

section V provided a comparison of the regulatory options considered. This subsection will summarize the comparison of options and subsection VII.B. will outline the exposure analyses that led EPA to propose the preferred option and will present the predicted national occurrence distributions that were used to quantify predicted exposure reductions from today's proposed rule. A detailed discussion of EPA's exposure analyses can be found in the *Economic Analysis for the Stage 2 DBPR* (USEPA 2003i).

There are two components in the Agency's M-DBP regulatory development process that are particularly relevant to evaluation of options discussed in today's proposal: (1) the data synthesis and evaluation resulting from the Information Collection Rule; and (2) the analysis and recommendations of the M-DBP Advisory Committee. Data from the Information Collection Rule were used with the SWAT model to estimate the national distributions of DBP occurrence. The Advisory Committee considered several questions during the negotiation process, including:

- What are the remaining health risks after implementation of the Stage 1 DBPR?
- What are approaches to addressing these risks?
- What are the risk tradeoffs that need to be considered in evaluating these approaches?
- How do the estimated costs of the approach compare to reductions in peak occurrences and overall exposure for that approach? How does this measure (ratio of costs to exposure reduction) compare among the approaches?

The Advisory Committee considered the DBP occurrence estimates and characteristics of these distributions to be important in understanding the nature of public health risks. Although the Information Collection Rule data were collected prior to promulgation of the Stage 1 DBPR, the data support the concept that a system could be in compliance with the Stage 1 DBPR MCLs of 0.080 mg/L and 0.060 mg/L for TTHM and HAA5, respectively, and yet have points in the distribution system with either periodically or consistently higher DBP levels (see section IV).

Based on these findings, and in order to address disproportionate risk within distribution systems, the Advisory Committee discussed an array of options that would base compliance on exposure at specific sampling locations rather than on average exposures for the entire distribution system. These included options for determining compliance as an LRAA (requiring systems to meet the MCL at individual sampling locations as a running annual average) or as absolute maximums (requiring that no samples taken exceed the MCL concentration), in addition to a combination of these approaches. For example, the Advisory Committee reviewed the exposure reductions for a number of approaches based on different LRAA and absolute maximum incremental MCL levels, and combinations of an LRAA approach with a companion absolute maximum for a variety of different concentration levels. The Advisory Committee also evaluated the associated technology changes and costs for these alternatives. In the process of narrowing down alternatives based on this vast amount of information, the Advisory Committee primarily focused on four types of

alternative rule scenarios illustrated next.

Preferred Alternative

- Long-term MCLs of 0.080 mg/L for TTHM and 0.060 mg/L for HAA5 as LRAAs.
- Bromate MCL remaining at 0.010 mg/L.

Alternative 1

- Long-term MCLs of 0.080 mg/L for TTHM and 0.060 mg/L for HAA5 as LRAAs.
- Bromate MCL of 0.005 mg/L.

Alternative 2

- Long-term MCLs of 0.080 mg/L for TTHM and 0.060 mg/L for HAA5 as absolute maximums for individual measurements.
- Bromate MCL remaining at 0.010 mg/L.

Alternative 3

- Long-term MCLs of 0.040 mg/L for TTHM and 0.030 mg/L for HAA5 as an RAA.
- Bromate MCL remaining at 0.010 mg/L.

Figure VII-1 shows how compliance would be determined under each of the TTHM/HAA5 alternatives described and the Stage 1 DBPR for a hypothetical large surface water system. This hypothetical system has one treatment plant and measures TTHM in the distribution system in four locations per quarter (the calculation methodology shown would be the same for HAA5). Ultimately, the Advisory Committee recommended the Preferred Alternative in combination with an IDSE requirement.

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