

BDCM Bromodichloromethane
 CWS Community water system
 DBAA Dibromoacetic acid
 DBCM Dibromochloromethane
 DBP Disinfection byproduct
 DBPR Disinfectants and Disinfection Byproducts Rule
 DCAA Dichloroacetic acid
 DOC Dissolved organic carbon
 EA Economic analysis
 EC Enhanced coagulation
 EDA Ethylenediamine
 ED₁₀ Maximum likelihood estimate of a dose producing effects in 10 percent of animals
 EPA United States Environmental Protection Agency
 FACA Federal Advisory Committee Act
 FBRR Filter Backwash Recycling Rule
 GAC Granular activated carbon
 GC/ECD Gas chromatography using electron capture detection
 GWUDI Ground water under the direct influence of surface water
 HAA5 Haloacetic acids (five) (sum of monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid)
 IC Ion chromatography
 ICR Information Collection Request
 IC/ICP-MS Ion chromatograph—coupled to an inductively coupled plasma mass spectrometer
 IDSE Initial distribution system evaluation
 ILSI International Life Sciences Institute
 IESWTR Interim Enhanced Surface Water Treatment Rule
 IPCS International Programme on Chemical Safety
 IRIS Integrated Risk Information System (EPA)
 kWh/yr Kilowatt hours per year
 LED₁₀ Lower 95 percent confidence bound of the maximum likelihood estimate of the dose producing effects in 10 percent of animals
 LH Luteinizing hormone
 LOAEL Lowest observed adverse effect level
 LRAA Locational running annual average
 LT1ESWTR Long Term 1 Enhanced Surface Water Treatment Rule
 LT2ESWTR Long Term 2 Enhanced Surface Water Treatment Rule
 MBAA Monobromoacetic acid
 MCAA Monochloroacetic acid
 MCL Maximum contaminant level
 MCLG Maximum contaminant level goal
 M-DBP Microbial and disinfection byproducts
 mg/L Milligram per liter
 MRL Minimum reporting level
 MRDL Maximum residual disinfectant level

MRDLG Maximum residual disinfectant level goal
 MTBE Methyl tertiary butyl ether
 mWh Megawatt-hours
 NATICH National Air Toxics Information Clearinghouse
 NDIR Nondispersive infrared detection
 NDMA N-nitrosodimethylamine
 NDWAC National Drinking Water Advisory Council
 NF Nanofiltration
 NOAEL No Observed Adverse Effect Level
 NODA Notice of data availability
 NPDWR National primary drinking water regulation
 NRW National Rural Water Association
 NTNCWS Nontransient noncommunity water system
 NTP National Toxicology Program
 NTTAA National Technology Transfer and Advancement Act
 ODA o-dianisidine dihydrochloride
 OMB Office of Management and Budget
 OSTP Office of Science and Technology Policy
 PAR Population attributable risk
 PE Performance evaluation
 PWS Public water system
 QC Quality control
 RAA Running annual average
 RFA Regulatory Flexibility Act
 RfD Reference dose
 RSC Relative source contribution
 RSD Relative standard deviation
 SAB Science Advisory Board
 SAC Selective anion concentration
 SBAR Small Business Advisory Review
 SBREFA Small Business Regulatory Enforcement Fairness Act
 SDWA Safe Drinking Water Act, or the “Act,” as amended in 1996
 SER Small Entity Representative
 SGA Small for gestational age
 SUVA Specific ultraviolet absorbance
 SWAT Surface Water Analytical Tool
 SWTR Surface Water Treatment Rule
 TAME Tertiary amyl methyl ether
 TCAA Trichloroacetic acid
 TCR Total Coliform Rule
 THM Trihalomethane
 TOC Total organic carbon
 TTHM Total trihalomethanes (sum of four THMs: chloroform, bromodichloromethane, dibromochloromethane, and bromoform)
 TWG Technical work group
 UMRA Unfunded Mandates Reform Act
 USDOE EIA U.S. Department of Energy, Energy Information Administration
 UV 254 Ultraviolet absorption at 254 nm
 WTP Willingness To Pay

Table of Contents

- I. Summary
 - A. Why is EPA Proposing the Stage 2 DBPR?
 - B. What Does the Stage 2 DBPR Require?
 - C. What are the Economic Impacts of the Stage 2 DBPR?
- II. Background
 - A. What is the Statutory Authority for the Stage 2 DBPR?
 - B. What is the Regulatory History of the Stage 2 DBPR?
 - C. How were Stakeholders Involved in Developing the Stage 2 DBPR?
 1. Federal Advisory Committee process
 2. Other outreach processes
- III. Public Health Risk
 - A. Reproductive and Developmental Epidemiology
 1. Reif *et al.* 2000
 - a. Fetal growth
 - b. Fetal viability
 - c. Fetal malformations and other developmental anomalies
 2. Bove *et al.* 2002
 - a. Fetal growth
 - b. Fetal viability
 - c. Fetal malformations
 3. Nieuwenhuijsen *et al.* 2000
 4. Additional epidemiology studies
 - B. Reproductive and Developmental Toxicology
 1. EPA analysis and research
 2. Tyl, 2000
 - a. Developmental defects
 - b. Whole litter resorption
 - c. Fetal toxicity
 - d. Male reproductive effects
 3. World Health Organization review of the reproductive and developmental toxicology literature (2000)
 4. New Studies
 - C. Conclusions Drawn from the Reproductive and Developmental Health Effects Data
 - D. Cancer Epidemiology
 1. Population Attributable Risk analysis
 2. New epidemiological cancer studies
 - a. New bladder cancer studies
 - b. New colon cancer studies
 - c. New rectal cancer studies
 - d. Other cancers
 3. Review of the cancer epidemiology literature (WHO 2000)
 - E. Cancer and Other Toxicology
 1. EPA criteria documents
 2. Other byproducts with carcinogenic potential
 - a. 3-chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone (MX)—multisite cancer
 - b. N-nitrosodimethylamine (NDMA)—multisite cancer
 3. Other toxicological effects
 4. WHO review of the cancer toxicology literature (2000)
 - F. Conclusions Drawn from the Cancer Epidemiology and Toxicology
 - G. Request for Comment
- IV. DBP Occurrence within Distribution Systems
 - A. Data Sources
 1. Information Collection Rule Data
 2. Other Data Sources Used to Support the Proposal
 - B. DBPs in Distribution Systems