

Background: The EPA is proposing to regulate PFAS with a new National Primary Drinking Water Standard (NPDWR). Significant uncertainty exists regarding the extent of health harms caused by all PFAS chemicals, especially for PFAS other than PFOA and PFOS. Moreover, many known health harms cannot easily be monetized because underlying studies were carried out on animals or benefit endpoints may be less tangible than observed clinical costs. There is also uncertainty in the frequency of occurrence of PFAS compounds across drinking water systems, with some reports suggesting low levels of occurrence nationwide and others suggesting a majority of systems have some detectable PFAS. The wide range of occurrence estimates is partly the cause of diverging cost estimates for the rule, with industry suggesting that costs are likely 3-5 times higher than estimated by EPA at over [\\$3.8 billion annualized](#).

Despite these uncertainties in both benefits and costs, you must interpret available analysis to argue for a specific policy for controlling PFAS in drinking water. You have been presented with four regulatory options. Confidence interval cost and benefit numbers for each option are shown below and also discussed at length in [the economic analysis for the rule](#). For convenience, these benefit and costs numbers are pasted below. Approximate costs to households that pay water bills are also shown across small rural systems and large urban systems below. All estimates reflect significant modeled uncertainty as well as unmodeled uncertainty. The EPA has proposed Option 1, while the water sector has expressed support for a more lenient standard such as 1c below.

Four regulatory options:

- 1) Two MCLs and a Hazard Index over four additional PFAS: Regulate PFOA and PFOS alone with maximum contaminant levels at 4 parts per trillion (ppt). Four additional PFAS (PFNA, PFHxS, PFHpA, and PFBS) will also be restricted in drinking water to health advisory levels using a hazard index that combines possible occurrence of all four substances. This is the most stringent standard.
- 2) Two MCLs for PFOA and PFOS at 4 ppt: This standard is the same as option 1 but does not include a hazard index over additional PFAS.
- 3) Two MCLs for PFOA and PFOS at 5 ppt: This standard has higher permitted levels of PFOA and PFOS than options 1 and 2. It also does not include a hazard index over additional PFAS.
- 4) Two MCLs for PFOA and PFOS at 10 ppt: This standard has higher permitted levels of PFOA and PFOS than options 1, 2, and 3. It also does not include a hazard index over additional PFAS.

Table ES-1: Quantified Total National Annualized Benefits, All Options (Million \$2021)

Option	3% Discount Rate ^a			7% Discount Rate ^a		
	5 th Percentile ^b	Expected Value	95 th Percentile ^b	5 th Percentile ^b	Expected Value	95 th Percentile ^b
Proposed Option ^c	\$659.91	\$1,232.98	\$1,991.51	\$477.69	\$908.11	\$1,462.43
Option 1a ^d	\$651.19	\$1,216.08	\$1,971.01	\$471.53	\$895.36	\$1,456.23
Option 1b ^e	\$553.37	\$1,046.91	\$1,706.81	\$398.21	\$773.33	\$1,292.96
Option 1c ^f	\$280.42	\$584.80	\$1,030.56	\$208.71	\$436.24	\$784.59

Notes: Detail may not add exactly to total due to independent rounding.

^aSee Table 7-6 for a list of the nonquantifiable benefits, and the potential direction of impact these benefits would have on the estimated monetized total annualized benefits in this table.

^bThe 5th and 95th percentile range is based on modeled variability and uncertainty described in Section 6.1.2 and Table 6-1 for benefits. This range does not include the uncertainty described in Table 6-48 for benefits.

^cThe proposed option sets PFOA and PFOS MCLs of 4.0 ppt and an HI of 1.0.

^dOption 1a sets PFOA and PFOS MCLs of 4.0 ppt.

^eOption 1b sets PFOA and PFOS MCLs of 5.0 ppt.

^fOption 1c sets PFOA and PFOS MCLs of 10.0 ppt.

Table ES-2: Quantified Total National Annualized Costs, All Options (Million \$2021)

Option	3% Discount Rate ^{a,b}			7% Discount Rate ^{a,b}		
	5 th Percentile ^c	Expected Value	5 th Percentile ^c	5 th Percentile ^c	Expected Value	95 th Percentile ^c
Proposed Option ^{d,e}	\$704.53	\$771.77	\$850.40	\$1,106.01	\$1,204.61	\$1,321.01
Option 1a ^f	\$688.09	\$755.82	\$833.48	\$1,078.51	\$1,177.31	\$1,292.01
Option 1b ^g	\$558.71	\$611.01	\$674.32	\$864.74	\$942.28	\$1,035.56
Option 1c ^h	\$269.36	\$292.57	\$320.76	\$396.22	\$430.87	\$472.20

Notes: Detail may not add exactly to total due to independent rounding.

^aSee Table 7-6 for a list of the nonquantifiable costs, and the potential direction of impact these costs would have on the estimated monetized total annualized costs in this table.

^bPFAS-contaminated wastes are not considered hazardous wastes at this time and therefore total costs reported in this table do not include costs associated with hazardous waste disposal of spent filtration materials. To address stakeholder concerns about potential costs for disposing PFAS-contaminated wastes as hazardous should they be regulated as such in the future, EPA conducted a sensitivity analysis with an assumption of hazardous waste disposal for illustrative purposes only. See Appendix N, Section N.2 for additional detail.

^cThe 5th and 95th percentile range is based on modeled variability and uncertainty described in Section 5.1.2 and Table 5-1 for costs. This range does not include the uncertainty described in Table 5-22 for costs.

^dTotal quantified national cost values do not include the incremental treatment costs associated with the cooccurrence of HFPO-DA, PFBS, and PFNA at systems required to treat for PFOA, PFOS, and PFHxS. The total quantified national cost values do not include treatment costs for systems that would be required to treat based on HI exceedances apart from systems required to treat because of PFHxS occurrence alone. See Appendix N, Section N.3 for additional detail on cooccurrence incremental treatment costs and additional treatment costs at systems with HI exceedances.

^eThe proposed option sets PFOA and PFOS MCLs of 4.0 ppt and an HI of 1.0.

^fOption 1a sets PFOA and PFOS MCLs of 4.0 ppt.

^gOption 1b sets PFOA and PFOS MCLs of 5.0 ppt.

^hOption 1c sets PFOA and PFOS MCLs of 10.0 ppt.

Table 8-27: Annualized Population-Weighted Household Cost for Treating PWSs by Size Category and Race/Ethnicity Group

System Size ^a	Race/Ethnicity Group	Proposed Option ^b	Option 1a ^c	Option 1b ^d	Option 1c ^e
3,300 to 10,000	All	\$118.50	\$117.90	\$117.18	\$112.78
3,300 to 10,000	Non-Hispanic Black	\$118.74	\$118.06	\$117.36	\$122.25
3,300 to 10,000	Hispanic	\$119.67	\$118.84	\$116.15	\$91.43
3,300 to 10,000	Other	\$116.35	\$116.22	\$113.09	\$99.40
3,300 to 10,000	Non-Hispanic White	\$118.39	\$117.80	\$117.50	\$115.28
10,000 to 50,000	All	\$32.88	\$32.24	\$30.83	\$26.83
10,000 to 50,000	Non-Hispanic Black	\$32.84	\$32.25	\$30.85	\$27.23
10,000 to 50,000	Hispanic	\$30.78	\$30.15	\$28.67	\$24.58
10,000 to 50,000	Other	\$33.07	\$32.41	\$30.99	\$26.71
10,000 to 50,000	Non-Hispanic White	\$33.31	\$32.67	\$31.26	\$27.26
50,000 to 100,000	All	\$23.03	\$22.46	\$21.43	\$17.83
50,000 to 100,000	Non-Hispanic Black	\$22.45	\$21.96	\$21.11	\$17.65
50,000 to 100,000	Hispanic	\$22.25	\$21.65	\$20.63	\$17.63
50,000 to 100,000	Other	\$23.90	\$23.16	\$22.07	\$18.35
50,000 to 100,000	Non-Hispanic White	\$23.26	\$22.70	\$21.65	\$17.86
100,000 to 1,000,000	All	\$25.45	\$24.64	\$23.02	\$17.79
100,000 to 1,000,000	Non-Hispanic Black	\$24.74	\$23.89	\$22.27	\$17.24
100,000 to 1,000,000	Hispanic	\$25.83	\$24.94	\$23.18	\$17.38
100,000 to 1,000,000	Other	\$27.89	\$27.01	\$25.60	\$19.99
100,000 to 1,000,000	Non-Hispanic White	\$25.16	\$24.39	\$22.79	\$17.74

Notes:

^aThe number of systems serving fewer than 3,300 people represented in the UMCRA 3 occurrence data is too limited to accurately estimate average population-weighted household costs by subpopulation. Therefore, results for these small systems are omitted. Also, household costs in this exhibit are population-weighted and will not match average household costs by size category shown in other exhibits in the economic analysis document that are not population-weighted.

^bThe proposed option sets PFOA and PFOS MCLs of 4.0 ppt and an HI of 1.0.

^cOption 1a sets PFOA and PFOS MCLs of 4.0 ppt.

^dOption 1b sets PFOA and PFOS MCLs of 5.0 ppt.

^eOption 1c sets PFOA and PFOS MCLs of 10.0 ppt.