

Corrected - 12/22/2022

New Requirement - Interim Strategy: Sample and Analyze Biosolids for PFAS

Key Aspects of the Requirement

What is the Requirement:

This letter provides notification that the Colorado Department of Public Health and Environment’s Water Quality Control Division (division) is implementing additional requirements through 5 CCR 1002-64 (Regulation 64) for the beneficial use of biosolids as an interim strategy. You are receiving this letter as a “preparer” of biosolids. In accordance with Regulation 64, Parts 64.16.C and 64.17.A.(1)(d), the division is implementing additional requirements for “preparers” of biosolids to sample and analyze biosolids for PFAS and report to the division. The below requirements are **effective starting January 1, 2023**. The division will continue to evaluate this PFAS Interim Strategy, and it may be modified in future years.

Who Does this Requirement Apply To:

The division is requiring “preparers” of biosolids that meet the criteria in TABLE 1 below to implement the “Required Actions” below. An entity that meets these criteria must sample and analyze biosolids for PFAS, and meet other applicable requirements outlined below as a condition of compliance with biosolids Regulation 64.

TABLE 1.

If your entity meets Criteria 1 and one or more of the criteria in 2a-d, your entity must implement the Required Actions identified below.	
Criteria 1) Your entity is a biosolids preparer. “ Preparer ” means either the person (entity) who generates biosolids during the treatment of domestic sewage in a domestic wastewater treatment works (including from lagoon cleanouts) or the person (entity) who derives a final product material from biosolids; AND	
Criteria 2) your entity meets any of the following criteria a, b, c, or d:	<p>a) Generate <u>30 dry ton (DT) or greater</u> biosolids in 2023 AND:</p> <ul style="list-style-type: none"> <input type="radio"/> Any of the biosolids are land applied for beneficial use, or <input type="radio"/> Any of the biosolids are sent to someone else for further processing, or <input type="radio"/> Any of the biosolids are distributed as Class A biosolids.

	<p>b) Generate <u>less than 30 dry ton (DT)</u> biosolids in 2023 AND:</p> <ul style="list-style-type: none"> <input type="radio"/> Biosolids are land applied to its own site or sites for beneficial use, or <input type="radio"/> Produce Class A biosolids.
	<p>c) Are a third party preparer of Class A biosolids (such as composters) distributing a final product material derived from biosolids.</p>
	<p>d) Are land applying biosolids from another state or distributing a final product material derived from biosolids from another state, in Colorado.</p>

Note that the division may require an entity to sample and analyze biosolids for PFAS even if they do not meet the criteria in TABLE 1 above. This designation would occur in a separate letter to that entity.

Required Actions:

The division is requiring “preparers” of biosolids that meet the criteria in TABLE 1 above to implement the following actions beginning **January 1, 2023**:

- **PFAS Biosolids Sampling and Analysis** - Representative samples of biosolids must be collected and analyzed for PFAS during 2023. The required sampling frequency is determined by the annual quantity of biosolids generated and/or the annual quantity of the final product material derived from biosolids. See detailed information below for sampling frequencies.
- **Reporting of Biosolids PFAS Results and Other Required Information to the division** - PFAS analytical data must be reported electronically to the division using Excel or CSV type file or other method approved by the division. The division is still working on options for reporting data. Also, copies of the actual lab report, and potential PFAS Source Control information, must be submitted to the division by email at Biosolids+PFAS@state.co.us
- **PFAS Source Control Program** - Source identification and reduction efforts may be required based on PFAS analytical results of biosolids and/or the final product material derived from biosolids. See detailed information below regarding PFAS levels that would trigger a source control program.

Continue reading for more detailed information about the key aspects.

Background - PFAS as an Emerging Contaminant of Concern:

Per- and polyfluoroalkyl substances (PFAS) are a large group of manufactured chemicals used in industry, certain types of firefighting foam and consumer products since the 1940s. These chemicals are widely in use because of their ability to resist heat, water, and oil. PFAS chemicals are often used in fast-food packaging and non-stick cookware, to make clothes, carpets, and furniture resistant to water and stains. They may also be used in certain personal care products such as shampoo, dental floss, and cosmetics. The manufacturing and use of these products deliver PFAS into our natural environment and our drinking water and food supply. Due to their widespread production and use, as well as their ability to move and persist in the environment, most people living in the United States have some amount of these chemicals in their blood. PFAS build up in our bodies and are associated with a range of negative health impacts including certain types of cancer, high cholesterol and decreased vaccine response in children. Our understanding of PFAS and the risks they may pose is rapidly evolving. Since PFAS are manufactured chemicals, there is no natural background level.

The EPA is currently conducting a risk assessment which could lead to developing criteria for PFAS in biosolids. While the EPA is conducting their assessment, the division is taking this step of requiring sampling and analyzing biosolids for PFAS to better understand the occurrence of PFAS in biosolids in Colorado and to mitigate risk to public health and the environment from potential adverse effects of this emerging pollutant.

Who is Required to Sample and Analyze Biosolids for PFAS:
(as shown in TABLE 1 above)

Pursuant to Regulation 64, Part 64.9.DD., ***“Preparer”*** means either the person who generates biosolids during the treatment of domestic sewage in a domestic wastewater treatment works or the person who derives a final product material from biosolids.

“Preparers” of biosolids, including lagoon cleanouts, are required to sample and analyze biosolids for PFAS if they meet any of the 4 conditions below:

1. Generate **30 dry ton (DT) or greater of biosolids per year** and:
 - Any of the biosolids are land applied for beneficial use, or
 - Any of the biosolids are sent to someone else for further processing, or
 - Any of the biosolids are distributed as Class A biosolids.
2. Generate **less than 30 DT biosolids per year**, and:
 - Biosolids are land applied to its own site or sites for beneficial use, or
 - Produce Class A biosolids.
3. Are a third party preparer of Class A biosolids (such as composters), distributing a final product material derived from biosolids.
4. Are land applying biosolids from another state or distributing a final product material derived from biosolids from another state, in Colorado.

Note that the division may require an entity to sample and analyze biosolids for PFAS even if they do not meet the criteria above. This designation would occur in a separate letter to that entity.

Sampling Guidance:

Because this is a new requirement, the division is currently identifying and developing sampling guidance for sampling biosolids for PFAS. This guidance will be available soon on our webpage at <https://cdphe.colorado.gov/water-Biosolids-PFAS>

PFAS Sampling Frequency:

The required frequency of sampling biosolids for PFAS is determined by the annual quantity of biosolids generated and/or the annual quantity of the final product material derived from biosolids as described in **TABLE 2** below.

- Entities will be required to identify their frequency based on the highest potential quantity of biosolids generated. This is consistent with current biosolids requirements for other parameters.
- Sampling must occur by the end of each sampling period. Entities with once-per-year sampling will have the entire year to sample. The division highly encourages preparers not to wait until the end of the sampling period to sample, due to potential issues that could occur.

TABLE 2.

ANNUAL BIOSOLIDS PRODUCTION (dry short tons/year) *	PFAS Sampling Frequency
less than 319	Once per year
319 to less than 1,650	Once per quarter
1,650 to less than 16,500	Once per two months
16,500 and greater	3 samples per quarter

* Lagoon cleanouts are included.

PFAS Analysis and Testing:

The division is requiring the use of **EPA Draft Method 1633** (or final method once approved) for PFAS analysis of biosolids and/or the final product material derived from biosolids. EPA draft Method 1633 (an isotope dilution method) is currently undergoing multi-laboratory validation as part of the Clean Water Act method approval process. EPA Draft Method 1633 tests for 40 different PFAS compounds.

Be sure to select a laboratory that utilizes EPA Draft Method 1633 (or final method once approved) for PFAS analysis of biosolids and/or the final product material derived from biosolids. Also note that PFAS analyses typically have a long turnaround time, up to four to six weeks, which may vary depending on the laboratory chosen.

IMPORTANT NOTE: All biosolids and sludge samples, including those with low solids content, should be analyzed as solids and reported on a dry weight basis. This dry weight basis reporting requirement should be written “as received” and specified on the chain of custody sent to the laboratory.

Reporting Requirements for PFAS Analysis Information:

Results of PFAS biosolids analysis data and associated laboratory reports shall be submitted to the division within 45 days after the lab analysis has been completed by the lab (“Report Date”). All 40 PFAS compounds analyzed with EPA Draft Method 1633 (or final method once approved) must be reported to the division. The PFAS lab data must be reported electronically to the division using Excel or CSV type file or other method approved by the division. The division is still working on these options for reporting data. A copy of the actual lab report must also be submitted at this time to the division by email at Biosolids+PFAS@state.co.us

Evaluation of Results / Trigger Level and Source Control Program:

Evaluate the PFAS results of your biosolids and/or the final product material derived from biosolids promptly after receipt of the lab analysis information. Specifically, review the **PFOS** compound result. The division is using **PFOS** (one of the 40 compounds analyzed) as an indicator compound.

- **If the PFOS level = 50 µg/kg or greater:**
 - We recommend contacting the division as soon as possible after identifying that this level has been met or exceeded to discuss a path forward to meet the requirements below.
 - The preparer is required to develop and implement a **Source Control Program** with the goal of reducing or eliminating non-domestic sources of PFAS. At a minimum, the program must investigate potential non-domestic PFAS sources and report to the division measures taken to reduce non-domestic PFAS sources.
 - The preparer is **required to report information** on its source investigation and reductions to the division by email at Biosolids+PFAS@state.co.us in accordance with the following timelines:
 - **Within three months of the lab Report Date:** submit a report outlining your initial plan for a Source Control Program.
 - **Within one year of the lab Report Date:** submit a report summarizing the findings and status of your Source Control Program.
 - This report may include things such as:
 - The initial plan and any potential modifications to that plan.
 - Steps taken to identify and reduce non-domestic PFAS sources.
 - Results of the steps taken, including identification of non-domestic PFAS and sources.
 - Conclusion (or status) of the Source Control Program.

- If any work remains to be done, identify plans, including a plan and time schedule for completing the Source Control Program and associated actions, as necessary.
 - Not all Source Control Program actions need to be completed by this time. If needed, coordinate final actions, timelines, and reporting with the division.
- **The division can help with technical assistance/expertise for a Source Control Program.**
- If the **PFOS** level is less than **50 µg/kg**:
 - The preparer has no additional requirements in relation to this sampling event other than reporting the results to the division.
 - Continue with sampling and analysis of biosolids for PFAS as required in accordance with TABLE 2.

Transparency:

Results of PFAS analysis will be posted online by the division starting mid-2023. The division recognizes the importance of being transparent and clear on what data does and does not tell us, to reduce public confusion or fear. We will have guidance for interpreting and explaining PFAS test results on the web page along with the results.

Potential Funding Opportunities:

Through EPA grant funding and the division's PFAS Grant Program, the division will support preparers of biosolids by paying the costs for preparers to have one biosolids sample tested for PFAS and assist with the evaluation of results and reporting requirements. Grant funding will cover costs associated with the laboratory sample kits, laboratory shipping costs, and analytical laboratory reporting. Should the trigger level be met or exceeded, the division has additional resources available to support these preparers of biosolids with source identification and reduction efforts. Please [fill out this quick interest form](#) if you are interested in taking advantage of this opportunity and the division will contact you in early 2023. Due to limited grant funding, the division may not be able to support all preparers interested.

Questions?

Please contact the division by email at Biosolids+PFAS@state.co.us or visit our webpage at <https://cdphe.colorado.gov/water-Biosolids-PFA>