

data. The approach used to estimate the impact of energy use, therefore, focuses on national-level impacts. The analysis estimates the additional energy use due to the LT2ESWTR, and compares that to the national levels of power generation in terms of average and peak loads.

The first step in the analysis is to estimate the energy used by the technologies expected to be installed as a result of the LT2ESWTR. Energy use is not directly stated in Technologies and Costs for Control of Microbial Contaminants and Disinfection By-Products (USEPA 2003c), but the annual cost of energy for each technology

addition or upgrade necessitated by the LT2ESWTR is provided. An estimate of plant-level energy use is derived by dividing the total energy cost per plant for a range of flows by an average national cost of electricity of \$0.076/kWh (USDOE EIA, 2002). These calculations are shown in detail in Chapter 7 of the Economic Analysis for the LT2ESWTR (USEPA 2003a). The energy use per plant for each flow range and technology is then multiplied by the number of plants predicted to install each technology in a given flow range. The energy requirements for each flow range are then added to produce a

national total. No electricity use is subtracted to account for the technologies that may be replaced by new technologies, resulting in a conservative estimate of the increase in energy use. Results of the analysis are shown in Table VII-5 for each of the modeled *Cryptosporidium* occurrence distributions. The results range from an incremental national annual energy usage of 0.12 million megawatt-hours (mW) for the modeled Information Collection Rule occurrence distribution to 0.07 million mW for the modeled ICRSSL occurrence distribution.

TABLE VII-5.—TOTAL INCREASED ANNUAL NATIONAL ENERGY USAGE ATTRIBUTABLE TO THE LT2ESWTR

Technology	ICR		ICRSSL		ICRSSM	
	Plants select- ing technology	Total annual energy re- quired (kWh/yr)	Plants select- ing technology	Total annual energy re- quired (kWh/yr)	Plants select- ing technology	Total annual energy re- quired (kWh/yr)
	A	B	C	D	E	F
ClO <sub>2</sub> .....	77	343,297	61	268,861	70	312,036
UV .....	998	86,827,218	490	52,212,046	632	64,515,863
O <sub>3</sub> (0.5 log) .....	26	12,524,670	19	10,328,359	21	11,467,703
O <sub>3</sub> (1.0 log) .....	24	12,456,132	12	6,119,824	21	10,759,696
O <sub>3</sub> (2.0 log) .....	9	7,324,561	0	35,259	2	1,787,144
MF/UF .....	10	5,691,144	8	4,507,577	5	2,790,401
Bag Filters .....	1,545	1,631,873	1,236	1,306,067	1,441	1,522,243
Cartridge Filters .....	190	76,793	17	6,254	52	19,686
Total .....	2,878	126,875,687	1,844	74,784,249	2,244	93,174,772

Source: The LT2ESWTR Economic Analysis (USEPA 2003a).

To determine if the additional energy required for systems to comply with the rule would have a significant adverse effect on the use of energy, the numbers in Table VII-5 are compared to the national production figures for electricity. According to the U.S. Department of Energy's Information Administration, electricity producers generated 3,800 million mW of electricity in 2001 (USDOE EIA, 2002). Therefore, even using the highest assumed energy use for the LT2ESWTR, the rule when fully implemented would result in only a 0.003 percent increase in annual average energy use.

In addition to average energy use, the impact at times of peak power demand is important. To examine whether increased energy usage might significantly affect the capacity margins of energy suppliers, their peak season generating capacity reserve was compared to an estimate of peak incremental power demand by water utilities.

Both energy use and water use are highest in the summer months, so the most significant effects on supply would be seen then. In the summer of 2001, U.S. generation capacity exceeded

consumption by 15 percent, or approximately 120,000 mW (USDOE EIA 2002). Assuming around-the-clock operation of water treatment plants, the total energy requirement can be divided by 8,760 hours per year to obtain an average power demand of 15 mW for the modeled Information Collection Rule occurrence distribution. A more detailed derivation of this value is shown in Appendix P of the Economic Analysis for the LT2ESWTR (USEPA 2003a). Assuming that power demand is proportional to water flow through the plant, and that peak flow can be as high as twice the average daily flow during the summer months, about 30 mW could be needed for treatment technologies installed to comply with the LT2ESWTR. This is only 0.024 percent of the capacity margin available at peak use.

Although EPA recognizes that not all areas have a 15 percent capacity margin and that this margin varies across regions and through time, this analysis reflects the effect of the rule on national energy supply, distribution, or use. While certain areas, notably California, have experienced shortfalls in generating capacity in the recent past, a

peak incremental power requirement of 30 mW nationwide is not likely to significantly change the energy supply, distribution, or use in any given area. Considering this analysis, EPA has concluded that LT2ESWTR is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

#### *I. National Technology Transfer and Advancement Act*

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995, Public Law 104-113, section 12(d) (15 U.S.C. 272 note), directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., material specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standard bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.