

JOINT BUDGET COMMITTEE



INTERIM SUPPLEMENTAL BUDGET REQUESTS FY 2019-20

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

JBC WORKING DOCUMENT - SUBJECT TO CHANGE
STAFF RECOMMENDATION DOES NOT REPRESENT COMMITTEE DECISION

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INTERIM SUPPLEMENTAL REQUESTS

GROUNDWATER TESTING SUBSIDY

	REQUEST	RECOMMENDATION
TOTAL	\$500,000	\$0
FTE	0.0	0.0
General Fund	500,000	0
Cash Funds	0	0
Federal Funds	0	0

Does JBC staff believe the request satisfies the interim supplemental criteria of Section 24-75-111, C.R.S.? **NO**
 [The Controller may authorize an overexpenditure of the existing appropriation if it: (1) Is approved in whole or in part by the JBC; (2) Is necessary due to unforeseen circumstances arising while the General Assembly is not in session; (3) Is approved by the Office of State Planning and Budgeting (except for State, Law, Treasury, Judicial, and Legislative Departments); (4) Is approved by the Capital Development Committee, if a capital request; (5) Is consistent with all statutory provisions applicable to the program, function or purpose for which the overexpenditure is made; and (6) Does not exceed the unencumbered balance of the fund from which the overexpenditure is to be made.]

Does JBC staff believe the request meets the Joint Budget Committee's supplemental criteria? **NO**
 [An emergency or act of God; a technical error in calculating the original appropriation; data that was not available when the original appropriation was made; or an unforeseen contingency.]

Explanation: JBC staff does not believe this request satisfies the supplemental criteria of Section 24-75-111, C.R.S., because prior testing conducted by the Department, municipal water treatment systems, and private sector firms since 2016 has shown the presence of polyfluoroalkyl substances (PFAS) in groundwater throughout the state. This request also does not meet the Joint Budget Committee's supplemental criteria because 1) this request does not seek to fund mitigation or clean-up activities for an unexpected release of contaminants, 2) is not a technical error in calculating the original appropriation, 3) the Department has been aware of the presence of PFAS in the State's groundwater since 2016, and 4) the Department, through the Water Quality Control Division and the Water Quality Control Commission, is developing a PFAS Action Plan.

DEPARTMENT REQUEST: The Department of Public Health and Environment (CDPHE or Department) requests \$500,000 General Fund in FY 2019-20 to subsidize the cost of testing groundwater samples for polyfluoroalkyl substances (PFAS) by individuals and municipal water treatment systems. The department would seek a contract with a third-party laboratory to test groundwater samples beginning January 1, 2020.

STAFF RECOMMENDATION: **Staff recommends that the Committee deny this request** because it does not meet the interim supplemental criteria established by Section 24-75-111, C.R.S., or the Joint Budget Committee's supplemental criteria.

While staff appreciates the Department's desire to expand its PFAS testing capabilities and capacity, that desire does not constitute an emergency. The Department's request does not seek to treat affected drinking water sources, but to collect additional data on the scope of contamination. The health risks associated with exposure to PFAS are not causal according to U.S. Environmental Protection Agency (EPA) and the U.S. Department of Health and Human Services' Agency for Toxic Substances and Disease Registry (ATSDR). Given the uncertainty about the scope of contamination and the lack of a proven causal relationship between exposure to PFAS and adverse health outcomes, JBC staff does not believe this request rises to the level of an emergency.

STAFF ANALYSIS: Polyfluoroalkyl substances are a very large category of chemical compounds that have been used in manufacturing since the 1940s. From paper and cardboard packaging products to carpets to nonstick coatings on cookware, PFAS can be found throughout the environment and it is assumed that the general U.S. population has experienced at least low levels of exposure. PFAS are also found in Class B firefighting foams, which are widely used by fire departments, airports, and military bases. Beginning in 2000, EPA partnered with private sector manufacturers and industrial users of PFAS to phase out their use and production of these compounds. EPA reports that the phase out was completed in 2015.

In May 19, 2016, EPA issued a health advisory for PFAS that established lifetime health advisory levels at 70 parts per trillion (ppt) for PFAS exposure from drinking water. This advisory, which is non-enforceable and non-regulatory, is used to provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination.¹ However, the EPA has not established national primary drinking water regulations for PFAS. EPA is evaluating these pollutants as drinking water contaminants in accordance with the federal Safe Drinking Water Act and published an Action Plan for PFAS in February 2019 that details their outreach, research, and regulatory efforts to address contamination.

Colorado's Department Public Health and Environment has a growing concern that the scope of contamination in the state is significantly greater than previously assumed. In 2016, groundwater testing in southern Colorado Springs showed PFAS contamination above EPA health advisory levels in the drinking water sources for several communities, including Fountain and Security-Widefield. Subsequent testing has found elevated levels of PFAS in the Commerce City area and outside of Boulder, with test results significantly exceeding 70 ppt. As CDPHE has become aware of the possibility of statewide groundwater contamination, it has sought to use its existing resource to respond. Department staff have:

- coordinated with impacted entities, federal partners, and local health agencies;
- worked with impacted communities to ensure access to treatment or alternative water;
- collaborated with drinking water providers on PFAS responses;
- incorporated PFAS in source water protection planning efforts;
- conducted inventory efforts to identify potential PFAS sources throughout the state;
- listed PFAS as hazardous constituents;
- coordinated with the Colorado Department of Transportation to identify sources of funding to reduce PFAS discharges; and
- developed best management practices on the use of PFAS foams.

The Department is basing its request on several water sampling reports and anecdotal evidence from 2018 and 2019. Sampling at the Suncor Refinery in 2018 and 2019, as well as several 2019 U.S. Air Force reports regarding PFAS investigations at its Colorado facilities, have shown contamination above the health advisory threshold. Additionally, two fire districts in Boulder County have reported past training use of Class B firefighting foam and well sampling from 2018 and 2019 indicated PFAS contamination. The Department has also had discussions with staff at the Colorado Oil and Gas

¹ U.S. Environmental Protection Agency. November 2016. *Fact Sheet: PFOA & PFOS Drinking Water Health Advisories*. https://www.epa.gov/sites/production/files/2016-06/documents/drinkingwaterhealthadvisories_pfoa_pfos_updated_5.31.16.pdf

Conservation Commission and with commercial service airports that indicate the likely use of Class B firefighting foams in the last few years.

During the 2019 legislative session, the General Assembly passed H.B. 19-1279 (Protect Public Health Firefighter Safety Regulation PFAS Polyfluoroalkyl Substances) directing the Department to conduct a survey to determine the amount of PFAS foam currently held, used, and disposed of by fire departments. The bill appropriated \$55,278 General Fund based on the assumption the Department would require an additional 0.7 FTE to complete the survey and data collection. The Department is required to survey the state’s fire departments once every three years.

HEALTH RISKS OF PFAS EXPOSURE

According to the Agency for Toxic Substances and Disease Registry, polyfluoroalkyl substances have been found in all environmental media, including air, surface water, groundwater, soil, and food. PFAS exposure can occur through inhalation and ingestion. High levels of exposure to PFAS through contaminated drinking water have been found in some populations that work in and reside near manufacturing facilities that produce fluoropolymer. The elimination half-life for humans for some PFAS compounds can be as long as 8 years.

The toxicity of PFAS has been widely studied in humans and laboratory animals, but the ATSDR cautions that inter-species comparisons of health effects and risks should be limited. For humans, exposure to PFAS is associated with an increased risk of: higher levels of total cholesterol and low-density lipoprotein; thyroid disease; pregnancy-induced hypertension and pre-eclampsia; liver damage; asthma; decreased fertility; decreased antibody response to vaccines; and small decrease in birth weight. It is also possible that PFAS are carcinogenic to humans, but there is not sufficient data to establish that link. ATSDR cautions that the while “the data may provide strong evidence for an association,” a causal relationship between exposure to PFAS and those observed adverse health effects has not been established.²

POSSIBLE HUMAN HEALTH EFFECTS OF PFAS EXPOSURE	
EFFECT CATEGORY	DESCRIPTION OF ATSDR FINDINGS
Hepatic	Suggestive links to elevated levels of total cholesterol and LDL cholesterol, as well as an increased risk of liver damage
Cardiovascular	Suggestive link to exposure and pregnancy-induced hypertension and/or pre-eclampsia
Endocrine	Suggestive link to increased risk of thyroid disease
Immune	Suggestive link to decreased antibody responses to vaccines Possible link to increased risk of asthma diagnosis
Reproductive	Suggestive link to decreased fertility
Developmental	Suggestive link to small decrease in birth weight

Source: U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry. June 2018. *Toxicological Profile for Perfluoroalkyls, Draft for Public Comment*. Page 25. <https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf>

OTHER STATES’ REGULATORY RESPONSE TO PFAS CONTAMINATION

The Department reports that twelve other states have established guidelines and standards regarding PFAS. New Hampshire is the only state with enforceable, non-contested groundwater standards for PFOS and PFOA (these are specific PFAS compounds). Vermont established groundwater standards, but those standards are contested. Currently, there are no drinking water limits for PFOS and PFOA. Minnesota has drinking water health risk limits, but these are simply recommendations

² U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry. June 2018. *Toxicological Profile for Perfluoroalkyls, Draft for Public Comment*. Page 24. <https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf>

for drinking water treatment facility operators and private well owners. Minnesota’s health risk limits also provide a basis to ensure responsible parties are accountable for remediation. Michigan has surface water quality standards for these two compounds in order to protect source waters.³

OTHER STATES' PFAS CONTAMINATION GUIDELINES AND STANDARDS (PARTS PER TRILLION)			
STATE	GROUNDWATER VALUE	SURFACE WATER VALUE	DRINKING WATER VALUE
Alaska	PFOA: 400 PFOS: 400		
Colorado (proposed)	PFOA + PFOS: 70		
Delaware	PFOA + PFOS: 70		
Illinois	PFOA: 400 PFOS: 200		
Maine			PFOA + PFOS: 70
Michigan		PFOA: 120 PFOS: 11	
Minnesota			PFOA: 35 PFOS: 27
New Hampshire	PFOA + PFOS: 70		
New Jersey			PFOA: 14
North Carolina	PFOA: 1000		
Texas	PFOA: 290		
Vermont	PFOA + PFOS: 20		
West Virginia			PFOA: 150,000

ANTICIPATED DEPARTMENT RESPONSE

Despite the lack of causal relationship, CDPHE is seeking funding for water sample testing out of an abundance of caution. As the Department conducts their survey in accordance with H.B. 19-1279, which is currently being finalized, they anticipate finding PFAS contamination in those areas where it has been predicted (e.g., military bases, fire department training facilities, etc.). The Department expects the release of the survey results to increase demand from affected communities for groundwater testing. The requested funding for groundwater testing would allow the Department to preempt some of the anticipated public concern about PFAS contamination. The Department will prioritize sampling based on a risk index score that accounts for a community’s possible PFAS contamination, groundwater vulnerability, number of potential exposed residents, and combined environmental and demographic factors. This would allow communities that test positive of PFAS contamination above 70 ppt to begin mitigation and treatment efforts.

Due to the volume of water samples that the Department anticipates testing, the estimated per sample cost is \$300. The Department reports that per sample testing costs for individuals and municipal water treatment systems can reach \$425. The turnaround for testing results is estimated to take 15-25 days for large batches of samples. This compares to individual sample testing turnaround times that can take as long as six weeks, in extreme circumstances. The Department believes that by contracting with a third-party laboratory and subsidizing the cost of sample testing, they can encourage communities to test their groundwater and ensure reasonable turnaround times. The Department assumes information from testing could result in savings to residents and water systems, as well as reducing anxiety for residents by providing accurate and timely information.

³ Colorado Department of Public Health and Environment, Water Quality Control Division. July 19, 2019. *Site-specific groundwater standards, PFOA/PFOS*. Denver, CO. https://drive.google.com/file/d/1lbHED-18NXGqav_mxrO0EzUNKYanTH8x/view

The Department intends that all of the requested \$500,000 General Fund will be used for the contract, which may include testing, shipping, supplies, and contractor sampling support. Department staff and administration costs will be handled from existing funding. The Department acknowledges that this level of sampling would not cover the entire state, but would allow for prioritization of high-risk areas.

The Department plans to contract with at least one third-party laboratory for the testing of water samples. The Laboratory Services Division does not have the dedicated funding, equipment, or staff to conduct the type of systemic testing needed for PFAS contamination. The Division's primary cash fund is the Newborn Screening and Genetic Counseling Cash Fund, created in Section 25-4-1006, C.R.S., which is statutorily required to fund expenditures related to "newborn screening, follow-up care, and genetic counseling and education programs and functions." The Department asserts that the Division's remaining operating cash funds and General Fund are needed for laboratory supplies and operational contracts for core laboratory testing (e.g., rabies, tuberculosis, STIs, infectious disease surveillance and outbreak detection). There are also no feasible options for utilizing unencumbered cash funds to cover this testing. Cash funds in the Water Quality Control Division are highly restrictive. For instance, the Water Quality Improvement Fund, created in Section 25-8-608 (1.5), C.R.S., may only fund projects improving water quality in communities or water bodies impacted by a specific violation. Since PFAS contamination is not currently a violation subject to civil penalty, the Water Quality Improvement Fund is not a viable funding option.

Drinking water systems with PFAS contamination above 70 ppt are strongly encouraged to find another source of water (e.g., other wells, purchased surface water, bottled water) or install advanced treatment systems. Treatment systems consist of granular activated carbon, ion exchange, and/or reverse osmosis to remove the PFAS to levels below 70 ppt. Formal regulations to require drinking water levels below the health advisory levels are being examined on the State and federal levels. The Department is evaluating groundwater, surface water, and other standards to provide guidance on PFAS levels in water. It is currently cost prohibitive to completely clean up a contaminated aquifer because it involves removing contaminated soil out-of-state for incineration, as well as pumping and treating contaminated water using multiple advanced treatment technologies. Clean up is hampered by the persistence and stability of PFAS, the lack of in-state disposal options, and the extremely low levels that trigger health concerns.

STAFF RECOMMENDATION

Staff recommends that the Committee deny this request. Despite a general agreement that PFAS contamination of the State's groundwater is a growing public health concern, this request lacks a sense of urgency one would expect from an emergency. The Department does not anticipate testing to begin until January 1, 2020, and this request does not seek to fund treatment or mitigation activities in communities whose groundwater are already impacted by PFAS contamination. Additionally, the Department is in the final stages of review for a PFAS Action Plan developed by the Water Quality Control Division, which provides basic information about PFAS and will detail steps being taken by the Department to protect public health. That the Department is working on a long-term plan to address this public health concern suggests that additional funding and resources will be needed in the short- to medium-term. Efforts on both the State and federal level indicate that within the next several years, further regulatory guidance and scientific research will better allow public health agencies to assess and address PFAS contamination.