

\$1,085,000, with a range of \$61,000-\$2,660,000 for both options 1 and 2.

TABLE 2.—COMPLIANCE COST FOR EPA METHODS 1 AND 2

EPA Calculation Method	No. of Facilities	Cost /83,000 Gallons (\$)	Cost Per Facility (\$)	Total Annual (\$)	Present Value (\$)
1	22	100 (10–190)	4,200 (300–7,900)	92,000 (7,000–174,000)	1,406,000 (107,000–2,660,000)
1	13	100 (10–190)	7,200 (500–13,400)	94,000 (7,000–174,000)	1,437,000 (107,000–2,660,000)
2	14	80 (10–190)	3,600 (300–7,900)	50,000 (4,000–111,000)	764,000 (61,000–1,697,000)
2	8	80 (10–190)	6,000 (500–13,400)	48,000 (4,000–107,000)	734,000 (61,000–1,636,000)

Monitoring Costs. FDA has collected several estimates for uranium testing cost, ranging from \$25-\$150 per sample.² We will use the average of these testing costs of \$105 as a most likely value and the entire range to define uncertainty. EPA and FDA required testing frequencies under options 1 and 2 differ substantially, as explained below.

Option 1 (EPA) Testing Frequency. Under the EPA testing regime, the 914 or 1,550 facilities would have to adopt a test for the uranium standard. According to the Radionuclides Rule (65 FR 76708 at 76711), all facilities would have to first perform four consecutive quarterly samples. We assume that bottled water facilities would test these samples in the first year after adoption. Based on the average results of these samples, facilities would have to sample once every 3 years (average greater than 50 percent of MCL), once every 6 years (average less than 50 percent of MCL), or once every 9 years (not detected). We

assume one-third of facilities would fall in each of these categories, and that future tests would be uniformly distributed across years; for example, one-third of the facilities that only have to test once every 3 years will conduct the test in any one year.

Option 2 (FDA) Testing Frequency. Under § 129.35(a)(3), bottled water producers are required to test their source water for radiological contaminants at least once every 4 years unless exempted from such testing under § 129.35(a)(4). For example, one possible exemption is that the 25 percent of bottled water facilities that use a public water source already subject to EPA regulations may substitute public water system testing results for source water testing. We assume that no facilities that use a public water source will need to test their source water for uranium, and that all bottled water producers using nonpublic water will need to test their source water. All bottled water

producers are required to test their final bottled water product for radiological contaminants at least once per year under § 129.80(g)(2).

Table 3 of this document presents the calculations for each option. The low bound is calculated by the low facility count multiplied by the low testing cost estimate, the high bound is calculated by the high facility count multiplied by the high testing cost estimate, and the middle value is the average of the low and high facility counts multiplied by the average of the testing cost estimates. Multiplying all low and high estimates together probably renders the low and high bounds extremely unlikely, but since we do not have a probability distribution associated with these values we have no other method of defining uncertainty. The present value is calculated as if all testing were to be continued indefinitely, with a discount rate of 7 percent.

TABLE 3.—MONITORING COST ESTIMATES

Options	Year 1 tests	Year 1 Cost (\$)	Subsequent year tests	Subsequent year cost (\$)	Present Value (\$)
Option 1 (EPA)	4	517,000 (91,000–930,000)	.61	79,000 (14,000–142,000)	1,645,000 (291,000–2,956,000)
Option 2 (FDA)	1.19	154,000 (27,000–277,000)	1.19	154,000 (27,000–277,000)	2,353,000 (416,000–4,229,000)

3. Benefits of the Regulatory Options

FDA assumes that both option 1 and option 2 would compel all bottled water facilities to come into compliance with the 30 µg/L uranium standard. Uranium carries two distinct risks: An increased risk of cancer and kidney toxicity. In addition, treatment technologies put in place to remove uranium will also reduce the concentration of other

bottled water contaminants. However, EPA was unable to quantify the effect of uranium on kidney toxicity and the effect of uranium treatment technology on cocontaminants due to lack of information, and FDA has not found any information made available that would allow the quantification of these effects since EPA's 2000 analysis.

Cases of Cancer Avoided

Exposure. According to the *Bottled Water Reporter*, Americans consumed a per capita average of approximately 73.8 liters of bottled water in 2001 (Ref. 3). This is approximately 18 percent of the per capita consumption of water from all sources estimated by the EPA (Ref 2). Bottled water consumption has been increasing at a rate of approximately 7 percent per year in the United States

² A private lab called General Engineering Laboratories (GEL) in Charleston, SC, provides uranium testing of private wells at a cost of \$25 per sample: <http://www.scdhec.net/eqc/water/html/>

[urtest2.html](http://www.urtest2.html), accessed August 15, 2002. The New Hampshire Department of Environmental Services charges \$140 per uranium test: <http://www.des.state.nh.us/factsheets/ws/ws-3-11.htm>,

accessed August 15, 2002. The Maine Health and Environmental Testing Laboratory charges \$150 per uranium test: <http://www.state.me.us/dhs/etl/pubgd99w.html>, accessed August, 15, 2002.