

related monitoring. The 18 months of required monitoring, which began in July 1997 and ended in December 1998, applied to 296 public water systems (500 treatment plants).

The Information Collection Rule data show the national occurrence of: (1) Influent water quality parameters; (2) primary and secondary disinfectant use by the large plants; (3) occurrence of DBPs and DBP precursors in treatment plants, finished waters, and distributions systems; (4) microbial occurrence (in subpart H systems only); and (5) treatment plant monthly operation, and initial as well as final treatment plant design. The data were gathered after the Stage 1 DBPR was finalized (USEPA 1998c) but well before systems were required to meet Stage 1 DBPR requirements.

The Information Collection Rule required a significant investment for the water treatment industry, as well as for the EPA to analyze the data. Overall, the occurrence and treatment data collected under the Information Collection Rule, excluding microbial data, was estimated to cost systems \$54 million (USEPA 1996a). In addition, systems using source waters with high DBP precursor levels were required to conduct bench and pilot studies to evaluate the effectiveness of granular activated

carbon (GAC) and membrane technology to control for DBPs. The estimated cost for these studies totaled approximately \$57 million (USEPA 1996a).

In addition to the analysis of DBPs in distribution systems, EPA used occurrence data from the Information Collection Rule to confirm selection of TTHM and HAA5 as appropriate contaminants for monitoring DBPs. EPA also used occurrence data from the Information Collection Rule to confirm differences in monitoring requirements for systems using surface water versus those using ground water, as stipulated under the Stage 1 DBR. Analysis of the Information Collection Rule data indicates that TTHM and HAA5 comprise on average, across all systems, about 50% of the total mixture of chlorinated DBPs and that TTHM and HAA5 concentrations are much lower and less variable in ground water systems than in surface water systems. These results support the basis for continuing the use of TTHM and HAA5 as indicators for controlling chlorinated DBPs. The data also reconfirmed that ground water systems require less monitoring than surface water systems based on lower and less variable DBP occurrence. For detailed analysis, see *Stage 2 Occurrence Assessment for*

Disinfectants and Disinfection Byproducts (USEPA 2003o).

2. Other Data Sources Used To Support the Proposal

Table IV–1 summarizes the data sources other than the Information Collection Rule used to support the Stage 2 DBPR. The data from the Information Collection Rule is from large systems. To validate the conclusions drawn from analysis of the Information Collection Rule for small and medium systems, EPA compared these other data sources with the Information Collection Rule data. EPA found that there are significant similarities between large systems and medium and small systems with regard to source water quality (affecting DBP formation) and use of treatment technologies. Because of these similarities, EPA expects that small and medium systems would find DBP distribution system levels similar to those found in large systems following compliance with the Stage 1 DBPR requirements. For detailed discussion of this analysis, see *Stage 2 Occurrence Assessment for Disinfectants and Disinfection Byproducts* (USEPA 2003o) and *Economic Analysis for the Stage 2 Disinfection Byproducts Rule* (USEPA 2003i).

TABLE IV–1.—SUMMARY OF NON-INFORMATION COLLECTION RULE OCCURRENCE SURVEY DATA

Data source	Data collected	Geographic representation	Number of plants (By population served)
Information Collection Rule Supplemental Survey.	Raw source water-(Large Systems) TOC Raw source water-(Small & Medium Survey Systems) TOC, UV 254, bromide, turbidity, pH, & temperature.	Random national distribution by SW source type ¹ .	47 serving 100,000 or more. 40 serving 10,000–99,999. 40 serving fewer than 10,000.
WaterStats	Population served and flows Raw source water—Water Quality Parameters (WQPs), Source water type. Finished water-WQPs, TTHM, HAAs Treatment-unit processes, disinfectant used.	Random national distribution.	219 serving 100,000 or more. 623 serving 10,000–99,999. 30 serving fewer than 10,000.
National Rural Water Association Survey (NRWAS).	Population served and flows Raw source water-temperatures, turbidity, pH, and source water type, bromide, TOC, UV 254, alkalinity, calcium, and total hardness. Finished water-residence time estimate, total and individual THMs, individual HAAs and HAA5, HAA6, HAA9, TOC, UV 254, Bromide, Temperature, pH, free and total chlorine residual levels. Treatment-unit processes, disinfectant used.	Random national distribution.	117 serving fewer than 10,000.
State Data-Surface Water ..	Distribution system TTHM occurrence data.	AK, CA, IL, MN, MS, NC, TX, WA ² .	562 serving fewer than 10,000.
State Data-Ground Water ..	Distribution system TTHM occurrence data.	AK, CA, FL, IL, NC, TX, WA ² .	2336 serving fewer than 10,000.
Ground Water Supply Survey.	TOC and TTHM (one sample for each parameter at the entry point to distribution system.)	Random national distribution.	979 total.

¹ Source type designations include flowing stream and lake/reservoir (Except for 7 large plants pre-selected).

² Over 50 percent of each State's systems are represented. EPA believes that the data reasonably represent a full range of source water quality in small systems at the national level.