public water systems within its jurisdiction shall adopt filtration under the criteria of clause (i). The State may require the public water system to provide studies or other information to assist in this determination. The procedures shall provide notice and opportunity for public hearing on this determination. If the State determines that filtration is required, the State shall prescribe a schedule for compliance by the public water system with the filtration requirement. A schedul shall require compliance within 18 mon of a determination made under clau (iii).

"(iii) Within 18 months from the time that the Administrator establishes the criteria and procedures under this subparagraph, a State with primary enforcement responsibility shall adopt any necessary regulations to implement this subparagraph. Within 12 months of adoption of such regulations the State shall make determinations regarding filtration for all the public water systems within its jurisdiction supplied by surface waters.

"(iv) If a State does not have primary enforcement responsibility for public water systems, the Administrator shall have the same authority to make the determination in clause (ii) in such State as the State would have under that clause. Any filtration requirement or schedule under this subparagraph shall be treated as if it were a requirement of a national primary drinking water regulation.

"(8) Not later than 36 months after the enactment of the Safe Drinking Water Act Amendments of 1986, the Adminis-

trator shall propose and promulgate national primary drinking water regulations requiring disinfection as a treatment technique for all public water systems. The Administrator shall simultaneously promulgate a rule specifying criteria that will be used by the Administrator (or delegated State authorities) to grant variances from this requirement according to the provisions of sections 1415(a)(1)(B) and 1415(a)(3). In implementing section 1442(g) the Administrator or the delegated State authority shall, where appropriate, give special consideration to providing technical assistance to small public water systems in complying with the regulations promulgated under this paragraph.

"(9) National primary drinking water regulations shall be amended whenever changes in technology, treatment techniques, and other means permit greater protection of the health of persons, but in any event such regulations shall be reviewed at least once every 3 years. Such review shall include an analysis of innovations or changes in technology, treatment techniques or other activities that have occurred over the previous 3-year period and that may provide for greater protection of the health of persons. The findings of such review shall be published in the Federal Register. If, after opportunity for public comment, the Administrator concludes that the technology, treatment techniques, or other means resulting from such innovations or changes are not feasible within the meaning of paragraph (5), an explanation of such conclusion shall be published in the Federal Register.

[Former 1412(b)(4) and (5) amended and redesignated as (9) and (10) by PL 99-339]

"(10) National primary drinking water regulations promulgated under this subsection (and amendments thereto) shall take effect eighteen months after the date of their promulgation. Regulations under subsection (a) shall be superseded by regulations under this subsection to the extent provided by the regulations under this subsection.

"(11) No national primary drinking water regulation may require the addition of any substance for preventive health care purposes unrelated to contamination of drinking water.

[Former 1412(b)(6) redesignated as (11) by PL 99-339]

"(e) The Administrator shall publish proposed national secondary drinking water regulations within 270 days after the date of enactment of this title. Within 90 days after publication of any such regulation, he shall promulgate such regulation with such modifications as he deems appropriate. Regulations under this subsection may be amended from time to time.

"(d) Regulations under this section shall be prescribed in accordance with section 553 of title 5, United States Code (relating to rulemaking), except that the Administrator shall provide opportunity for public hearing prior to promulgation of such regulations. In proposing and promulgating regulations under this section, the Administrator shall consult with the Secretary and the National Drinking Water Advisory Council.

"(e) The Administrator shall request comments from the Science Advisory Board (established under the Environmental Research, Development, and Demonstration Act of 1978) prior to proposal of a maximum contaminant level goal and national primary drinking water regulation. The Board shall respond, as it deems appropriate, within the time period applicable for promulgation of the national primary drinking water standard concerned. This subsection shall, under no circumstances, be used to delay final promulgation of any national primary drinking water standard.

[1412(e) revised by PL 99-339]

"Sec. 1417. Prohibition On Use of Lead Pipes, Solder, and Flux

"(a) IN GENERAL. —

"(1) PROHIBITION. — Any pipe, solder, or flux, which is used after the enactment of the Safe Drinking Water Act Amendments of 1986, in the installation or repair of —

"(A) any public water system, or

"(B) any plumbing in a residential or nonresidential facility providing water for human consumption which is connected to a public water system,

shall be lead free (within the meaning of subsection (d)). This paragraph shall not apply to leaded joints necessary for the repair of cast iron pipes.

"(2) PUBLIC NOTICE REQUIREMENTS.—

"(A) IN GENERAL. — Each public water system shall identify and provide notice to persons that may be affected by lead contamination of their drinking water where such contamination results from either or both of the following:

"(i) The lead content in the construction materials of the public water distribution system.

"(ii) Corrosivity of the water supply sufficient to cause leaching of lead.

The notice shall be provided in such manner and form as may be reasonably required by the Administrator. Notice under this paragraph shall be provided notwithstanding the absence of a violation of any national drinking water standard.

"(B) CONTENTS OF NOTICE. — Notice under this paragraph shall provide a clear and readily understandable explanation of —

"(i) the potential sources of lead in the drinking water,

"(ii) potential adverse health effects,

"(iii) reasonably available methods of mitigating known or potential lead content in drinking water,

"(iv) any steps the system is taking to mitigate lead content in drinking water, and

"(v) the necessity for seeking alternative water supplies, if any.

"(b) STATE ENFORCEMENT. —

"(1) ENFORCEMENT OF PROHIBITION. — The requirements of subsection (a)(1) shall be enforced in all States effective 24 months after the enactment of this section. States shall enforce such requirements through State or local plumbing codes, or such other means of enforcement as the State may determine to be appropriate.

"(2) ENFORCEMENT OF PUBLIC NOTICE REQUIREMENTS. — The requirements of subsection (a)(2) shall apply in all States effective 24 months after the enactment of this section.

"(c) PENALTIES. — If the Administrator determines that a State is not enforcing the requirements of subsection (a) as required pursuant to subsection (b), the Administrator may withhold up to 5 percent of Federal funds available to that State for State program grants under section 1443(a).

"(d) DEFINITION OF LEAD FREE.— For purposes of this section, the term 'lead free'—

"(1) when used with respect to solders and flux refers to solders and flux containing not more than 0.2 percent lead, and

"(2) when used with respect to pipes and pipe fittings refers to pipes and pipe fittings containing not more than 8.0 percent lead.

[*Editor's note:* Section 109(b) and (c) of PL 99-339 provides the following concerning responsibilities of EPA, HUD, and the VA:

"(b) NOTIFICATION TO STATES.— The Administrator of the Environmental Protection Agency shall notify all States with respect to the requirements of section 1417 of the Public Health Service Act within 90 days after the enactment of this Act.

(c) BAN ON LEAD WATER PIPES, SOLDER, AND FLUX IN VA AND HUD INSURED OR ASSISTED PROPERTY. —

(1) PROHIBITION — The Secretary of Housing and Urban Development and the Administrator of the Veterans' Administration may not insure or guarantee a mortgage or furnish assistance with respect to newly constructed residential property which contains a potable water system unless such system uses only lead free pipe, solder, and flux.

(2) DEFINITION OF LEAD FREE.— For purposes of paragraph (1) the term "lead free" —

(A) when used with respect to solders and flux refers to solders and flux containing not more than 0.2 percent lead, and

(B) when used with respect to pipes and pipe fittings refers to pipes and pipe fittings containing not more than 8.0 percent lead.

(3) EFFECTIVE DATE. — Paragraph (1) shall become effective 24 months after the enactment of this Act."]

"Interim Regulation Of Underground Injections

"Sec. 1424. (a)(1) Any person may petition the Administrator to have an area of a State (or States) designated as an area in which no new underground injection well may be operated during the period beginning on the date of the designation and ending on the date on which the applicable underground injection control program covering such area takes effect unless a permit for the operation of such well has been issued by the Administrator under subsection (b). The Administrator may so designate an area within a State if he finds that the area has one aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health.

"(2) Upon receipt of a petition under paragraph (1) of this subsection, the Administrator shall publish it in the Federal Register and shall provide an opportunity to interested persons to submit written data, views, or arguments thereon. Not later than the 30th day following the date of the publication of a petition under this paragraph in the Federal Register, the Administrator shall either make the designation for which the petition is submitted or deny the petition.

"(b)(1) During the period beginning on the date an area is designated under subsection (a) and ending on the date the applicable underground injection control program covering such area takes effect, no new underground injection well may be operated in such area unless the Administrator has issued a permit for such operation.

"(2) Any person may petition the Administrator for the issuance of a permit for the operation of such a well in such an area. A petition submitted under this paragraph shall be submitted in such manner and contain such information as the Administrator may require by regulation. Upon receipt of such a petition, the Administrator shall publish it in the Federal Register. The Administrator shall give notice of any proceeding on a petition and shall provide opportunity for agency hearing. The Administrator shall act upon such petition on the record of any hearing held pursuant to the preceding sentence respecting such petition. Within 120 days of the publication in the Federal Register of a petition submitted under this paragraph, the Administrator shall either issue the permit for which the petition was submitted or shall deny its issuance.

"(3) The Administrator may issue a permit for the operation of a new underground injection well in an area designated under subsection (a) only if he finds that the operation of such well will not cause contamination of the aquifer of such area so as to create a significant hazard to public health. The Administrator may condition the issuance of such a permit upon the use of such control measures in connection with the operation of such well, for which the permit is to be issued, as he deems necessary to assure that the operation of the well will not contaminate the aquifer of the designated area in which the well is located so as to create a significant hazard to public health.

"(c) Any person who operates a new underground injection well in violation of subsection (b), (1) shall be subject to a civil penalty of not more than $5,000 for each day in which such violation occurs, or (2) if such violation is willful, such person may, in lieu of the civil penalty authorized by clause (1) be fined not more than $10,000 for each day in which such violation occurs. If the Administrator has reason to believe that any person is violating or will violate subsection (b), he may petition the United States district court to issue a temporary restraining order or injunction (including a mandatory injunction) to enforce such subsection.

"(d) For purposes of this section, the term 'new underground injection well' means an underground injection well whose operation was not approved by appropriate State and Federal agencies before the date of the enactment of this title.

"(e) If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register. After the publication of any such notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health, but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

"Sec. 1427. Sole Source Aquifer Demonstration Program.

[1427 added by PL 99-339]

"(a) Purpose. — The purpose of this section is to establish procedures for development, implementation, and assessment of demonstration programs designed to protect critical aquifer protection areas located within areas designated as sole or principal source aquifers under section 1424(e) of this Act.

"(b) Definition. — For purposes of this section, the term 'critical aquifer protection area' means either of the following:

"(1) All or part of an area located within an area for which an application or designation as a sole or principal source aquifer pursuant to section 1424(e), has been submitted and approved by the Administrator not later than 24 months after the enactment of the Safe Drinking Water Act Amendments of 1986 and which satisfies the criteria established by the Administrator under subsection (d).

"(2) All or part of an area which is within an aquifer designated as a sole source aquifer as of the enactment of the Safe Drinking Water Act Amendments of 1986 and for which an areawide ground water quality protection plan has been approved under section 208 of the Clean Water Act prior to such enactment.

"(c) Application. — Any State, municipal or local government or political subdivision thereof or any planning entity (including any interstate regional planning entity) that identifies a critical aquifer protection area over which it has authority or jurisdiction may apply to the Administrator for the selection of such area for a demonstration program under this section. Any applicant shall consult with other government or planning entities with authority or jurisdiction in such area prior to application. Applicants, other than the Governor, shall submit the application for a demonstration program jointly with the Governor.

"(d) Criteria. — Not later than 1 year after the enactment of the Safe Drinking Water Act Amendments of 1986, the Administrator shall, by rule, establish criteria for identifying critical aquifer protection areas under this section. In establishing such criteria, the Administrator shall consider each of the following:

"(1) The vulnerability of the aquifer to contamination due to hydrogeologic characteristics.

"(2) The number of persons or the proportion of population using the ground water as a drinking water source.

"(3) The economic, social and environmental benefits that would result to the area from maintenance of ground water of high quality.

"(4) The economic, social and environmental costs that would result from degradation of the quality of the ground water.

"(e) Contents of Application. — An application submitted to the Administrator by any applicant for a demonstration program under this section shall meet each of the following requirements:

"(1) The application shall propose boundaries for the critical aquifer protection area within its jurisdiction.

"(2) The application shall designate or, if necessary, establish a planning entity (which shall be a public agency and which shall include representation of elected local and State governmental officials) to develop a comprehensive management plan (hereinafter in this section referred to as the 'plan') for the critical protection area. Where a local government planning agency exists with adequate authority to carry out this section with respect to any proposed critical protection area, such agency shall be designated as the planning entity.

"(3) The application shall establish procedures for public participation in the development of the plan, for review, approval, and adoption of the plan, and for assistance to municipalities and other public agencies with authority under State law to implement the plan.

"(4) The application shall include a hydrogeologic assessment of surface and ground water resources within the critical protection area.

"(5) The application shall include a comprehensive management plan for the proposed protection area.

"(6) The application shall include the measures and schedule proposed for implementation of such plan.

"(f) Comprehensive Plan. —

"(1) The objective of a comprehensive management plan submitted by an applicant under this section shall be to maintain the quality of the ground water in the critical protection area in a manner reasonably expected to protect human health, the environment and ground water resources. In order to achieve such objective, the plan may be designed to maintain, to the maximum extent possible, the natural vegetative and hydrogeological conditions. Each of the following elements shall be included in such a protection plan:

"(A) A map showing the detailed boundary of the critical protection area.

"(B) An identification of existing and potential point and nonpoint sources of ground water degradation.

"(C) An assessment of the relationship between activities on the land surface and ground water quality.

"(D) Specific actions and management practices to be implemented in the critical protection area to prevent adverse impacts on ground water quality.

"(E) Identification of authority adequate to implement the plan, estimates of program costs, and sources of State matching funds.

"(2) Such plan may also include the following:

"(A) A determination of the quality of the existing ground water recharged through the special protection area the natural recharge capabilities special protection area watershed.

"(B) Requirements designed to maintain existing underground drinking water quality or improve underground drinking water quality if prevailing conditions fail to meet drinking water standards, pursuant to this Act and State law.

"(C) Limits on Federal, State, and local government, financially assisted activities and projects which may contribute to degradation of such ground water or any loss of natural surface and subsurface infiltration of purification capability of the special protection watershed.

"(D) A comprehensive statement of land use management including emergency contingency planning as it pertains to the maintenance of the quality of underground sources of drinking water or to the improvement of such sources if necessary to meet drinking water standards pursuant to this Act and State law.

"(E) Actions in the special protection area which would avoid adverse impacts on water quality, recharge capabilities, or both.

"(F) Consideration of specific techniques, which may include clustering, transfer of development rights, and other innovative measures sufficient to achieve the objectives of this section.

"(G) Consideration of the establishment of a State institution to facilitate and assist funding a development transfer credit system.

"(H) A program for State and local implementation of the plan described in this subsection in a manner that will insure the continued, uniform, consistent protection of the critical protection area in accord with the purposes of this section.

"(I) Pollution abatement measures, if appropriate.

"(g) Plans Under Section 208 of the Clean Water Act. — A plan approved before the enactment of the Safe Drinking Water Act Amendments of 1986 under section 208 of the Clean Water Act to protect a sole source aquifer designated under section 1424(e) of this Act shall be considered a comprehensive management plan for the purposes of this section.

"(h) Consultation and Hearings. — During the development of a comprehensive management plan under this section, the planning entity shall consult with, and consider the comments of, appropriate officials of any municipality and State or Federal agency which has jurisdiction over lands and waters within the special protection area, other concerned organizations and technical and citizen advisory committees. The planning entity shall conduct public hearings at places within the special protection area for the purpose of providing the opportunity to comment on any aspect of the plan.

"(i) Approval or Disapproval. — Within 120 days after receipt of an application under this section, the Administrator shall approve or disapprove the application. The approval or disapproval shall be based on a determination that the critical protection area satisfies the criteria established under subsection (d) and that a demonstration program for the area would provide protection for ground water quality consistent with the objectives stated in subsection (f). The Administrator shall provide to the Governor a written explanation of the reasons for the disapproval of any such application. Any petitioner may modify and resubmit any application which is not approved. Upon approval of an application, the Administrator may enter into a cooperative agreement with the applicant to establish a demonstration program under this section.

"(j) Grants and Reimbursement. — Upon entering a cooperative agreement under subsection (i), the Administrator may provide to the applicant, on a matching basis, a grant of 50 per centum of the costs of implementing the plan established under this section. The Administrator may also reimburse the applicant of an approved plan up to 50 per centum of the costs of developing such plan, except for plans approved under section 208 of the Clean Water Act. The total amount of grants under this section for any one aquifer, designated under section 1424(e), shall not exceed $4,000,000 in any one fiscal year.

"(k) Activities Funded Under Other Law. — No funds authorized under this subsection may be used to fund activities funded under other sections of this Act or the Clean Water Act, the Solid Waste Disposal Act, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or other environmental laws.

"(l) Report. — Not later than December 31, 1989, each State shall submit to the Administrator a report assessing the impact of the program on ground water quality and identifying those measures found to be effective in protecting ground water resources. No later than September 30, 1990, the Administrator shall submit to Congress a report summarizing the State reports, and assessing the accomplishments of the sole source aquifer demonstration program including an identification of protection methods found to be most effective and recommendations for their application to protect ground water resources from contamination whenever necessary.

"(m) Savings Provision. — Nothing under this section shall be construed to amend, supersede or abrogate rights to quantities of water which have been established by interstate water compacts, Supreme Court decrees, or State water laws; or any requirement imposed or right provided under any Federal or State environmental or public health statute.

"(n) Authorization. — There are authorized to be appropriated to carry out this section not more than the following amounts:

"Fiscal year:	Amount
1987	$10,000,000
1988	15,000,000
1989	17,500,000
1990	17,500,000
1991	17,500,000

Matching grants under this section may also be used to implement or update any water quality management plan for a sole or principal source aquifer approved (before the date of the enactment of this section) by the Administrator under section 208 of the Federal Water Pollution Control Act.

"Sec. 1428. State Programs To Establish Wellhead Protection Areas.
[1428 added by PL 99-339]

"(a) State Programs. — The Governor or Governor's designee of each State shall, within 3 years of the date of enactment of the Safe Drinking Water Act Amendments of 1986, adopt and submit to the Administrator a State program to protect wellhead areas within their jurisdiction from contaminants which may have any adverse effect on the health of persons. Each State program under this section shall, at a minimum —

"(1) specify the duties of State agencies, local governmental entities, and public water supply systems with respect to the development and implementation of programs required by this section;

"(2) for each wellhead, determine the wellhead protection area as defined in subsection (e) based on all reasonably available hydrogeologic information on ground water flow, recharge and discharge and other information the State deems necessary to adequately determine the wellhead protection area;

"(3) identify within each wellhead protection area all potential anthropogenic sources of contaminants which may have any adverse effect on the health of persons;

"(4) describe a program that contains, as appropriate, technical assistance, financial assistance, implementation of control measures, education, training, and demonstration projects to protect the water supply within wellhead protection areas from such contaminants;

"(5) include contingency plans for the location and provision of alternate drinking water supplies for each public water system in the event of well or wellfield contamination by such contaminants; and

"(6) include a requirement that consideration be given to all potential sources of such contaminants within the expected wellhead area of a new water well which serves a public water supply system.

"(b) Public Participation. — To the maximum extent possible, each State shall establish procedures, including but not limited to the establishment of technical and citizens' advisory committees, to encourage the public to participate in developing the protection program for wellhead areas. Such procedures shall include notice and opportunity for public hearing on the State program before it is submitted to the Administrator.

"(c) Disapproval. —

"(1) In General. — If, in the judgment of the Administrator a State program (or portion thereof, including the definition of a wellhead protection area), is not adequate to protect public water systems as required by this section, the Administrator shall disapprove such program (or portion thereof).

A State program developed pursuant to subsection (a) shall be deemed to be adequate unless the Administrator determines, within 9 months of the receipt of a State program, that such program (or portion thereof) is inadequate for the purpose of protecting public water systems as required by this section from contaminants that may have any adverse effect on the health of persons. If the Administrator determines that a proposed State program (or any portion thereof) is inadequate, the Administrator shall submit a written statement of the reasons for such determination to the Governor of the State.

"(2) Modification and Resubmission. — Within 6 months after receipt of the Administrator's written notice under paragraph (1) that any proposed State program (or portion thereof) is inadequate, the Governor or Governor's designee, shall modify the program based upon the recommendations of the Administrator and resubmit the modified program to the Administrator.

"(d) Federal Assistance. — After the date 3 years after the enactment of this section, no State shall receive funds authorized to be appropriated under this section except for the purpose of implementing the program and requirements of paragraphs (4) and (6) of subsection (a).

"(e) Definition of Wellhead Protection Area. — As used in this section, the term 'wellhead protection area' means the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield. The extent of a wellhead protection area, within a State, necessary to provide protection from contaminants which may have any adverse effect on the health of persons is to be determined by the State in the program submitted under subsection (a). Not later than one year after the enactment of the Safe Drinking Water Act Amendments of 1986, the Administrator shall issue technical guidance which States may use in making such determinations. Such guidance may reflect such factors as the radius of influence around a well or wellfield, the depth of drawdown of the water table by such well or wellfield at any given point, the time or rate of travel of various contaminants in various hydrologic conditions, distance from the well or wellfield, or other factors affecting the likelihood of contaminants reaching the well or wellfield, taking into account available engineering pump tests or comparable data, field reconnaissance, topographic information, and the geology of the formation in which the well or wellfield is located.

"(f) Prohibitions. —

"(1) Activities under other laws. — No funds authorized to be appropriated under this section may be used to support activities authorized by the Federal Water Pollution Control Act, the Solid Waste Disposal Act, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, or other sections of this Act.

"(2) Individual sources. — No funds authorized to be appropriated under this section may be used to bring individual sources of contamination into compliance.

"(g) Implementation — Each State shall make every reasonable effort to implement the State wellhead area protection program under this section within 2 years of submitting the program to the Administrator. Each State shall submit to the Administrator a biennial status report describing the State's progress in implementing the program. Such report shall include amendments to the State program for water wells sited during the biennial period.

"(h) Federal Agencies. — Each department, agency, and instrumentality of the executive, legislative, and judicial branches of the Federal Government having jurisdiction over any potential source of contaminants identified by a State program pursuant to the provisions of subsection (a)(3) shall be subject to and comply with all requirements of the State program developed according to subsection (a)(4) applicable to such potential sources of contaminants, both substantive and procedural, in the same manner and to the same extent, as any other person is subject to such requirements, including payment of reasonable charges and fees. The President may exempt any potential source under the jurisdiction of any department, agency, or instrumentality in the executive branch if the President determines it to be in the paramount interest of the United States to do so. No such exemption shall be granted due to the lack of an appropriation unless the President shall have specifically requested such appropriation as part of the budgetary process and the Congress shall have failed to make available such requested appropriations.

"(i) Additional Requirement. —

"(1) In General. — In addition to the provisions of subsection (a) of this section, States in which there are more than 2,500 active wells at which annular injection is used as of January 1, 1986, shall include in their State program a certification that a State program exists and is being adequately enforced that provides protection from contaminants which may have any adverse effect on the health of persons and which are associated with the annual injection or surface disposal of brines associated with oil and gas production.

Sect. 1428 (cont)

"(2) Definition. — For purposes of this subsection, the term 'annular injection' means the reinjection of brines associated with the production of oil or gas between the production and surface casings of a conventional oil or gas producing well.

"(3) Review. — The Administrator shall conduct a review of each program certified under this subsection.

"(4) Disapproval. — If a State fails to include the certification required by this subsection or if in the judgment of the Administrator the State program certified under this subsection is not being adequately enforced, the Administrator shall disapprove the State program submitted under subsection (a) of this section.

"(j) Coordination With Other Laws. — Nothing in this section shall authorize or require any department, agency, or other instrumentality of the Federal Government or State or local government to apportion, allocate or otherwise regulate the withdrawal or beneficial use of ground or surface waters, so as to abrogate or modify any existing rights to water established pursuant to State or Federal law, including interstate compacts.

"(k) Authorization of Appropriations. — Unless the State program is disapproved under this section, the Administrator shall make grants to the State for not less than 50 or more than 90 percent of the costs incurred by a State (as determined by the Administrator) in developing and implementing each State program under this section. For purposes of making such grants there is authorized to be appropriated not more than the following amounts

"Fiscal year:	*Amount*
1987	$20,000,000
1988	20,000,000
1989	35,000,000
1990	35,000,000
1991	35,000,000

"Federal Agencies

"Sec. 1447. (a) Each Federal agency (1) having jurisdiction over any federally owned or maintained public water system or (2) engaged in any activity resulting, or which my result in, underground injection which endangers drinking water (within the meaning of section 1421(d)(2) shall be subject to and comply with, all Federal, State, and local requirements, administrative authorities, and process and sanctions respecting the provision of safe drinking water and respecting any underground injection program in the same manner, and to the same extent, as any nongovernmental entity. The preceding sentence shall apply (A) to any requirement whether substantive or procedural (including any recordkeeping or reporting requirement, any requirement respecting permits, and any other requirement whatsoever), (B) to the exercise of any Federal, State, or local administrative authority, and (C) to any process or sanction, whether enforced in Federal, State, or local courts or in any other manner. This subsection shall apply, not withstanding any immunity of such agencies, under any law or rule of law. No officer, agent, or employee of the United States shall be personally liable for any civil penalty under this title with respect to any act or omission within the scope of his official duties.

[1447(a) amended by PL 95-190]

"(b) The Administrator shall waive compliance with subsection (a) upon request of the Secretary of Defense and upon a determination by the President that the requested waiver is necessary in the interest of national security. The Administrator shall maintain a written record of the basis upon which such waiver was granted and make such record available for in camera examination when relevant in a judicial proceeding under this title. Upon the issuance of such a waiver, the Administrator shall publish in the Federal Register a notice that the waiver was granted for national security purposes, unless, upon the request of the Secretary of Defense, the Administrator determines to omit such publication because the publication itself would be contrary to the interests of national security, in which event the Administrator shall submit notice to the Armed Services Committee of the Senate and House of Representatives.

"(c)(1) Nothing in the Safe Drinking Water Amendments of 1977 shall be construed to alter or affect the status of American Indian lands or water rights nor to waive any sovereignty over Indian lands guaranteed by treaty or statute.

"(2) For the purposes of this Act, the term 'Federal agency' shall not be construed to refer to or include any American Indian tribe, nor to the Secretary of the Interior in his capacity as trustee of Indian lands.

Appendix B

23 CFR 650 (Subpart E)

Water Supply and Sewage Treatment at Safety Rest Areas

Subpart E—Water Supply and Sewage Treatment at Safety Rest Areas

SOURCE: 49 FR 1486, Jan. 12, 1984, unless otherwise noted.

§ 650.501 Purpose.

The purpose of this regulation is to prescribe Federal Highway Administration (FHWA) policies and procedures for providing safe and adequate water supply and sewage treatment facilities at safety rest areas constructed with Federal-aid funds.

§ 650.503 Applicability.

The provisions of this regulation shall apply to safety rest areas constructed with Federal-aid funds with existing or proposed drinking water supply and sewage treatment facilities.

§ 650.505 Definitions.

(a) *Designated sole source aquifer*—an aquifer, as established in 40 CFR Part 149 pursuant to the Safe Drinking Water Act, 42 U.S.C. 300f, 300h-3(e), which represents the major source of a community's water supply.

(b) *Effluent limitations*—the standards governing the discharge quality of treated sewage as established by the Environmental Protection Agency (EPA) in 40 CFR Part 133 pursuant to the Clean Water Act, 33 U.S.C. 1311.

(c) *Federal drinking water standards*—the standards for assessing the physical, chemical, biological, and radiological characteristics of water for drinking as established by EPA in 40 CFR Part 141 pursuant to the Safe Drinking Water Act, 42 U.S.C. 300f, which delineate the maximum permissible level of a contaminant in water provided by a public water system.

(d) *National Pollutant Discharge Elimination System (NPDES)*—the regulatory permit program that controls the quality of treated sewage discharged from sewage treatment plants as established in 40 CFR Part 125 pursuant to the Clean Water Act, 33 U.S.C. 1342.

(e) *Receiving water quality standards*—the standards for maintaining or improving water quality in bodies of water and streams as set forth in the Clean Water Act, 33 U.S.C. 1313, and 40 CFR Part 120—Water Quality Standards.

(f) *Safety rest area*—a roadside facility safely removed from the traveled way with parking and such facilities for the motorist deemed necessary for rest, relaxation, comfort and information. The term is synonymous with "rest and recreation areas" as described in 23 U.S.C. 319.

§ 650.507 Policy.

It is the policy of FHWA:

(a) That drinking water supply systems shall be designed, constructed, and maintained to provide water which meets drinking water standards established by EPA in 40 CFR Part 141 promulgated pursuant to the Safe Drinking Water Act, 42 U.S.C. 300f *et seq.*, as amended, or State standards, whichever are more stringent;

(b) That onsite sewage treatment facilities shall be designed, constructed, and operated to meet:

(1) Effluent limitations established by EPA in 40 CFR Part 133 promulgated pursuant to the Clean Water Act, 33 U.S.C. 1311 *et seq.*, as amended, or State standards, whichever are more stringent.

(2) The receiving water quality standards, and

(3) Requirements for any sole source aquifer as established in 40 CFR 141 promulgated pursuant to the Safe Drinking Water Act, 42 U.S.C. 300f *et seq.*, as amended, or State standards, whichever are more stringent; and

(c) That sewage systems not covered by paragraph (b) of this section shall be designed, constructed, and operated to meet the applicable State standards.

§ 650.509 Site selection.

Adequate information shall be obtained in the site selection process to insure that the following conditions can be met:

(a) The availability of a drinking water supply source in adequate quantity and quality, including water from public water supply systems.

(b) The capability to dispose of sewage generated by the safety rest areas in a manner consistent with these regulations, including any potential impact to sole source aquifers. Where a public sewage system is to be utilized, the system's ability to adequately treat and dispose of the sewage shall be ascertained.

§ 650.511 Water supply facilities.

The following factors shall apply to the design of water supply facilities for safety rest areas:

(a) In the interest of conserving energy and underground water resources, reduced-flow fixtures shall be considered for the safety rest area building.

(b) Water treatment shall be accomplished at the site as may be necessary to meet drinking water standards.

(c) Onsite storage, auxiliary supplies or recirculating units shall be provided as may be necessary to obtain a water supply that will meet peak demands.

(d) The safety rest area's drinking water supply, regardless of source, shall be monitored in accordance with State regulatory agency standards.

§ 650.513 Sewage treatment facilities.

The following factors shall apply t the design of sewage treatment facili ties for safety rest areas:

(a) The permit required under th National Pollution Discharge Elimina tion System (NPDES) shall be ob tained prior to approval o ns Specifications and Estimate E and authorization for the a ase ment of bids.

(b) Sewage treatment shall be ac complished at the site as may be nec essary to meet effluent limitations Any effluent shall be monitored in ac cordance with the standards estab lished by the NPDES permit.

§ 650.515 Federal-aid participation in construction costs.

(a) *New safety rest areas.* (1) Federal-aid projects may be approved for the construction of drinking water supply and sewage treatment facilities that will meet the requirements o § 650.507.

(2) Federal-aid participation in the cost to connect to public facilities may include participation in the State highway agency's share of the cost to construct, expand or improve the public facility to assure adequate water supply or sewage treatment Participation in amounts expended for capital improvements to the public facility will be limited to the lesser of:

(i) The appropriate pro rata share of the highway project's contribution to the need for the improvements;

(ii) The present worth of the capital investment, maintenance and operation costs of an onsite facility

(3) Federal-aid Interstate (I n struction funds may be used f ty rest areas on the Interstate System if the work is necessary to replace existing similar services on gap sections or as part of the approved major upgrading of an incorporated segment. The FAI construction funds are limited to costs for speed change lanes, entrance and exit roadways, circulatory roads, parking areas, walkways, curbs, lighting installation, replacement of other existing similar services, and corresponding preliminary engineering and right-of-way costs.

(4) For Interstate projects, the work described in paragraphs (a) (1) and (2) of this section that is not eligible for FAI construction funds shall be eligible for funding with Interstate 4R funds or primary funds. This would include the costs for both construction and completion of improvement of safety rest areas and the costs of any upgrading of water supply facilities, sewage treatment facilities or provisions to serve the handicapped.

(b) *Existing safety rest areas*—(1) *Quantity requirements.* Federal-aid funds other than FAI construction funds may be used to expand or improve water supply and sewage systems at existing safety rest areas without regard for the design year for the original construction.

construction funds may be approved to improve or replace existing water supply systems which fail to meet existing or new and more stringent drinking water quality standards imposed pursuant to Federal or State law.

(ii) Where safety rest area sewage effluent quality does not meet effluent limitations, the use of Federal-aid funds other than FAI construction funds in sewage treatment facility replacement or improvements to meet those standards may be authorized for projects where the construction of these facilities was authorized prior to the date of this regulation, subject to the following:

(A) Evidence of a failure of existing treatment facility to meet effluent standards established by field investigation and appropriate testing of influent and effluent samples.

(B) Failure to meet effluent standards is not a result of inadequate maintenance or plant operation. If plant operation is deficient, such steps as increased operator training or certification should be accomplished.

(C) Receipt of an engineering report describing the characteristics, volumes, and rates of sewage flows. The report should also contain design computations and a discussion of modifications required to meet the standards.

(c) *Procedures.* Project proposals which incorporate sophisticated processes or involve difficult design problems should be forwarded to the Regional Federal Highway Administrator for review and comment. The Washington Headquarters office is available for consultation upon request.

Appendix C

LISTING OF DESIGNATED SOLE SOURCE GROUNDWATER AQUIFERS

	DATE APPROVED	LOCATION	REGION	RECHARGE ZONE (SQ. MILES)
1.	12-16-75	Edwards, San Antonio, Texas	6	5,000
2.	02-09-78	Spokane Valley, Washington and Idaho	10	5,000
3.	04-26-78	Guam	9	212
4.	06-21-78	Nassau and Suffolk Counties, New York	1	600
5.	10-11-78	Biscayne, Florida	4	15,000
6.	09-10-79	Fresno County, California	9	12,000
7.	05-08-80	Buried Valley, New Jersey	1	200
8.	08-27-80	Ten Mile Creek, Maryland	3	200
9.	04-06-82	Whidbey and Camano Island, Washington	10	212
10.	07-13-82	Cape Cod, Barnstable County, South Massachusetts	1	440
11.	01-24-84	Upper Santa Cruz and Aura Alta, Pima County, Arizona	9	--
12.	01-24-84	Kings and Queens Counties, New York	1	--
13.	01-24-84	Brunswick Shale of Ridgewood Area, New Jersey	1	--
14.	01-24-84	Block Island, Rhode Island	1	--
15.	01-24-84	Nantucket, Massachusetts	1	--
16.	01-24-84	Rockaway River, New Jersey	1	--
17.	01-14-85	Schenectady/Niskayuna, Schenectady Co., New York	1	30
18.	01-14-85	Scotts Valley, Santa Cruz Co., California	9	--
19.	01-14-85	Clinton Street-Ballpark Valley, Brooms and Tioga Counties, New York	1	--

	DATE APPROVED	LOCATION	REGION	RECHARGE ZONE (SQ. MILES)
20.	03-06-85	Seven Valleys, York Co., Pennsylvania	3	75
21.	05-18-87	Cross Valley, Snohomish and King Counties, Washington	10	40
22.	06-09-87	Prospect Hill Spring, Clark Co., Virginia	3	12
23.	08-27-87	Pleasant City, Guernsey Co., Ohio	5	1.5
24.	09-25-87	Cattaraugus Creek, Portions of Cattaraugus, Erie, Wyoming, and Allegany Counties, New York	1	325
25.	10-02-87	Catawba Island, Ohio	5	---
26.	10-05-87	Highlands, Passaic, Morris, and Sussex, N.J. and Orange, N.J.	1	195
27.	10-05-87	Newberg Area Aquifer, Snohomish County, Washington	10	37
28.	10-07-87	Florence Dunal Aquifer, Lane County, Oregon	10	19
29	11-30-87	Southern Oahu near Pearl Harbor, Hawaii	9	---
30.	11-18-87	Volusia-Aquifer; Volusia, Flagler and Putnam Counties, Florida	4	---
31.	02-05-88	Martha's Vineyard, Dukes Co., Massachusetts	1	---
32.	05-04-88	Buried Valley, Little Miami River Basins of S.W. Ohio	5	---
33.	05-13-88	Pawcatuck Basin, S.W. Rhode Island and S.E. Connecticut	1	295
34.	05-26-88	Hunt-Annaquatucket-Pettaquamscutt Aquifer, Rhode Island	1	41
35.	06-07-88	Missoula Valley, Montana	8	100

	DATE APPROVED	LOCATION	REGION	RECHARGE ZONE (SQ. MILES)
36.	06-13-88	Courtland-Homer-Preble Aquifer of Cortland and Onondaga Counties, New York	1	25
37.	06-23-88	Fifteen Basin System of north western New Jersey - all of Warren Co., and parts of Sussex, Passaic, Morris, Middlesex, Hunterdon, Mercer, and Summerset Cos., N.J. and Orange Couhty, N.Y.	1	1,735
38.	06-23-88	Indiana - portion of the St. Joseph Aquifer System and tributary valleys of the St. Josephs Aquifer System; Elkart, St. Joseph, La Grange, Noble and Kasciusko Counties.	5	large
39	06-24-88	New Jersey Coastal Plain - Monmouth, Burlington, Ocean, Camden, Gloucester, Atlantic, Salem, Cumberland, Cape May, and portions of Mercer and Middlesex Cos., N.J. (stream source zone includes New Castle County, Delaware, New Jersey (Mercer-part, Hunterdon-part, Sussex-part and Warren Counties), New York (Delaware, Orange, Sullivan and Ulster Counties and Pennsylvania (Berks-part, Bucks, Carbon-part, Chester-part, Delaware, Lackawanna-part, Monroe, Montgomery, Northampton, Philadelphia, Pike, Schuykill and Wayne Counties).	1, 3	large
40.	07-07-88	Louisiana - all of E. Baton Rouge, E. Feliciana, Livingston, Pointe Coupee, St. Helena, St. Tammany, Tangipahoa, Washington, W. Baton Rouge and W. Feliciana Parrishes. Mississippi - all or parts of Adams, Amite, Claiborne, Copiah, Franklin, Hinds, Jefferson, Lawrence, Lincoln, Marion, Pike, Walthall, Warren, and Wilkinson Counties.	4, 6	large

	DATE APPROVED	LOCATION	REGION	RECHARGE ZONE (SQ. MILES)
41.	9-30-88	Bisbee-Naco Area, Cochise County, Arizona	9	--
42	10-03-88	Cedar Valley Aquifer King County, Washington	10	186
43.	10--3-88	Lewiston Basin Aquifer, Asotin and Garfield Counties, Washington Nez Pierce and Lewis Counties, Idaho	10	500
44.	12-12-88	Head of the Neponset Aquifer - eastern portion of the Neponset River watershed south of Boston, Massachusetts.	1	30
45.	07-14-89	Vinalhaven Island, Maine	1	20
46.	10-29-90	Mille Lacs Lake Confined Drift Aquifer, Mille Lacs and Aitkin Counties, Minnesota	5	--

Appendix D

FHWA TECHNICAL ADVISORY
T 6640.8A
October 30, 1987

Paragraph 10-Reference to
Safe Drinking Water Act

1987 report entitled "Effects of Highway Runoff on Receiving Waters" contain procedures for estimating pollutant loading from highway runoff and would be helpful in determining the level of potential impacts and appropriate mitigative measures. The draft EIS should identify the potential impacts of each alternative and proposed mitigation measures.

Where an area designated as principal or sole-source aquifer under Section 1424(e) of the Safe Drinking Water Act may be impacted by a proposed project, early coordination with EPA will assist in identifying potential impacts. The EPA will furnish information on whether any of the alternatives affect the aquifer. This coordination should also identify any potential impacts to the critical aquifer protection area (CAPA), if designated, within affected sole-source aquifers. If none of the alternatives affect the aquifer, the requirements of the Safe Drinking Water Act are satisfied. If an alternative is selected which affects the aquifer, a design must be developed to assure, to the satisfaction of EPA, that it will not contaminate the aquifer (40 CFR 149). The draft EIS should document coordination with EPA and identify its position on the impacts of the various alternatives. The final EIS should show that EPA's concerns on the preferred alternative have been resolved.

Wellhead protection areas were authorized by the 1986 Amendments to the Safe Drinking Water Act. Each State will develop State wellhead protection plans with final approval by EPA. When a proposed project encroaches on a wellhead protection area, the draft EIS should identify the area, the potential impact of each alternative and proposed mitigation measures. Coordination with the State agency responsible for the protection plan will aid in identifying the areas, impacts and mitigation. If the preferred alternative impacts these areas, the final EIS should document that it complies with the approved State wellhead protection plan.

11. Permits

If a facility such as a safety rest area is proposed and it will have a point source discharge, a Section 402 permit will be required for point source discharge (40 CFR 122). The draft EIS should discuss potential adverse impacts resulting from such proposed facilities and identify proposed mitigation measures. The need for a Section 402 permit and Section 401 water quality certification should be identified in the draft EIS.

For proposed actions requiring a Section 404 or Section 10 (Corps of Engineers) permit, the draft EIS should identify by alternative the general location of each dredge or fill activity, discuss the potential adverse impacts, identify proposed mitigation measures (if not addressed elsewhere in the draft EIS), and include evidence of coordination with the Corps of Engineers (in accordance with the U.S. DOT/Corps of Engineers Memorandum of Agreement) and appropriate Federal, State and local resource agencies and State and local water quality agencies. Where the preferred alternative requires an individual Section 404 or Section 10 permit, the final EIS

Appendix E

EXAMPLE GUIDELINES FOR A 1424(e) GROUNDWATER IMPACT ASSESSMENT

Developed by
EPA Region 5

Example Guidelines for a 1424(e)
Ground Water Impact Assessment

Ground water impact assessments (GWIA) are not required under 1424(e), but are an integral part of the responsibilities imposed on federal agencies under the National Environmental Impact Statement (EIS) with a groundwater assessment or a separate GWIA to every potentially significant project.

I. Description of the proposed project

Show the location (map), delineation of project site, type of construction, materials used in construction, influent to and effluent from product storage areas, earth moving (including removal of soils, emplacement of fill and rearrangement of surface drainage), operation and maintenance procedures. Also appropriate detailed plans and specifications.

II. Delineation of geographic sphere of influence

Delineate the geographic sphere of influence of the proposed project and the reasons for the selection of those boundaries. Use USGS topographic or similar map(s) of appropriate scale; overlay associated land use, population density, public water and sewer service areas, wells, discharge basins; table of population and projected population.

III. Data on ground water characteristics in the sphere of influence

a) Map the elevation of water table, specify date. The map should be at a reasonable scale and show the location of observation wells for construction of the map. A table of well depths should accompany the map.

b) Describe the surficial and bedrock geology of the area.

c) Estimate the hydraulic conductivity or permeability, thickness, and other hydrogeologic characteristics for each drinking water aquifer and confining bed.

c) Show source of water in each aquifer, the location of the recharge to the aquifers underlying the project site with the estimated annual recharge. For example, precipitation on outcrop areas, flow from other aquifer or artificial recharge.

d) Show interconnection of ground and surface waters. For example, rivers, streams and lakes either discharge to, or are augmented by ground water surrounding them.

e) Describe ground water flow, show direction of the natural (non-pumping) movement of ground water without any external

influences. If there are any major pumping wells, show the influence or potential influence on the regional system.

f) Sample ground water using one of the following options, as appropriate:

1) Test for contaminants listed in the National Primary Drinking Water Regulation, and as appropriate, other contaminants which may have an adverse health or esthetics effect (to be determined on a case by case basis by local health/environmental agency and EPA). Sampling and analytical techniques are referenced in the "National Primary Drinking Water Regulations", 40 CFR Part 141, Subpart C.

2) Test for all of the above plus ammonia, chloride, carbonates, bicarbonates, sulfate, magnesium, sodium, calcium, potassium, total trihalomethanes, purgeable organic scan (including benzene, carbon tetrachloride, chlorobenzene, 1,2, dichloroethane, 1,1,1 trichloroethane, 1,1, dichloroethane, 1,1,2 trichloromethane, 1,1,2,2 tetrachloroethane, chloromethane, bis (chloromethyl) ether 2-chloroethyl vinyl ether, chloroform, 1,1 dichloroethylene 1,2 trans-dichloroethylene, 1,2 dichloropropylene, ethylbenzene, methylene chloride, methyl chloride, 1,2 dichloropropane, methyl bromide, bromoform, dichlorobromomethane, trichlorofluoromethane, dichlorodifluoromethane, chlorodibromomethane, tetrachloroethylene, toluene, trichloroethylene, vinyl chloride). Sampling and analytical techniques are referenced in 40 CFR Part 141, Subpart C

3) Test for all of the above plus all other priority pollutants.

IV. Descriptions of project impacts to the ground water

a) Discuss all impacts due to direct (construction) or indirect (induced) changes in groundwater chemistry including but not limited to salt-water intrusion, road salt, septic tank effluent, recharge basin effluent, fertilizers, leakage from effluent and product storage areas, leachates, and the handling and disposal of all residuals.

b) Discuss all impacts due to direct or indirect changes in groundwater biology including but not limited to leachates from septic tanks and all possible sources of pathological bacteria, viruses and protozoa.

c) Discuss all impacts due to direct or indirect changes in groundwater storage including all changes in water levels

resulting from an increase or decrease in recharge or storage.

d) Discuss all impacts due to direct or indirect changes in ground water flow including but not limited to flow from one aquifer to another, flow from river to aquifer or from aquifer to river, change in ground water gradient, breaks in confining beds during construction, "piping' of flows due to trenching.

V. Description of Mitigative Measures

If an impact is identified as serious, describe measures which will be taken to mitigate impact, including any project changes, site or design alternatives.

Appendix F

**FHWA/EPA Regional
Memorandum of understanding (MOU)
or other State/Regional procedure
for considering impacts of highway
projects on sole or principal source
aquifers**

**(This appendix will be added at
the FHWA Regional Office.)**

Appendix G

40 CFR 149

Subpart A

Criteria for Identifying Critical
Aquifer Protection Areas

Subpart B

Review of Projects Affecting the Edwards
Underground Reservoir, A Designated
Sole Source Aquifer in the San Antonio, Texas Area

published in the Federal Register on
6-26-87

ENVIRONMENTAL PROTECTION AGENCY REGULATIONS ON SOLE SOURCE AQUIFERS

(40 CFR 149; 42 FR 51574, September 29, 1977; Effective November 15, 1977; Revised by 52 FR 23986, June 26, 1987; Amended by 54 FR 6843, February 14, 1989)

PART 149—SOLE SOURCE AQUIFERS

Subpart A — Criteria for Identifying Critical Aquifer Protection Areas

Sec.

Subpart B — Review of Projects Affecting the Edwards Underground Reservoir, A Designated Sole Source Aquifer in the San Antonio, Texas Area

Review of Projects Affecting the Edwards Underground Reservoir, A Designated Sole Source Aquifer in the San Antonio, Texas Areas

Authority: Sec. 1424(e), Safe Drinking Water Act (42 U.S.C. 300h-3(e); sec. 1427 of the Safe Drinking Water Act, 42 U.S.C. 300h-6.

[Amended by 52 FR 23986, June 26, 1987]

Subpart A — Criteria for Identifying Critical Aquifer Protection Areas

[New Subpart A added by 52 FR 23986, June 26, 1987]

§149.1 Purpose.

The purpose of this subpart is to provide criteria for identifying critical aquifer protection areas, pursuant to section 1427 of the Safe Drinking Water Act (SDWA).

§ 149.2 Definitions.

[149.2 revised by 54 FR 6843, February 14, 1989]

(a) *Aquifer* means a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

(b) *Recharge* means a process, natural or artificial, by which water is added to the saturated zone of an aquifer.

(c) *Recharge Area* means an area in which water reaches the zone of saturation (ground water) by surface infiltration; in addition, a "*major recharge area*" is an area where a major part of the recharge to an aquifer occurs.

(d) *Sole or Principal Source Aquifer* (SSA) means an aquifer which is designated as an SSA under section 1424(e) of the SDWA.

§ 149.3 Critical Aquifer Protection Areas.

[149.3 revised by 54 FR 6843, February 14, 1989]

A Critical Aquifer Protection Area is either:

(a) All or part of an area which was designated as a sole or principal source aquifer prior to June 19, 1986, and for which an areawide ground-water quality protection plan was approved, under section 208 of the Clean Water Act, prior to that date; or

(b) All or part of a major recharge area of a sole or principal source aquifer, designated before June 19, 1986, for which:

(1) The sole or principal source aquifer is particularly vulnerable to contamination due to the hydrogeologic characteristics of the unsaturated or saturated zone within the suggested critical aquifer protection area; and

(2) Contamination of the sole or principal source aquifer is reasonably likely to occur, unless a program to reduce or prevent such contamination is implemented; and

(3) In the absence of any program to reduce or prevent contamination, reasonably foreseeable contamination would result in significant cost, taking into account:

(i) The cost of replacing the drinking water supply from the sole or principal source aquifer, and

(ii) Other economic costs and environmental and social costs resulting from such contamination.

Subpart B — Review of Projects Affecting the Edwards Underground

Reservoir, A Designated Sole Source Aquifer in the San Antonio, Texas Area

[Former 149.1 — .19 redesignated as 149.100 — 111 by 52 FR 23986, June 26, 1987]

§149.100 Applicability.

This subpart sets forth, pursuant to sections 1424(e) and 1450 of the Public Health Service Act, as amended by the Safe Drinking Water Act, Pub. L. 93-523, regulations relating the Edwards Underground Reservoir which is the sole or principal drinking water source for the San Antonio area and which, if contaminated, would create a significant hazard to public health.

§149.101 Definitions.

As used in this subpart and except as otherwise specifically provided, the term(s):

(a) "Act" means the Public Health Service Act, as amended by the Safe Drinking Water Act, Pub. L. 93-523.

(b) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

(c) "Recharge zone" means the area through which water enters the Edwards Underground Reservoir as defined in the December 16, 1975, Notice of Determination.

(d) "Administrator" (Regional Administrator) means the Administrator (Regional Administrator) of the United States Environmental Protection Agency.

(e) "Person" means an individual, corporation, company, association, partnership, State, or municipality.

(f) "Project" means a program or action for which an application for Federal financial assistance has been made.

(g) "Federal financial assistance" means any financial benefits provided directly as aid to a project by a department, agency, or instrumentality of the Federal government in any form including contracts, grants, and loan guarantees. Actions or programs carried out by the Federal government itself such as dredging performed by the Army Corps of Engineers do not involve Federal financial assistance. Actions performed for the Federal government by contractors, such as construction of roads on Federal lands by a contractor under the supervision of the Bureau of Land Management, should be distinguished from contracts entered into specifically for the purpose of providing financial assistance, and will not be considered programs or actions receiving Federal financial assistance. Federal financial assistance is limited to benefits earmarked for a specific program or action and directly awarded to the program or action. Indirect assistance, e.g., in the form of a loan to a developer by a lending institution which in turn receives Federal assistance not specifically related to the project in question is not Federal financial assistance under section 1424(e).

(h) "Commitment of Federal financial assistance" means a written agreement entered into by a department, agency, or instrumentality of the Federal Government to provide financial assistance as defined in paragraph (g) of this section. Renewal of a commitment which the issuing agency determines has lapsed shall not constitute a new commitment unless the Regional Administrator determines that the project's impact on the aquifer has not been previously reviewed under section 1424(e). The determination of a Federal agency that a certain written agreement constitutes a commitment shall be conclusive with respect to the existence of such a commitment.

(i) "Streamflow source zone" means the upstream headwaters area which drains into the recharge zone as defined in the December 16, 1975, Notice of Determination.

(j) "Significant hazard to public health" means any level of contaminant which causes or may cause the aquifer to exceed any maximum contaminant level set forth in any promulgated National Primary Drinking Water Standard at any point where the water may be used for drinking purposes or which may otherwise adversely affect the health of persons, or which may require a public water system to install additional treatment to prevent such adverse effect.

(k) "Aquifer" means the Edwards Underground Reservoir.

§149.102 Project review authority.

(a) Once an area is designated, no subsequent commitments of Federal financial assistance may be made to projects which the Administrator determines may contaminate the aquifer so as to create a significant hazard to public health.

(b) The Regional Administrator is hereby delegated the authority and assigned responsibility for carrying out the project review process assigned to the Administrator under section 1424(e) of the Act, except the final determination that a project may contaminate the aquifer through its recharge zone so as to create a significant hazard to public health.

(c) The Regional Administrator may review any project which he considers may potentially contaminate the aquifer through its recharge zone so as to create a significant hazard to public health.

§149.103 Public information.

After the area is designated under section 1424(e), Federal agencies, for projects, located in the recharge zone and streamflow source zones, are required to:

(a) Maintain a list of projects for which environmental impact statements will be prepared in accordance with the National Environmental Policy Act (NEPA);

(b) Revise the list at regular intervals and submit to EPA; and

(c) Make the list available to the public upon request.

§149.104 Submission of petitions.

Any person may submit a petition requesting the Regional Administrator to review a project to determine if such project may contaminate the aquifer through its recharge zone so as to create a significant hazard to public health. Any such petition shall identify:

(a) The name, address, and telephone number of the individual, organization, or other entity submitting the petition;

(b) A brief statement of the requesting person's interest in the Regional Administrator's determination;

(c) The name of the project and Federal agency involved;

In addition, the petitioner is requested to submit to EPA available information on:

(d) Applicable action already taken by State and local agencies including establishment of regulations to prevent contamination of the aquifer and why, in the petitioner's judgment, the action was inadequate.

(e) Any actions taken under the National Environmental Policy Act and why, in the petitioner's judgment, that action was inadequate in regard to evaluation of potential effect on the aquifer.

(f) The potential contaminants involved;

(g) The means by which the contaminant might enter the aquifer; and

(h) The potential impact of the proposed project.

§149.105 Decision to review.

(a) The Regional Administrator shall review under section 1424(e) all projects located in the recharge or streamflow source zone of the aquifer for which a draft or final EIS is submitted which may have an impact on ground water quality and which involve Federal financial assistance as defined in these regulations.

(b) Upon receipt of a public petition, the Regional Administrator shall decide whether the project which is the subject of the petition should be reviewed under section 1424(e).

(c) The Regional Administrator may decide to review a project upon his own motion.

(d) In determining whether to review a project upon receipt of a public petition or upon his own motion, the Regional Administrator shall consider whether the project is likely to directly or indirectly cause contamination of the aquifer through its recharge zone, taking into account any factors he deems relevant, including

(1) The location of the project, and

(2) The nature of the project.

(e) In determining whether to review a project upon receipt of a public petition or upon his own motion, the Regional Administrator may consult with, or request information from, the Federal agency to which the project application has been made, the applicant seeking Federal assistance, appropriate State and local agencies, and other appropriate persons or entities.

(f) In determining whether to review a project which is the subject of a public petition, the Regional Administrator may request such additional information from the petitioner as he deems necessary.

§149.106 *Notice of review.*

(a) *Notice to Federal agency.* If the Regional Administrator decides upon receipt of a public petition or upon his own motion to review a project under section 1424(e), he shall give written notification of the decision to the Federal agency from which financial assistance is sought. The notification shall include a description and identification of the project.

(b) *Notice to public.* When the Regional Administrator undertakes to review a project pursuant to § 149.13 above, he shall provide public notice of project review by such means as he deems appropriate. The notice shall set forth the availability for public review of all data and information available, and shall solicit comments, data and information with respect to the determination of impact under section 1424(e). The period for public comment shall be 30 days after public notice unless the Regional Administrator extends the period at his discretion or a public hearing is held under § 149.16.

§149.107 Request for information.

In reviewing a project under section 1424(e), the Regional Administrator may request any additional information from the funding Federal agency which is pertinent to reaching a decision. If full evaluation of the groundwater impact of a project has not been submitted in accordance with the agency's NEPA procedures, the Regional Administrator may specifically request that the Federal agency submit a groundwater impact evaluation of whether the proposed project may contaminate the aquifer through its recharge zone so as to create a significant hazard to public health.

§149.108 Public hearing.

If there is significant public interest, the Regional Administrator may hold a public hearing with respect to any project or projects to be reviewed if he finds that such a hearing is necessary and would be helpful in clarifying the issues. Public hearings held under this section should be coordinated, if possible, with other Federal public hearings held pursuant to applicable laws and regulations. Any such hearing shall be conducted by the Regional Administrator or designee in an informal, orderly and expeditious manner. Where appropriate, limits may be placed upon the time allowed for oral statements, and statements may be required to be submitted in writing. The record will be held open for further public comment for seven (7) days following the close of the public hearing.

§149.109 Decision under section 1424(e).

(a) As soon as practicable after the submission of public comments under section 1424(e) and information requested by the Environmental Protection Agency from the originating Federal agency, on the basis of such information as is available to him, the Regional Administrator shall review the project taking all relevant factors into account including:

(1) The extent of possible public health hazard presented by the project;

(2) Planning, design, construction, operation, maintenance and monitoring measures included in the project which would prevent or mitigate the possible health hazard;

(3) The extent and effectiveness of State or local control over possible contaminant releases to the aquifer;

(4) The cumulative and secondary impacts of the proposed project; and

(5) The expected environmental benefits of the proposed project.

(b) After reviewing the available information, the Regional Administrator shall:

(1) Determine that the risk of contamination of the aquifer through the recharge zone so as to create a significant hazard to public health is not sufficiently great so as to prevent commitment of Federal funding to the project; or

(2) Forward the information to the Administrator with his recommendation that the project may contaminate the aquifer through the recharge zone so as to create a significant hazard to public health.

(c) After receiving the available information forwarded by the Regional Administrator, the Administrator shall:

(1) Determine that the risk of contamination of the aquifer through the recharge zone so as to create a significant hazard to public health is not sufficiently great so as to prevent commitment of Federal funding to the project; or

(2) Determine that the project may contaminate the aquifer through the recharge zone so as to create a significant hazard to public health.

(d) Notice of any decisions by the Regional Administrator under paragraph (b)(1) of this section or by the Administrator under paragraphs (c)(1) and (c)(2) of this section to prevent a commitment of Federal funding shall be published in the FEDERAL REGISTER. Such notices shall include a description of the propsed project, and a

statement of decision with an accompanying statement of facts and reasons.

§149.110 Resubmittal of redesigned projects.

If a project is redesigned in response to EPA's objections, the applicant for Federal financial assistance or the grantor agency may file a petition with the Regional Administrator for withdrawal of the determination that the project may contaminate the aquifer through the recharge zone so as to create a significant hazard to public health. Any such petition shall demonstrate how the project has been redesigned so as to justify the withdrawal of EPA's objections. If appropriate, the Regional Administrator may request public comments or hold an informal public hearing to consider the petition. After review of pertinent information, the Regional Administrator shall either deny the petition or recommend to the Administrator that the initial determination that a project may contaminate the aquifer be vacated. Upon receipt of a recommendation from the Regional Administrator that a determination be vacated, the Administrator shall either deny the petition or order that the initial determination be vacated. The final decision regarding a petition shall be published in the FEDERAL REGISTER with an accompanying statement of reasons.

§149.111 Funding to redesigned projects.

After publication of a decision that a proposed project may contaminate a sole or principal source aquifer in a designated area through its recharge zone so as to create a significant hazard to public health, a commitment for Federal financial assistance may be entered into, if authorized under another provision of law, to plan or redesign such project to assure that it will not so contaminate the aquifer.

Appendix H

EPA FACT SHEET

Ground Water Provisions of the SDWA Amendments of 1986

FACT SHEET

GROUND-WATER PROVISIONS OF THE SDWA AMENDMENTS OF 1986

Published by the United States Environmental Protection Agency
Office of Ground-Water Protection

June 1986

INTRODUCTION

The Safe Drinking Water Act (SDWA) was enacted in 1974 to ensure safe drinking water supplies, protect valuable aquifers, and to protect drinking water from contamination by the underground injection of fluids. SDWA requires the Environmental Protection Agency (EPA) to promulgate a series of drinking water standards to protect public health and welfare and to establish procedures for State implementation of these standards. In addition, SDWA authorizes EPA to designate an area as having an aquifer which is the sole source of that area's water supply and which would create a significant hazard to public health if contaminated. Once an area is so designated, no Federal assistance may be provided for any project in the area which EPA determines may contaminate the aquifer.

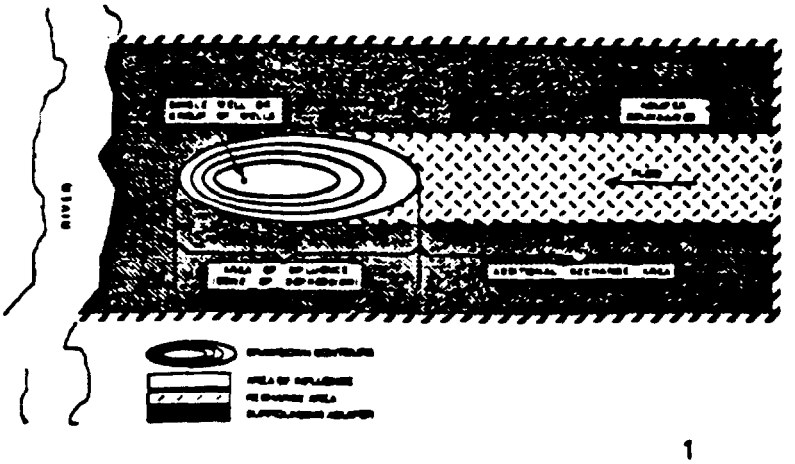
The SDWA Amendments of 1986 strengthen the provisions for protection of underground sources of drinking water and support State ground-water quality management initiatives by outlining restrictions on underground injection of hazardous waste and regulation of State underground injection control (UIC) programs, establishing a sole source aquifer demonstration program, and establishing State programs to develop wellhead protection areas. This fact sheet focuses on the ground-water management components of the Amendments. These components are administered by the Office of Ground-Water Protection. Fact sheets on implementation of these provisions will follow. EPA is required to provide rules and guidelines for implementation of this program within one year of enactment, June 1987.

WELLHEAD PROTECTION (WHP) AREAS

The term "wellhead protection area" is defined in the Safe Drinking Water Act (SDWA) Amendments of 1986 to be the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield. The precise delineation of the area is not specified in the law, but is a site-specific determination. The actual extent of the wellhead protection area, within a State, necessary to protect from contaminants which may affect public health, is determined by the individual State. EPA is required to issue technical guidance which States may use in determining the extent of the WHP area. This guidance may consider factors such as radius of influence around a well or wellfield, the depth of drawdown of the water table by such well or wellfield at any given point, the time and rate of travel of various contaminants in various hydrologic conditions, and distance from the well or wellfield.

Terminology used to describe wellhead protection areas are exhibited in the diagram. In general, a wellhead protection area represents a portion of an aquifer, which includes all or part of the area of influence around a pumping well and sometimes, portions of upgradient recharge areas or portions of the surrounding aquifer.

TERMINOLOGY FOR WELLHEAD PROTECTION AREAS



The area of influence is the area surrounding a pumping or recharging well within which the potentiometric surface has been changed. The cone of depression is the shape of the area of influence in cross section. The recharge area is that permeable layer through which precipitation and surface water may percolate to the aquifer and eventually reach the well. It is important to remember that the Amendments allow considerable flexibility to the States in defining which portion of this theoretical model would apply in specific cases.

Some States and localities have defined wellhead protection areas to be only hundreds or a few thousand feet from the well. Other States have defined them to be a mile or several miles from the well. Wellhead protection areas are fairly common in such Western European countries as Germany, Switzerland and the Netherlands and are being used in parts of the United States such as Dade County, Florida.

ESTABLISHMENT OF WELLHEAD PROTECTION AREAS (SDWA Section 1428)

Within three years of enactment of the SDWA Amendments of 1986, each State must submit to the EPA Administrator a program to protect wellhead areas within their jurisdiction from contaminants which may have an adverse affect on public health.

Components of a Wellhead Protection Program

Each State wellhead protection program must at a minimum:

- Specify the duties of State and local agencies and public water systems in developing and implementing the program
- Determine the extent of the wellhead protection area
- Determine all potential anthropogenic sources of contaminants which may have an adverse effect on public health
- Describe procedures to protect the water supply from such contaminants within the wellhead protection area
- Include contingency plans for the provision of alternate drinking water supplies for each public water system in the event of well or wellfield contamination
- Require all potential sources of contamination within the wellhead protection area of new wells in the public water supply be considered prior to construction.

The State also must encourage public participation in the development of the wellhead protection program.

Within one year of enactment of the SDWA Amendments of 1986, EPA is required to issue technical guidance which the States may use in determining the extent of a wellhead protection area necessary to protect an area from contaminants which may have an adverse impact on public health.

Approval of State Wellhead Protection Plans

The EPA Administrator may disapprove all or any portion of a wellhead protection program that is judged inadequate to protect public water systems. If the program is disapproved, the Administrator must send the Governor a written statement outlining the reasons for disapproval. The State may then modify the program based upon the Administrator's recommendations and resubmit the plan within 6 months of receipt of disapproval.

States are encouraged to initiate implementation of the wellhead protection program within 2 years of submittal to the EPA Administrator. A biennial status report on progress in implementing the program should be completed by each State and submitted to the EPA Administrator.

Federal Assistance

Once a State wellhead protection plan has been approved, the EPA Administrator may make a grant to the State to cover not less than 50 percent or more than 90 percent of the costs for developing and implementing the State plan. This funding authorization is limited to $20 million each fiscal year, FY87-FY88, and $35 million each fiscal year, FY89-FY91.

Role of Other Federal Agencies

All Federal agencies are subject to and must comply with approved State wellhead protection plans. The President, however, can exempt a potential source of contamination if it is the interest of the United States. The SDWA Amendments do not give the Federal Government any authority over water allocation.

Special Brine Provision

States that have more than 2,500 active wells using annular injection as of January 1, 1986, must include in their wellhead program protection from annular injection or surface disposal of brines associated with oil and gas production. Wellhead protection programs may be disapproved if the State does not include or enforce the brine provision.

SOLE SOURCE AQUIFER (SSA) DEMONSTRATION PROGRAM (SDWA Section 1427)

The purpose of the SSA Demonstration Program is to establish demonstration programs for critical aquifer protection areas (CAPAs) within designated sole or principal source (SSA) aquifers. Within one year of enactment of the SDWA Amendments, EPA is required to issue a rule outlining criteria f

identifying CAPAs that will consider aquifer vulnerability, population ing ground water for drinking oses and the economic, social, d environmental benefits and costs of ground-water protection. Protection of critical aquifers will occur through the development and implementation of a comprehensive management plan which will ensure maintenance of ground-water quality for protection of human health, environment and ground water.

All or part of an aquifer must be a designated SSA and meet CAPA criteria to be included within the demonstration program, as discussed on page 4. The aquifer could be an existing designated SSA or be designated within 24 months of enactment. In addition, all or part of an already designated SSA for which an approved Clean Water Act 208 plan exists can be included within the demonstration program.

Application Process

Any State, municipal or local rnment, or other political subsion or any other planning entity ith jurisdiction over an identified critical protection area may apply for the demonstration program. All applicants other than the Governor of a State must apply jointly with the Governor. An application for the SSA Demonstration Program must include the following components:

- Proposed boundaries for the CAPA
- Designation of the planning entity responsible for developing the comprehensive management plan
- Procedures for public participation
- Procedures for providing assistance to municipalities and other public entities in implementing the plan

Assessment of hydrogeology of urface and ground-water esources within the CAPA

- Comprehensive management plan for proposed protection area.

The application also should include a schedule and next steps for implementation of the management plan.

The Comprehensive Management Plan

The objective of the management plan for the critical aquifer protection area (CAPA) is to maintain the quality of the ground water to protect human health, the environment and the ground-water resources. The management plan must include:

- A map outlining the boundaries of the CAPA
- Existing and potential point and non-point sources of ground-water degradation
- Assessment of the impacts of land use on ground-water quality
- Proposed actions and management practices to prevent adverse impacts on ground-water quality
- Identification of entity responsible for implementing the plan
- Estimate of cost and sources of matching funds.

In addition to these mandatory components, CAPA management plans may include such optional components as:

- Quality of existing ground water recharged through the area
- Requirements to maintain existing or improve ground-water quality if conditions fail to meet drinking water standards
- Limits on government financial assistance for activities which may degrade ground-water quality or contribute to loss of natural infiltration and purification of CAPA watershed
- Comprehensive statement of land use management
- Actions in protection area to avoid adverse impacts on water quality and recharge capabilities
- Specific techniques to achieve objectives of management plan
- State institution to facilitate and assist funding a development transfer credit system
- Program for State and local implementation of plan
- Pollution abatement measures, if appropriate.

Any plan approved prior to enactment of the SDWA Amendment of 1986 under section 208 of the Clean Water Act for protection of designated SSAs qualifies as a comprehensive management plan. In developing the comprehensive management plan, the planning entity must consult with appropriate officials with jurisdiction over lands and waters within the CAPA and other concerned organizations and citizen or technical advisory committees. In addition, public hearings on the plan must be held within the CAPA.

Approval of a Demonstration Program

The EPA Administrator has 120 days to approve or disapprove an application for an SSA Demonstration Program. If the application is not approved, the Administrator must send the Governor of the State a written explanation of the disapproval. An applicant may then modify and resubmit an application for consideration.

Federal Financial Assistance

Subsequent to approving a demonstration program, the Administrator *may* decide to award the

applicant 50 percent for implementation and up to 50 percent for development of a management plan, through a cooperative agreement. These matching funds may not exceed $4 million per aquifer in any one fiscal year. Further, matching funds may not be used for the cost of developing the original 208 plan for SSA protection but may be used to update or implement that plan.

Report to Congress

An EPA report summarizing and assessing accomplishments of the Sole Source Aquifer Demonstration Program is due to Congress by September 30, 1990. This report should incorporate information the States must submit to EPA by December 31, 1989 and assess the accomplishments of the program including an identification of protection methods found to be most effective and recommendations for their application to protect ground-water resources from contamination.

SOLE SOURCE AQUIFER DESIGNATION PROCESS (SDWA Section 1424(e))

An aquifer must be a designated sole source aquifer to be eligible for the Sole Source Aquifer Demonstration Program. The Sole Source Aquifer program was established under section 1424(e) of the SDWA to prevent Federal financially assisted projects from causing contamination to those aquifers which are the sole or principal source of drinking water for an area. The Administrator of EPA may designate an aquifer as sole source or any person may petition EPA for designation.

Once an aquifer has been designated a sole source or principal source aquifer (SSA), EPA may review the plans for any project in the SSA area which could potentially contaminate the aquifer. If the Administrator determines that a significant threat to public health would result from contamination of the SSA resulting from a project, Federal financial assistance for that project could be denied.

The Designation Process

The designation process currently begins with a formal submittal of a designation petition. EPA acknowledges acceptance of a completed petition with a notification in the *Federal Register*. This notification establishes the public comment period on the petition, announces any public hearings and initiates the time clock for review of the petition.

Following the *Federal Register* notification, the EPA Regional office collects and reviews the available information on the aquifer and conducts a public comment period and hearing on its designation. A decision on designation is then made and published in the *Federal Register*.

GLOSSARY OF KEY TERMS

The purpose of this glossary is to aid the reader in understanding key terms associated with the new ground-water protection provisions of the SDWA Amendments of 1986. This glossary does not attempt to provide regulatory definitions for these terms.

Clean Water Act 208 Plan: An areawide waste treatment management plan which identifies alternatives for municipal and industrial water treatment, waste water collection and urban stormwater runoff systems, treatment facility construction priorities, plan implementation measures and responsible entities, sources of pollution, and process to control disposal of pollutants in the area to protect ground-water and surface water quality.

Comprehensive Management Plan: A plan to maintain the ground-water quality in the proposed sole source critical aquifer protection area (CAPA) that is adequate to protect human health, environment and ground water and the natural vegetative and hydrogeologic conditions of the area.

Critical Aquifer Protection Area (CAPA): All or part of an area located within an area for which an application or designation as a sole or principal source aquifer has been submitted and approved by the Administrator prior to or not later than 24 months after the date of enactment of SDWA Amendments of 1986 and which satisfies the criteria established by the Administrator; or all or part of an area which is within an aquifer designated as a sole source aquifer as of the date of enactment of SDWA Amendments of 1986 and for which an approved areawide ground-water quality protection plan under section 208 of the Clean Water Act exists prior to the enactment of the SDWA Amendments.

Sole Source Aquifer: An aquifer which provides 50 percent or more of the drinking water for an area and which, if contaminated, would create a significant hazard to public health.

Wellhead Protection Area: The surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield.

For Further Information Contact:

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