

(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.

(July 1, 1944, ch. 373, title XIV, §1411, as added Pub. L. 93-523, §2(a), Dec. 16, 1974, 88 Stat. 1662.)

§ 300g-1. National drinking water regulations

(a) National primary drinking water regulations; maximum contaminant level goals; simultaneous publication of regulations and goals

(1) Effective on June 19, 1986, each national interim or revised primary drinking water regulation promulgated under this section before June 19, 1986, 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 June 19, 1986.

(2) After June 19, 1986, each recommended maximum contaminant level published before June 19, 1986, shall be treated as a maximum contaminant level goal.

(3) Whenever a national primary drinking water regulation is proposed under 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 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 June 19, 1986.

(b) Standards

(1) IDENTIFICATION OF CONTAMINANTS FOR LISTING.—

(A) GENERAL AUTHORITY.—The Administrator shall, in accordance with the procedures established by this subsection, publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for a contaminant (other than a contaminant referred to in paragraph (2) for which a national primary drinking water regulation has been promulgated as of August 6, 1996) if the Administrator determines that—

(i) the contaminant may have an adverse effect on the health of persons;

(ii) the contaminant is known to occur or there is a substantial likelihood that the contaminant will occur in public water systems with a frequency and at levels of public health concern; and

(iii) in the sole judgment of the Administrator, regulation of such contaminant presents a meaningful opportunity for health risk reduction for persons served by public water systems.

(B) REGULATION OF UNREGULATED CONTAMINANTS.—

(i) LISTING OF CONTAMINANTS FOR CONSIDERATION.—(I) Not later than 18 months after August 6, 1996, and every 5 years thereafter, the Administrator, after consultation with the scientific community, including the Science Advisory Board, after notice and opportunity for public comment, and after considering the occurrence data base established under section 300j-4(g) of this title, shall publish a list of contaminants which, at the time of publication, are not subject to any proposed or promulgated national primary drinking water regulation, which are known or anticipated to occur in public water systems, and which may require regulation under this subchapter.

(II) The unregulated contaminants considered under subclause (I) shall include, but not be limited to, substances referred to in section 9601(14) of this title, and substances registered as pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act [7 U.S.C. 136 et seq.].

(III) The Administrator's decision whether or not to select an unregulated contaminant for a list under this clause shall not be subject to judicial review.

(ii) DETERMINATION TO REGULATE.—(I) Not later than 5 years after August 6, 1996, and every 5 years thereafter, the Administrator shall, after notice of the preliminary determination and opportunity for public comment, for not fewer than 5 contaminants included on the list published under clause (i), make determinations of whether or not to regulate such contaminants.

(II) A determination to regulate a contaminant shall be based on findings that the criteria of clauses (i), (ii), and (iii) of subparagraph (A) are satisfied. Such findings shall be based on the best available public health information, including the occurrence data base established under section 300j-4(g) of this title.

(III) The Administrator may make a determination to regulate a contaminant that does not appear on a list under clause (i) if the determination to regulate is made pursuant to subclause (II).

(IV) A determination under this clause not to regulate a contaminant shall be considered final agency action and subject to judicial review.

(iii) REVIEW.—Each document setting forth the determination for a contaminant under clause (ii) shall be available for public comment at such time as the determination is published.

(C) PRIORITIES.—In selecting unregulated contaminants for consideration under subparagraph (B), the Administrator shall select contaminants that present the greatest public health concern. The Administrator, in making such selection, shall take into consideration, among other factors of public health concern, the effect of such contaminants upon subgroups that comprise a meaningful portion of the general population (such as infants, children, pregnant women, the elderly, individuals with a history of serious illness, or other subpopulations) that are identifiable as being at

greater risk of adverse health effects due to exposure to contaminants in drinking water than the general population.

(D) URGENT THREATS TO PUBLIC HEALTH.—The Administrator may promulgate an interim national primary drinking water regulation for a contaminant without making a determination for the contaminant under paragraph (4)(C), or completing the analysis under paragraph (3)(C), to address an urgent threat to public health as determined by the Administrator after consultation with and written response to any comments provided by the Secretary of Health and Human Services, acting through the director of the Centers for Disease Control and Prevention or the director of the National Institutes of Health. A determination for any contaminant in accordance with paragraph (4)(C) subject to an interim regulation under this subparagraph shall be issued, and a completed analysis meeting the requirements of paragraph (3)(C) shall be published, not later than 3 years after the date on which the regulation is promulgated and the regulation shall be repromulgated, or revised if appropriate, not later than 5 years after that date.

(E) REGULATION.—For each contaminant that the Administrator determines to regulate under subparagraph (B), the Administrator shall publish maximum contaminant level goals and promulgate, by rule, national primary drinking water regulations under this subsection. The Administrator shall propose the maximum contaminant level goal and national primary drinking water regulation for a contaminant not later than 24 months after the determination to regulate under subparagraph (B), and may publish such proposed regulation concurrent with the determination to regulate. The Administrator shall publish a maximum contaminant level goal and promulgate a national primary drinking water regulation within 18 months after the proposal thereof. The Administrator, by notice in the Federal Register, may extend the deadline for such promulgation for up to 9 months.

(F) HEALTH ADVISORIES AND OTHER ACTIONS.—The Administrator may publish health advisories (which are not regulations) or take other appropriate actions for contaminants not subject to any national primary drinking water regulation.

(2) SCHEDULES AND DEADLINES.—

(A) IN GENERAL.—In the case of the 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—

- (i) not later than 1 year after June 19, 1986, for not fewer than 9 of the listed contaminants;
- (ii) not later than 2 years after June 19, 1986, for not fewer than 40 of the listed contaminants; and
- (iii) not later than 3 years after June 19, 1986, for the remainder of the listed contaminants.

(B) SUBSTITUTION OF CONTAMINANTS.—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 subparagraph (A)) than a contaminant referred to in subparagraph (A), the Administrator may publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for the identified contaminant in lieu of regulating the contaminant referred to in subparagraph (A). Substitutions may be made for not more than 7 contaminants referred to in subparagraph (A). Regulation of a contaminant identified under this subparagraph shall be in accordance with the schedule applicable to the contaminant for which the substitution is made.

(C) DISINFECTANTS AND DISINFECTION BYPRODUCTS.—The Administrator shall promulgate an Interim Enhanced Surface Water Treatment Rule, a Final Enhanced Surface Water Treatment Rule, a Stage I Disinfectants and Disinfection Byproducts Rule, and a Stage II Disinfectants and Disinfection Byproducts Rule in accordance with the schedule published in volume 59, Federal Register, page 6361 (February 10, 1994), in table III.13 of the proposed Information Collection Rule. If a delay occurs with respect to the promulgation of any rule in the schedule referred to in this subparagraph, all subsequent rules shall be completed as expeditiously as practicable but no later than a revised date that reflects the interval or intervals for the rules in the schedule.

(3) RISK ASSESSMENT, MANAGEMENT, AND COMMUNICATION.—

(A) USE OF SCIENCE IN DECISIONMAKING.—In carrying out this section, and, to the degree that an Agency action is based on science, the Administrator shall use—

- (i) the best available, peer-reviewed science and supporting studies conducted in accordance with sound and objective scientific practices; and
- (ii) data collected by accepted methods or best available methods (if the reliability of the method and the nature of the decision justifies use of the data).

(B) PUBLIC INFORMATION.—In carrying out this section, the Administrator shall ensure that the presentation of information on public health effects is comprehensive, informative, and understandable. The Administrator shall, in a document made available to the public in support of a regulation promulgated under this section, specify, to the extent practicable—

- (i) each population addressed by any estimate of public health effects;
- (ii) the expected risk or central estimate of risk for the specific populations;
- (iii) each appropriate upper-bound or lower-bound estimate of risk;
- (iv) each significant uncertainty identified in the process of the assessment of public health effects and studies that would assist in resolving the uncertainty; and
- (v) peer-reviewed studies known to the Administrator that support, are directly rel-

evant to, or fail to support any estimate of public health effects and the methodology used to reconcile inconsistencies in the scientific data.

(C) HEALTH RISK REDUCTION AND COST ANALYSIS.—

(i) MAXIMUM CONTAMINANT LEVELS.—When proposing any national primary drinking water regulation that includes a maximum contaminant level, the Administrator shall, with respect to a maximum contaminant level that is being considered in accordance with paragraph (4) and each alternative maximum contaminant level that is being considered pursuant to paragraph (5) or (6)(A), publish, seek public comment on, and use for the purposes of paragraphs (4), (5), and (6) an analysis of each of the following:

(I) Quantifiable and nonquantifiable health risk reduction benefits for which there is a factual basis in the rulemaking record to conclude that such benefits are likely to occur as the result of treatment to comply with each level.

(II) Quantifiable and nonquantifiable health risk reduction benefits for which there is a factual basis in the rulemaking record to conclude that such benefits are likely to occur from reductions in co-occurring contaminants that may be attributed solely to compliance with the maximum contaminant level, excluding benefits resulting from compliance with other proposed or promulgated regulations.

(III) Quantifiable and nonquantifiable costs for which there is a factual basis in the rulemaking record to conclude that such costs are likely to occur solely as a result of compliance with the maximum contaminant level, including monitoring, treatment, and other costs and excluding costs resulting from compliance with other proposed or promulgated regulations.

(IV) The incremental costs and benefits associated with each alternative maximum contaminant level considered.

(V) The effects of the contaminant on the general population and on groups within the general population such as infants, children, pregnant women, the elderly, individuals with a history of serious illness, or other subpopulations that are identified as likely to be at greater risk of adverse health effects due to exposure to contaminants in drinking water than the general population.

(VI) Any increased health risk that may occur as the result of compliance, including risks associated with co-occurring contaminants.

(VII) Other relevant factors, including the quality and extent of the information, the uncertainties in the analysis supporting subclauses (I) through (VI), and factors with respect to the degree and nature of the risk.

(ii) TREATMENT TECHNIQUES.—When proposing a national primary drinking water regulation that includes a treatment tech-

nique in accordance with paragraph (7)(A), the Administrator shall publish and seek public comment on an analysis of the health risk reduction benefits and costs likely to be experienced as the result of compliance with the treatment technique and alternative treatment techniques that are being considered, taking into account, as appropriate, the factors described in clause (i).

(iii) APPROACHES TO MEASURE AND VALUE BENEFITS.—The Administrator may identify valid approaches for the measurement and valuation of benefits under this subparagraph, including approaches to identify consumer willingness to pay for reductions in health risks from drinking water contaminants.

(iv) AUTHORIZATION.—There are authorized to be appropriated to the Administrator, acting through the Office of Ground Water and Drinking Water, to conduct studies, assessments, and analyses in support of regulations or the development of methods, \$35,000,000 for each of fiscal years 1996 through 2003.

(4) GOALS AND STANDARDS.—

(A) MAXIMUM CONTAMINANT LEVEL GOALS.—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.

(B) MAXIMUM CONTAMINANT LEVELS.—Except as provided in paragraphs (5) and (6), 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 contaminant level for such contaminant which is as close to the maximum contaminant level goal as is feasible.

(C) DETERMINATION.—At the time the Administrator proposes a national primary drinking water regulation under this paragraph, the Administrator shall publish a determination as to whether the benefits of the maximum contaminant level justify, or do not justify, the costs based on the analysis conducted under paragraph (3)(C).

(D) DEFINITION OF FEASIBLE.—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 this paragraph, granular activated carbon is feasible for the control of synthetic organic chemicals, and any technology, treatment technique, 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.

(E) FEASIBLE TECHNOLOGIES.—

(i) IN GENERAL.—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 subsection shall not require that any specified technology, treatment technique, or other means be used for purposes of meeting such maximum contaminant level.

(ii) LIST OF TECHNOLOGIES FOR SMALL SYSTEMS.—The Administrator shall include in the list any technology, treatment technique, or other means that is affordable, as determined by the Administrator in consultation with the States, for small public water systems serving—

(I) a population of 10,000 or fewer but more than 3,300;

(II) a population of 3,300 or fewer but more than 500; and

(III) a population of 500 or fewer but more than 25;

and that achieves compliance with the maximum contaminant level or treatment technique, including packaged or modular systems and point-of-entry or point-of-use treatment units. Point-of-entry and point-of-use treatment units shall be owned, controlled and maintained by the public water system or by a person under contract with the public water system to ensure proper operation and maintenance and compliance with the maximum contaminant level or treatment technique and equipped with mechanical warnings to ensure that customers are automatically notified of operational problems. The Administrator shall not include in the list any point-of-use treatment technology, treatment technique, or other means to achieve compliance with a maximum contaminant level or treatment technique requirement for a microbial contaminant (or an indicator of a microbial contaminant). If the American National Standards Institute has issued product standards applicable to a specific type of point-of-entry or point-of-use treatment unit, individual units of that type shall not be accepted for compliance with a maximum contaminant level or treatment technique requirement unless they are independently certified in accordance with such standards. In listing any technology, treatment technique, or other means pursuant to this clause, the Administrator shall consider the quality of the source water to be treated.

(iii) LIST OF TECHNOLOGIES THAT ACHIEVE COMPLIANCE.—Except as provided in clause (v), not later than 2 years after August 6, 1996, and after consultation with the States, the Administrator shall issue a list of technologies that achieve compliance with the maximum contaminant level or treatment technique for each category of public water systems described in subclauses (I), (II), and (III) of clause (ii) for each national primary drinking water regulation promulgated prior to June 19, 1986.

(iv) ADDITIONAL TECHNOLOGIES.—The Administrator may, at any time after a national primary drinking water regulation has been promulgated, supplement the list of technologies describing additional or new or

innovative treatment technologies that meet the requirements of this paragraph for categories of small public water systems described in subclauses (I), (II), and (III) of clause (ii) that are subject to the regulation.

(v) TECHNOLOGIES THAT MEET SURFACE WATER TREATMENT RULE.—Within one year after August 6, 1996, the Administrator shall list technologies that meet the Surface Water Treatment Rule for each category of public water systems described in subclauses (I), (II), and (III) of clause (ii).

(5) ADDITIONAL HEALTH RISK CONSIDERATIONS.—

(A) IN GENERAL.—Notwithstanding paragraph (4), the Administrator may establish a maximum contaminant level for a contaminant at a level other than the feasible level, if the technology, treatment techniques, and other means used to determine the feasible level would result in an increase in the health risk from drinking water by—

(i) increasing the concentration of other contaminants in drinking water; or

(ii) interfering with the efficacy of drinking water treatment techniques or processes that are used to comply with other national primary drinking water regulations.

(B) ESTABLISHMENT OF LEVEL.—If the Administrator establishes a maximum contaminant level or levels or requires the use of treatment techniques for any contaminant or contaminants pursuant to the authority of this paragraph—

(i) the level or levels or treatment techniques shall minimize the overall risk of adverse health effects by balancing the risk from the contaminant and the risk from other contaminants the concentrations of which may be affected by the use of a treatment technique or process that would be employed to attain the maximum contaminant level or levels; and

(ii) the combination of technology, treatment techniques, or other means required to meet the level or levels shall not be more stringent than is feasible (as defined in paragraph (4)(D)).

(6) ADDITIONAL HEALTH RISK REDUCTION AND COST CONSIDERATIONS.—

(A) IN GENERAL.—Notwithstanding paragraph (4), if the Administrator determines based on an analysis conducted under paragraph (3)(C) that the benefits of a maximum contaminant level promulgated in accordance with paragraph (4) would not justify the costs of complying with the level, the Administrator may, after notice and opportunity for public comment, promulgate a maximum contaminant level for the contaminant that maximizes health risk reduction benefits at a cost that is justified by the benefits.

(B) EXCEPTION.—The Administrator shall not use the authority of this paragraph to promulgate a maximum contaminant level for a contaminant, if the benefits of compliance with a national primary drinking water regulation for the contaminant that would be promulgated in accordance with paragraph (4) experienced by—

(i) persons served by large public water systems; and

(ii) persons served by such other systems as are unlikely, based on information provided by the States, to receive a variance under section 300g-4(e) of this title (relating to small system variances);

would justify the costs to the systems of complying with the regulation. This subparagraph shall not apply if the contaminant is found almost exclusively in small systems eligible under section 300g-4(e) of this title for a small system variance.

(C) **DISINFECTANTS AND DISINFECTION BYPRODUCTS.**—The Administrator may not use the authority of this paragraph to establish a maximum contaminant level in a Stage I or Stage II national primary drinking water regulation (as described in paragraph (2)(C)) for contaminants that are disinfectants or disinfection byproducts, or to establish a maximum contaminant level or treatment technique requirement for the control of cryptosporidium. The authority of this paragraph may be used to establish regulations for the use of disinfection by systems relying on ground water sources as required by paragraph (8).

(D) **JUDICIAL REVIEW.**—A determination by the Administrator that the benefits of a maximum contaminant level or treatment requirement justify or do not justify the costs of complying with the level shall be reviewed by the court pursuant to section 300j-7 of this title only as part of a review of a final national primary drinking water regulation that has been promulgated based on the determination and shall not be set aside by the court under that section unless the court finds that the determination is arbitrary and capricious.

(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 300g-4(a)(3) of this title.

(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 June 19, 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 300g-4 of this title 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 schedule shall require compliance within 18 months of a determination made under clause (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.

(v) As an additional alternative to the regulations promulgated pursuant to clauses (i) and (iii), including the criteria for avoiding filtration contained in 40 CFR 141.71, a State exercising primary enforcement responsibility for public water systems may, on a case-by-case basis, and after notice and opportunity for public comment, establish treatment requirements as an alternative to filtration in the case of systems having uninhabited, undeveloped watersheds in consolidated ownership, and having control over access to, and activities in, those watersheds, if the State determines (and the Administrator concurs) that the quality of the source water and the alternative treatment requirements established by the State ensure greater removal or inactivation efficiencies of pathogenic organisms for which national primary drinking water regulations have been promulgated or that are of public health concern than would be achieved by the combination of filtration and chlorine disinfection (in compliance with this section).

(8) **DISINFECTION.**—At any time after the end of the 3-year period that begins on August 6, 1996, but not later than the date on which the Administrator promulgates a Stage II rulemaking for disinfectants and disinfection byproducts (as described in paragraph (2)(C)), the Administrator shall also promulgate national primary drinking water regulations requiring disinfection as a treatment technique for all public water sys-

tems, including surface water systems and, as necessary, ground water systems. After consultation with the States, the Administrator shall (as part of the regulations) promulgate criteria that the Administrator, or a State that has primary enforcement responsibility under section 300g-2 of this title, shall apply to determine whether disinfection shall be required as a treatment technique for any public water system served by ground water. 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 300g-4(a)(1)(B) and 300g-4(a)(3) of this title. In implementing section 300j-1(e) of this title 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) REVIEW AND REVISION.—The Administrator shall, not less often than every 6 years, review and revise, as appropriate, each national primary drinking water regulation promulgated under this subchapter. Any revision of a national primary drinking water regulation shall be promulgated in accordance with this section, except that each revision shall maintain, or provide for greater, protection of the health of persons.

(10) EFFECTIVE DATE.—A national primary drinking water regulation promulgated under this section (and any amendment thereto) shall take effect on the date that is 3 years after the date on which the regulation is promulgated unless the Administrator determines that an earlier date is practicable, except that the Administrator, or a State (in the case of an individual system), may allow up to 2 additional years to comply with a maximum contaminant level or treatment technique if the Administrator or State (in the case of an individual system) determines that additional time is necessary for capital improvements.

(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.

(12) CERTAIN CONTAMINANTS.—

(A) ARSENIC.—

(i) SCHEDULE AND STANDARD.—Notwithstanding the deadlines set forth in paragraph (1), the Administrator shall promulgate a national primary drinking water regulation for arsenic pursuant to this subsection, in accordance with the schedule established by this paragraph.

(ii) STUDY PLAN.—Not later than 180 days after August 6, 1996, the Administrator shall develop a comprehensive plan for study in support of drinking water rulemaking to reduce the uncertainty in assessing health risks associated with exposure to low levels of arsenic. In conducting such study, the Administrator shall consult with the National Academy of Sciences, other Federal agencies, and interested public and private entities.

(iii) COOPERATIVE AGREEMENTS.—In carrying out the study plan, the Administrator

may enter into cooperative agreements with other Federal agencies, State and local governments, and other interested public and private entities.

(iv) PROPOSED REGULATIONS.—The Administrator shall propose a national primary drinking water regulation for arsenic not later than January 1, 2000.

(v) FINAL REGULATIONS.—Not later than January 1, 2001, after notice and opportunity for public comment, the Administrator shall promulgate a national primary drinking water regulation for arsenic.

(vi) AUTHORIZATION.—There are authorized to be appropriated \$2,500,000 for each of fiscal years 1997 through 2000 for the studies required by this paragraph.

(B) SULFATE.—

(i) ADDITIONAL STUDY.—Prior to promulgating a national primary drinking water regulation for sulfate, the Administrator and the Director of the Centers for Disease Control and Prevention shall jointly conduct an additional study to establish a reliable dose-response relationship for the adverse human health effects that may result from exposure to sulfate in drinking water, including the health effects that may be experienced by groups within the general population (including infants and travelers) that are potentially at greater risk of adverse health effects as the result of such exposure. The study shall be conducted in consultation with interested States, shall be based on the best available, peer-reviewed science and supporting studies conducted in accordance with sound and objective scientific practices, and shall be completed not later than 30 months after August 6, 1996.

(ii) DETERMINATION.—The Administrator shall include sulfate among the 5 or more contaminants for which a determination is made pursuant to paragraph (3)(B) not later than 5 years after August 6, 1996.

(iii) PROPOSED AND FINAL RULE.—Notwithstanding the deadlines set forth in paragraph (2), the Administrator may, pursuant to the authorities of this subsection and after notice and opportunity for public comment, promulgate a final national primary drinking water regulation for sulfate. Any such regulation shall include requirements for public notification and options for the provision of alternative water supplies to populations at risk as a means of complying with the regulation in lieu of a best available treatment technology or other means.

(13) RADON IN DRINKING WATER.—

(A) NATIONAL PRIMARY DRINKING WATER REGULATION.—Notwithstanding paragraph (2), the Administrator shall withdraw any national primary drinking water regulation for radon proposed prior to August 6, 1996, and shall propose and promulgate a regulation for radon under this section, as amended by the Safe Drinking Water Act Amendments of 1996.

(B) RISK ASSESSMENT AND STUDIES.—

(i) ASSESSMENT BY NAS.—Prior to proposing a national primary drinking water regulation for radon, the Administrator

shall arrange for the National Academy of Sciences to prepare a risk assessment for radon in drinking water using the best available science in accordance with the requirements of paragraph (3). The risk assessment shall consider each of the risks associated with exposure to radon from drinking water and consider studies on the health effects of radon at levels and under conditions likely to be experienced through residential exposure. The risk assessment shall be peer-reviewed.

(ii) **STUDY OF OTHER MEASURES.**—The Administrator shall arrange for the National Academy of Sciences to prepare an assessment of the health risk reduction benefits associated with various mitigation measures to reduce radon levels in indoor air. The assessment may be conducted as part of the risk assessment authorized by clause (i) and shall be used by the Administrator to prepare the guidance and approve State programs under subparagraph (G).

(iii) **OTHER ORGANIZATION.**—If the National Academy of Sciences declines to prepare the risk assessment or studies required by this subparagraph, the Administrator shall enter into a contract or cooperative agreement with another independent, scientific organization to prepare such assessments or studies.

(C) **HEALTH RISK REDUCTION AND COST ANALYSIS.**—Not later than 30 months after August 6, 1996, the Administrator shall publish, and seek public comment on, a health risk reduction and cost analysis meeting the requirements of paragraph (3)(C) for potential maximum contaminant levels that are being considered for radon in drinking water. The Administrator shall include a response to all significant public comments received on the analysis with the preamble for the proposed rule published under subparagraph (D).

(D) **PROPOSED REGULATION.**—Not later than 36 months after August 6, 1996, the Administrator shall propose a maximum contaminant level goal and a national primary drinking water regulation for radon pursuant to this section.

(E) **FINAL REGULATION.**—Not later than 12 months after the date of the proposal under subparagraph (D), the Administrator shall publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for radon pursuant to this section based on the risk assessment prepared pursuant to subparagraph (B) and the health risk reduction and cost analysis published pursuant to subparagraph (C). In considering the risk assessment and the health risk reduction and cost analysis in connection with the promulgation of such a standard, the Administrator shall take into account the costs and benefits of control programs for radon from other sources.

(F) **ALTERNATIVE MAXIMUM CONTAMINANT LEVEL.**—If the maximum contaminant level for radon in drinking water promulgated pursuant to subparagraph (E) is more stringent than necessary to reduce the contribution to radon in indoor air from drinking water to a

concentration that is equivalent to the national average concentration of radon in outdoor air, the Administrator shall, simultaneously with the promulgation of such level, promulgate an alternative maximum contaminant level for radon that would result in a contribution of radon from drinking water to radon levels in indoor air equivalent to the national average concentration of radon in outdoor air. If the Administrator promulgates an alternative maximum contaminant level under this subparagraph, the Administrator shall, after notice and opportunity for public comment and in consultation with the States, publish guidelines for State programs, including criteria for multimedia measures to mitigate radon levels in indoor air, to be used by the States in preparing programs under subparagraph (G). The guidelines shall take into account data from existing radon mitigation programs and the assessment of mitigation measures prepared under subparagraph (B).

(G) **MULTIMEDIA RADON MITIGATION PROGRAMS.**—

(i) **IN GENERAL.**—A State may develop and submit a multimedia program to mitigate radon levels in indoor air for approval by the Administrator under this subparagraph. If, after notice and the opportunity for public comment, such program is approved by the Administrator, public water systems in the State may comply with the alternative maximum contaminant level promulgated under subparagraph (F) in lieu of the maximum contaminant level in the national primary drinking water regulation promulgated under subparagraph (E).

(ii) **ELEMENTS OF PROGRAMS.**—State programs may rely on a variety of mitigation measures including public education, testing, training, technical assistance, remediation grant and loan or incentive programs, or other regulatory or nonregulatory measures. The effectiveness of elements in State programs shall be evaluated by the Administrator based on the assessment prepared by the National Academy of Sciences under subparagraph (B) and the guidelines published by the Administrator under subparagraph (F).

(iii) **APPROVAL.**—The Administrator shall approve a State program submitted under this paragraph if the health risk reduction benefits expected to be achieved by the program are equal to or greater than the health risk reduction benefits that would be achieved if each public water system in the State complied with the maximum contaminant level promulgated under subparagraph (E). The Administrator shall approve or disapprove a program submitted under this paragraph within 180 days of receipt. A program that is not disapproved during such period shall be deemed approved. A program that is disapproved may be modified to address the objections of the Administrator and be resubmitted for approval.

(iv) **REVIEW.**—The Administrator shall periodically, but not less often than every 5 years, review each multimedia mitigation program approved under this subparagraph

to determine whether it continues to meet the requirements of clause (iii) and shall, after written notice to the State and an opportunity for the State to correct any deficiency in the program, withdraw approval of programs that no longer comply with such requirements.

(v) EXTENSION.—If, within 90 days after the promulgation of an alternative maximum contaminant level under subparagraph (F), the Governor of a State submits a letter to the Administrator committing to develop a multimedia mitigation program under this subparagraph, the effective date of the national primary drinking water regulation for radon in the State that would be applicable under paragraph (10) shall be extended for a period of 18 months.

(vi) LOCAL PROGRAMS.—In the event that a State chooses not to submit a multimedia mitigation program for approval under this subparagraph or has submitted a program that has been disapproved, any public water system in the State may submit a program for approval by the Administrator according to the same criteria, conditions, and approval process that would apply to a State program. The Administrator shall approve a multimedia mitigation program if the health risk reduction benefits expected to be achieved by the program are equal to or greater than the health risk reduction benefits that would result from compliance by the public water system with the maximum contaminant level for radon promulgated under subparagraph (E).

(14) RECYCLING OF FILTER BACKWASH.—The Administrator shall promulgate a regulation to govern the recycling of filter backwash water within the treatment process of a public water system. The Administrator shall promulgate such regulation not later than 4 years after August 6, 1996, unless such recycling has been addressed by the Administrator's Enhanced Surface Water Treatment Rule prior to such date.

(15) VARIANCE TECHNOLOGIES.—

(A) IN GENERAL.—At the same time as the Administrator promulgates a national primary drinking water regulation for a contaminant pursuant to this section, the Administrator shall issue guidance or regulations describing the best treatment technologies, treatment techniques, or other means (referred to in this paragraph as "variance technology") for the contaminant that the Administrator finds, after examination for efficacy under field conditions and not solely under laboratory conditions, are available and affordable, as determined by the Administrator in consultation with the States, for public water systems of varying size, considering the quality of the source water to be treated. The Administrator shall identify such variance technologies for public water systems serving—

- (i) a population of 10,000 or fewer but more than 3,300;
- (ii) a population of 3,300 or fewer but more than 500; and
- (iii) a population of 500 or fewer but more than 25,

if, considering the quality of the source water to be treated, no treatment technology is listed for public water systems of that size under paragraph (4)(E). Variance technologies identified by the Administrator pursuant to this paragraph may not achieve compliance with the maximum contaminant level or treatment technique requirement of such regulation, but shall achieve the maximum reduction or inactivation efficiency that is affordable considering the size of the system and the quality of the source water. The guidance or regulations shall not require the use of a technology from a specific manufacturer or brand.

(B) LIMITATION.—The Administrator shall not identify any variance technology under this paragraph, unless the Administrator has determined, considering the quality of the source water to be treated and the expected useful life of the technology, that the variance technology is protective of public health.

(C) ADDITIONAL INFORMATION.—The Administrator shall include in the guidance or regulations identifying variance technologies under this paragraph any assumptions supporting the public health determination referred to in subparagraph (B), where such assumptions concern the public water system to which the technology may be applied, or its source waters. The Administrator shall provide any assumptions used in determining affordability, taking into consideration the number of persons served by such systems. The Administrator shall provide as much reliable information as practicable on performance, effectiveness, limitations, costs, and other relevant factors including the applicability of variance technology to waters from surface and underground sources.

(D) REGULATIONS AND GUIDANCE.—Not later than 2 years after August 6, 1996, and after consultation with the States, the Administrator shall issue guidance or regulations under subparagraph (A) for each national primary drinking water regulation promulgated prior to August 6, 1996, for which a variance may be granted under section 300g-4(e) of this title. The Administrator may, at any time after a national primary drinking water regulation has been promulgated, issue guidance or regulations describing additional variance technologies. The Administrator shall, not less often than every 7 years, or upon receipt of a petition supported by substantial information, review variance technologies identified under this paragraph. The Administrator shall issue revised guidance or regulations if new or innovative variance technologies become available that meet the requirements of this paragraph and achieve an equal or greater reduction or inactivation efficiency than the variance technologies previously identified under this subparagraph. No public water system shall be required to replace a variance technology during the useful life of the technology for the sole reason that a more efficient variance technology has been listed under this subparagraph.

(c) Secondary regulations; publication of proposed regulations; promulgation; amendments

The Administrator shall publish proposed national secondary drinking water regulations within 270 days after December 16, 1974. 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; public hearings; administrative consultations

Regulations under this section shall be prescribed in accordance with section 553 of title 5 (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) Science Advisory Board comments

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.

(July 1, 1944, ch. 373, title XIV, §1412, as added Pub. L. 93-523, §2(a), Dec. 16, 1974, 88 Stat. 1662; amended Pub. L. 95-190, §§3(c), 12(a), Nov. 16, 1977, 91 Stat. 1394, 1398; Pub. L. 99-339, title I, §101(a)-(c)(1), (d), (e), June 19, 1986, 100 Stat. 642-646; Pub. L. 104-182, title I, §§102(a), (c)(2), 103, 104(a), (c), 105-111(a), title V, §501(a)(1), (2), Aug. 6, 1996, 110 Stat. 1617, 1621-1623, 1625-1631, 1691.)

Editorial Notes

REFERENCES IN TEXT

The Federal Insecticide, Fungicide, and Rodenticide Act, referred to in subsec. (b)(1)(B)(i)(II), is act June 25, 1947, ch. 125, as amended generally by Pub. L. 92-516, Oct. 21, 1972, 86 Stat. 973, which is classified generally to subchapter II (§136 et seq.) of chapter 6 of Title 7, Agriculture. For complete classification of this Act to the Code, see Short Title note set out under section 136 of Title 7 and Tables.

The Safe Drinking Water Act Amendments of 1996, referred to in subsec. (b)(13)(A), is Pub. L. 104-182, Aug. 6, 1996, 110 Stat. 1613. For complete classification of this Act to the Code, see Short Title of 1996 Amendment note set out under section 201 of this title and Tables.

The Environmental Research, Development, and Demonstration Act of 1978, referred to in subsec. (e), probably means the Environmental Research, Development, and Demonstration Authorization Act of 1978 which is Pub. L. 95-155, Nov. 8, 1977, 91 Stat. 1257. Provisions of the Act establishing the Science Advisory Board are classified to section 4365 of this title. For complete classification of this Act to the Code, see Tables.

AMENDMENTS

1996—Subsec. (a)(3). Pub. L. 104-182, §102(c)(2), struck out “paragraph (1), (2), or (3) of” before “subsection (b)” in two places.

Subsec. (b). Pub. L. 104-182, §102(a), inserted heading. Subsec. (b)(1), (2). Pub. L. 104-182, §102(a), added pars. (1) and (2) and struck out former pars. (1) and (2) which related to publication of maximum contaminant level goals and promulgation of national primary drinking water regulations for certain listed contaminants or substituted contaminants.

Subsec. (b)(3). Pub. L. 104-182, §103, added par. (3).

Pub. L. 104-182, §102(a), struck out par. (3) which related to publication of maximum contaminant level goals and promulgation of national primary drinking water regulations for contaminants, other than those referred to in pars. (1) or (2), which may have an adverse effect on human health and are known to occur in public water systems.

Subsec. (b)(4). Pub. L. 104-182, §104(a)(1), designated first sentence as subpar. (A), inserted par. and subpar. (A) headings, designated second sentence as subpar. (B), inserted subpar. (B) heading, substituted “Except as provided in paragraphs (5) and (6), each national” for “Each national” and “specify a maximum contaminant level” for “specify a maximum level”, and added subpar. (C).

Subsec. (b)(4)(D). Pub. L. 104-182, §104(a)(2), (3), redesignated par. (5) as subpar. (D) of par. (4), inserted subpar. heading, and substituted “this paragraph” for “paragraph (4)”.

Subsec. (b)(4)(E). Pub. L. 104-182, §§104(a)(4), (5), 105, redesignated par. (6) as subpar. (E)(i) of par. (4), inserted subpar. and cl. headings, substituted “this subsection” for “this paragraph”, and added cls. (ii) to (v).

Subsec. (b)(5), (6). Pub. L. 104-182, §104(a)(6), added pars. (5) and (6). Former pars. (5) and (6) redesignated subpars. (D) and (E)(i), respectively, of par. (4).

Subsec. (b)(7)(C)(v). Pub. L. 104-182, §106, added cl. (v).

Subsec. (b)(8). Pub. L. 104-182, §501(a)(2), substituted “section 300j-1(e)” for “section 300j-1(g)”.

Pub. L. 104-182, §107, inserted heading, realigned margins, and substituted “At any time after the end of the 3-year period that begins on August 6, 1996, but not later than the date on which the Administrator promulgates a Stage II rulemaking for disinfectants and disinfection byproducts (as described in paragraph (2)(C)), the Administrator shall also promulgate national primary drinking water regulations requiring disinfection as a treatment technique for all public water systems, including surface water systems and, as necessary, ground water systems. After consultation with the States, the Administrator shall (as part of the regulations) promulgate criteria that the Administrator, or a State that has primary enforcement responsibility under section 300g-2 of this title, shall apply to determine whether disinfection shall be required as a treatment technique for any public water system served by ground water.” for “Not later than 36 months after June 19, 1986, the Administrator shall propose and promulgate national primary drinking water regulations requiring disinfection as a treatment technique for all public water systems.”

Subsec. (b)(9). Pub. L. 104-182, §104(c), amended par. (9) generally. Prior to amendment, par. (9) read as follows: “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."

Subsec. (b)(10). Pub. L. 104-182, § 108, amended par. (10) generally. Prior to amendment, par. (10) read as follows: "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) of this section shall be superseded by regulations under this subsection to the extent provided by the regulations under this subsection."

Subsec. (b)(11). Pub. L. 104-182, § 501(a)(1), realigned margins.

Subsec. (b)(12). Pub. L. 104-182, § 109(a), added par. (12). Subsec. (b)(13). Pub. L. 104-182, § 109(b), added par. (13). Subsec. (b)(14). Pub. L. 104-182, § 110, added par. (14).

Subsec. (b)(15). Pub. L. 104-182, § 111(a), added par. (15). 1986—Subsec. (a). Pub. L. 99-339, § 101(a), amended subsec. (a) generally. Prior to amendment, subsec. (a) read as follows:

"(1) The Administrator shall publish proposed national interim primary drinking water regulations within 90 days after December 16, 1974. Within 180 days after December 16, 1974, he shall promulgate such regulations with such modifications as he deems appropriate. Regulations under this paragraph may be amended from time to time.

"(2) National interim primary drinking water regulations promulgated under paragraph (1) shall protect health to the extent feasible, using technology, treatment techniques, and other means, which the Administrator determines are generally available (taking costs into consideration) on December 16, 1974.

"(3) The interim primary regulations first promulgated under paragraph (1) shall take effect eighteen months after the date of their promulgation."

Subsec. (b)(1). Pub. L. 99-339, § 101(b), substituted provisions establishing standard setting schedules and deadlines for provisions relating to establishment of maximum contaminant levels and a list of contaminants with adverse effect but of undetermined levels.

Subsec. (b)(2). Pub. L. 99-339, § 101(b), substituted provisions authorizing the Administrator to substitute contaminants for those referred to in par. (1) and to supply a list of the contaminants proposed for substitution, with the decision of the Administrator to regulate such contaminant not subject to judicial review, for provisions which authorized the Administrator to publish in the Federal Register proposed revised national interim primary drinking water regulations and 180 days after the date of such proposed regulations to promulgate such revised regulations with modification as deemed appropriate.

Subsec. (b)(3). Pub. L. 99-339, § 101(b), substituted provisions directing the Administrator to publish maximum contaminant level goals and promulgate national primary drinking water regulations for contaminants, other than specified in par. (1) or (2), which may have an adverse effect on health and are known or anticipated to occur in public water systems, to establish an advisory working group to aid in establishing a list of such contaminants, and to publish, within a specified time, both proposed and final goals and regulations for provisions which required that revised national primary drinking water regulations specify a maximum contaminant level or require the use of treatment techniques for each contaminant, which level or technique was to be as close to the recommended level or technique as feasible, and defined the term "feasible".

Subsec. (b)(4) to (11). Pub. L. 99-339, § 101(b), (c)(1), (d), added pars. (4) to (8), redesignated former pars. (4) to (6) as pars. (9) to (11), respectively, in par. (9) substituted "National" for "Revised National" and inserted provision that review include analysis, and publication in Federal Register, of innovations in technology, treatment techniques or other activities occurring during previous three years and their feasibility, and in par. (10) substituted "National" for "Revised National".

Subsec. (e). Pub. L. 99-339, § 101(e), amended subsec. (e) generally, substituting provisions which relate to

the request by the Administrator of comments by the Science Advisory Board prior to proposal of a maximum contaminant level goal and national primary drinking water regulation for provisions which related to study by the National Academy of Sciences to determine the maximum contaminant levels, report to Congress, and funding therefor.

1977—Subsec. (e)(2). Pub. L. 95-190 inserted provisions relating to revisions of the required report and cl. (G).

Statutory Notes and Related Subsidiaries

NATIONAL PRIMARY DRINKING WATER REGULATION FOR ARSENIC

Pub. L. 106-377, § 1(a)(1) [title III], Oct. 27, 2000, 114 Stat. 1441, 1441A-41, provided in part: "That notwithstanding section 1412(b)(12)(A)(v) of the Safe Drinking Water Act, as amended [42 U.S.C. 300g-1(b)(12)(A)(v)], the Administrator shall promulgate a national primary drinking water regulation for arsenic not later than June 22, 2001."

APPLICABILITY OF PRIOR REQUIREMENTS

Pub. L. 104-182, title I, § 102(b), Aug. 6, 1996, 110 Stat. 1620, provided that: "The requirements of subparagraphs (C) and (D) of section 1412(b)(3) of the Safe Drinking Water Act [42 U.S.C. 300g-1(b)(3)(C), (D)] as in effect before the date of enactment of this Act [Aug. 6, 1996], and any obligation to promulgate regulations pursuant to such subparagraphs not promulgated as of the date of enactment of this Act, are superseded by the amendments made by subsection (a) [amending this section]."

DISINFECTANTS AND DISINFECTION BYPRODUCTS

Pub. L. 104-182, title I, § 104(b), Aug. 6, 1996, 110 Stat. 1625, provided that: "The Administrator of the Environmental Protection Agency may use the authority of section 1412(b)(5) of the Safe Drinking Water Act [42 U.S.C. 300g-1(b)(5)] (as amended by this Act) to promulgate the Stage I and Stage II Disinfectants and Disinfection Byproducts Rules as proposed in volume 59, Federal Register, page 38668 (July 29, 1994). The considerations used in the development of the July 29, 1994, proposed national primary drinking water regulation on disinfectants and disinfection byproducts shall be treated as consistent with such section 1412(b)(5) for purposes of such Stage I and Stage II rules."

§ 300g-2. State primary enforcement responsibility

(a) In general

For purposes of this subchapter, a State has primary enforcement responsibility for public water systems during any period for which the Administrator determines (pursuant to regulations prescribed under subsection (b)) that such State—

(1) has adopted drinking water regulations that are no less stringent than the national primary drinking water regulations promulgated by the Administrator under subsections (a) and (b) of section 300g-1 of this title not later than 2 years after the date on which the regulations are promulgated by the Administrator, except that the Administrator may provide for an extension of not more than 2 years if, after submission and review of appropriate, adequate documentation from the State, the Administrator determines that the extension is necessary and justified;

(2) has adopted and is implementing adequate procedures for the enforcement of such State regulations, including conducting such monitoring and making such inspections as the Administrator may require by regulation;