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2. Water System Costs

The proposed LT2ESWTR applies to all community, non-transient non-community, and transient non-community water systems that use surface water or GWUDI as a source (including both filtered and unfiltered systems). EPA has estimated the cost impacts for these three types of public drinking water systems. As shown in Table VI-6a and VI-6b, the mean annualized present value costs for all drinking water systems range from

approximately \$73 to \$111 million using a three percent discount rate (\$81 to \$121 million using a seven percent discount rates).

The majority of costs of the rule result from treatment changes incurred by filtered and unfiltered systems. Table VI-8 shows the number of filtered and unfiltered systems that will incur costs by rule provision. Subsection VI.D.2.b discusses treatment costs for filtered system and subsection VI.D.2.c discusses treatment options for unfiltered systems. All non-purchased surface water and GWUDI systems

subject to the LT2ESWTR (including filtered and unfiltered systems) will incur one-time costs that include time for staff training on rule requirements. Systems will incur monitoring costs to assess source water *Cryptosporidium* levels, though monitoring requirements vary by system size (large vs. small) and system type (filtered vs. unfiltered). A discussion of future monitoring that will occur six years after initial bin assignments can be found in subsection VI.D.2.e.

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Table VI-8.— Number of Filtered and Unfiltered Systems and Plants Expected to Incur Costs¹

Dataset	Nonpurchased Systems and Plants							Systems with Uncovered Reservoirs
	System Size (population served)	Systems Incurring Implementation Costs	Source Water Monitoring - Plants				Plants Adding Treatment	
			Initial <i>E. Coli</i> Monitoring	Initial <i>Crypto</i> Monitoring	Future <i>E. coli</i> Monitoring	Future <i>Crypto</i> Monitoring		
		A	B	C	D	E	F	G
ICR	≤ 10,000	5,682	5,792	2,016	5,122	1,782	2,251	32
	> 10,000	1,384	1,774	1,774	1,273	1,273	733	106
	Total	7,066	7,565	3,789	6,395	3,056	2,984	138
ICRSSL	≤ 10,000	Same as ICR		1,295	5,409	1,209	1,463	Same as ICR
	> 10,000			1,774	1,453	1,453	481	
	Total			3,069	6,862	2,662	1,944	
ICRSSM	≤ 10,000	Same as ICR		1,575	5,347	1,454	1,768	Same as ICR
	> 10,000			1,774	1,386	1,386	578	
	Total			3,349	6,733	2,840	2,346	

¹Numbers shown for plants monitoring include nonpurchased plants only. Numbers shown for plants adding treatment include both nonpurchased plants and a fraction of plants purchasing water that could not be linked to a nonpurchased plant. Source: Chapter 6 of the *LT2ESWTR Economic Analysis* (USEPA 2003a)

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a. Source water monitoring costs.

Source water monitoring costs are structured on a per-plant basis. Also, as with implementation activities, purchased plants are assumed not to treat source water and will not have any monitoring costs. There are three types of monitoring that plants may be required to conduct—turbidity, *E. coli* and *Cryptosporidium*. Source water turbidity is a common water quality parameter used for plant operational control. Also, to meet SWTR, LT1ESWTR and IESWTR requirements, most water systems have turbidity analytical equipment in-house and operators are experienced with turbidity

measurement. Thus, EPA assumes that the incremental turbidity monitoring burden associated with the LT2ESWTR is negligible.

Filtered plants in small systems initially will be required to conduct one year of biweekly *E. coli* source water monitoring. These plants will be required to monitor for *Cryptosporidium* if, as a result of initial bin classification, *E. coli* levels exceed the following concentrations: (1) Annual mean > 10 *E. coli*/100 mL for lakes and reservoir sources, and (2) annual mean > 50 *E. coli*/100 mL for flowing stream sources. EPA estimated the percent of small plants that would be triggered into *Cryptosporidium* monitoring as being

equal to the percent of large plants that would fall into any bin requiring additional treatment.

Estimates of laboratory fees, shipping costs, labor hours for sample collection, and hours for reporting results were used to predict system costs for initial source water monitoring under the LT2ESWTR. Table VI-9 summarizes the present value of monitoring costs for initial bin classification. Total present value monitoring costs for initial bin classification range from \$46 million to \$60 million depending on the occurrence data set and discount rate. Appendix D of the LT2ESWTR EA provides a full explanation of how these costs were developed (USEPA 2003a).