

# United States Environmental Protection Agency

## Information Collection Request

**Title:** Publicly Owned Treatment Works (POTW) Influent Per- and Polyfluoroalkyl Substances (PFAS) Study and National Sewage Sludge Survey (NSSS)

**OMB Control Number:** 2040-NEW

**EPA ICR Number:** 2799.01

### Supporting Statement B

## 1. QUESTIONNAIRE RATIONALE

The questionnaire and subsequent sampling program will provide gather data necessary to identify and quantify sources of PFAS discharges, prioritize industrial categories for potential regulation, and establish a current national data set of sewage sludge characteristics. This data collection will support two separate United States Environmental Protection Agency (EPA) studies:

- **POTW Influent PFAS Study.** As announced in the EPA's [Effluent Guidelines Program Plan 15](#), published in January 2023, the EPA will conduct the POTW Influent PFAS Study to gather nationwide data on industrial and domestic wastewater discharges of PFAS into the environment. To accomplish this goal, the EPA will require a subset of POTWs across the United States to complete an electronic questionnaire and conduct wastewater sampling to obtain information on types and quantities of PFAS in discharges from industrial facilities, domestic wastewater or sewage, and POTW influent and effluent. The data will primarily be used to identify and prioritize industrial point source categories where additional study or regulations may be warranted to control PFAS discharges.<sup>1</sup>
- **National Sewage Sludge Survey (NSSS).** The EPA also plans to conduct a NSSS to identify the presence of pollutants in sewage sludge using samples collected from POTWs. This NSSS will focus on obtaining a current national data set on PFAS concentrations and ancillary parameters found in sewage sludge. The data generated by the NSSS will help inform future risk assessments and risk management options for sewage sludge.

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<sup>1</sup> The EPA is conducting several rulemakings to address PFAS discharges from PFAS manufacturers, chromium finishing facilities, and landfills; however, there are over 50 industrial categories regulated by Effluent Limitations Guidelines and Standards (ELGs) that do not have any PFAS requirements and additional industries that the EPA has determined historically or currently use PFAS but for which insufficient PFAS monitoring data has been identified. In addition, the EPA is interested in quantifying PFAS discharges from industrial users in sectors not currently regulated by ELGs and those for which PFAS monitoring data do not exist.

This collection effort is necessary because existing data on the wastewater discharged from many industrial facilities to POTWs are typically not publicly available or accessible, are incomplete or inconsistent, are difficult to combine, are limited to certain geographic regions and industrial categories, and/or were not evaluated with standard analytical methods approved for use on wastewater matrices. Additionally, there are limited publicly accessible data on the relative PFAS contributions from industrial wastewater, domestic wastewater or sewage, and commercial sources into the environment; PFAS concentrations in sewage sludge; and the fate and transport of PFAS. The collection effort is also consistent with the EPA's October 2021 PFAS Strategic Roadmap commitments to address PFAS through investment in scientific research to fill gaps in understanding of PFAS and to prevent PFAS from entering the environment.

### 1a. Population of Interest

The population of interest for the POTW Influent PFAS Study and NSSS is POTWs operated in the United States. For the purposes of this information collection request (ICR), the term POTW is defined as follows:

**Publicly Owned Treatment Works (POTW):** An individual or standalone wastewater treatment plant as defined by Section 212 of the Clean Water Act, which is owned by a state or municipality (as defined by Section 502(4) of the Clean Water Act). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of domestic wastewater or sewage or industrial wastes of a liquid nature. [40 CFR §403.3 \(General Pretreatment Regulations for Existing and New Sources of Pollution\)](#).<sup>2</sup>

The EPA estimates that there are over 15,000 POTWs in the United States. POTWs provide essential services to residential, commercial, and industrial users by collecting and treating wastewater. POTWs are “passive receivers” of PFAS and other pollutants, since they do not produce or manufacture PFAS but receive these through the wastewater that arrives at the treatment plant. POTWs that administer pretreatment programs for industrial users serve as a centralized data source for indirect industrial wastewater discharges. The EPA will therefore use POTWs as a proxy for collecting discharge data on industrial dischargers across industrial categories. The EPA does not intend for this data collection to be a statistically representative sample of the entire population of POTWs or industrial users in the United States.

As described in Section 2, the sample scheme for this data collection will only include a small percentage of the total population of POTWs in the United States. The EPA plans to administer a questionnaire to approximately 400 (2.7 percent) POTWs which report a daily design flow rates greater than or equal to 10 million gallons per day (MGD) and a service population greater than or equal to 50,000 people. The subsequent sampling program will require 200 to 300 of the 400 POTWs to participate conduct wastewater and sewage sludge sampling. Each POTW selected for sampling will be required to collect and analyze samples of domestic wastewater or sewage, POTW influent, POTW effluent, POTW sewage

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<sup>2</sup> To simplify and provide clarity throughout this ICR supporting statement, the population of interest includes wastewater treatment plants which store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes and are owned or operated by a state, local government, municipality, or Tribal group. The population of interest does not include federally-owned or privately-owned facilities, and does not include dedicated flow control entities such as Combined Sewer Overflows (CSOs) and Sanitary Sewer Overflows (SSOs).

sludge, and effluent from on average 10 industrial users. The total number of industrial users sampled as part of the sampling program is approximately 2,000 facilities.

#### **1b. Response Rate/No Response**

The EPA's Office of Water plans to administer the data collection, including a one-time questionnaire and two-phase sampling program, under the authority of Section 308 of the Clean Water Act (Federal Water Pollution Control Act, 33 USC Section 1318). All recipients of the questionnaire and subsequent sampling request will be required to participate and submit a complete response. Failure to respond, late filing, or failure to comply with the instructions may result in fines, civil penalties, and other sanctions, as provided by law.

Since the data collected will be required under the authority of Clean Water Act Section 308, the EPA estimates that all POTWs selected to complete the electronic questionnaire and sampling program will respond (i.e., the POTW response rate will be 100 percent). The EPA will employ several measures to reduce no response. The notification letter and instructions delivered to each recipient will explain the legal authority, responsibility to respond, reasons for the data collection, and penalty for no response. Delivery or non-delivery of notification letters will be tracked using Federal Express; thus, signatures of the recipients will be required to confirm receipt. The EPA will conduct outreach with selected POTWs, trade associations, and regulatory authorities before and during the data collection period to summarize the nature and requirements of the questionnaire and sampling program. The EPA anticipates a complete understanding of the data collection will reduce, if not eliminate, the no response rate. Additionally, email and phone helplines will be operated while the questionnaire is in the field so that technical and administrative questions pertaining to the questionnaire and sampling program requirements can be addressed. Recipients that do not respond to the questionnaire by the deadline date may be phoned or notified again by mail or email to encourage response, answer questions, and determine the reason(s) for the no response.

To minimize no response, the EPA solicited comments on a draft list of questions and worked closely with industry experts to refine questions so that they are easy to understand with clearly defined and familiar terms, are formatted in a logical sequence, and request data that are readily available within the industry. In this manner, the EPA expects to minimize inaccurate or incomplete responses to questions that can occur due to misunderstanding or misinterpretation.

The design and implementation of the questionnaire will employ several quality assurance techniques to reduce the frequency of such errors. These techniques include the following:

- Reviewing question language for ambiguity and clarity.
- Using an easily followed sequence of questions and stopping points.
- Avoiding questions requiring an open-ended response.
- Providing a limited number of carefully considered responses to each question.
- Providing clear definitions of units of measurement and of technical terms.
- Providing clear instructions with references to the definitions.
- Providing helplines via email and a toll-free number to assist respondents.
- Reviewing responses to obtain missing information and resolve problems and inconsistencies.
- Using a web-based questionnaire platform (Qualtrics).

- Requiring specific response formats (e.g., numeric values where a number is requested) and acceptable value ranges.

## **2. DATA COLLECTION DESIGN**

This data collection will support two studies – the POTW Influent PFAS Study and the NSSS. The POTW Influent PFAS Study will support the EPA’s ELG Program by sampling approximately 2,000 industrial users’ wastewater discharges for PFAS, alongside domestic wastewater or sewage and POTW influent and effluent. The wastewater sampling data will primarily be used to identify and prioritize industrial point source categories where additional study or regulations may be warranted to control PFAS discharges. The NSSS will support the EPA’s Biosolids Program by creating a national data set on concentrations of PFAS and ancillary parameters in sewage sludge. The EPA will subsequently use the data to inform upcoming risk assessments and the need for future regulations and guidance pertaining to the management of sewage sludge.

The EPA does not intend for the data collection to be a complete or statistically representative assessment of all industrial facilities or POTWs in the United States and it would be technically challenging, if not infeasible, to collect such a comprehensive data set. The EPA therefore plans to administer this data collection as a sample of selected individual POTWs to provide a diverse data set of industrial users across the United States that the EPA can draw from to identify industrial categories where further study or rulemaking may be warranted. The EPA determined that a census of the POTWs is not necessary to fulfill the objectives of the study and would result in significantly higher burden to the industry.

The EPA developed a sampling scheme for the questionnaire and sampling program based on the estimated quantity of PFAS monitoring data it will need to achieve the objectives of the POTW Influent PFAS Study and NSSS and available data on POTW characteristics of interest. The EPA also determined that the sample size should be determined based on the number of industrial users that need to be sampled to create a sufficiently diverse and robust national data set. The EPA determined that collecting wastewater samples from a total of 2,000 industrial users should provide dozens of effluent samples from each industrial point source category with an existing ELG will be sufficient to achieve the study objectives. The sewage sludge sampling from 200-300 POTWs across the nation will satisfy the data needs of the NSSS by providing current national concentration data of PFAS and ancillary parameters to help inform future risk assessments and risk management options. The sample frame, sample size, stratification variables, and sampling method are described below.

### **2a. Sample Frame**

The sample frame is the set of potential respondents from which the sample will be drawn (i.e., target population, population of interest). The EPA developed the sample frame for the questionnaire and sampling program based on 2022 Clean Watersheds Needs Survey (CWNS) data. The EPA used information and data from the 2022 CWNS, the most recent CWNS data set publicly available, to identify the population of POTWs in the United States and to estimate daily flow rates for each POTW. CWNS is an assessment of capital investment needed nationwide for publicly-owned wastewater collection and treatment facilities to meet the water quality goals of the Clean Water Act. As there are likely more unmet capital investment needs at larger POTWs, and the POTW Influent PFAS Study and NSSS data collection is focused on the largest POTWs, the EPA determined CWNS data provides the best available data on which to base the sample frame. Based on the 2022 CWNS, the EPA identified over 15,000 POTWs operating in the United States and used this population as the sample frame for the data

collection. The list of POTWs included in the sample frame is available on the EPA's website at <https://www.epa.gov/cwns>. The EPA is aware that this sample frame does not include all POTWS in the United States; however, as discussed above it is not necessary to identify all POTWs in the United States to focus this data collection on the POTWs with the largest flow rates.

## **2b. Sample Size**

The sample size is the actual number of units/respondents to be included in the data collection. To capture approximately 2,000 industrial users in the data collection, the EPA will need to administer the questionnaire and sampling program to a population of POTWs that represent a substantial number and broad range of industrial users. The number of industrial users covered by a POTW varies site-to-site; however, POTWs located in large metropolitan locations with higher flow rates tend to have a higher number of industrial users and more diversity in types of industrial discharges received. The EPA estimated that administering the questionnaire to a population of 400 large POTWs across the United States will generate sufficient data to capture the required number of industrial users and a cross-section of industrial categories.

Based on information and data collected via the questionnaire, the EPA would identify 200 to 300 POTWs to conduct sampling of industrial user effluent; domestic wastewater or sewage; and POTW influent, effluent, and sewage sludge. For each POTW selected, the EPA will specify on average 10 industrial users for which the POTW will collect and analyze wastewater effluent samples. The total number of industrial users sampled as part of the sampling program will be approximately 2,000 facilities.

## **2c. Stratification**

Stratification is the method used to segment a population into homogeneous groups. The goal of stratification is to reduce the sampling error or, looked at another way, to increase the precision of estimates derived from sample data. Since the POTW Influent PFAS Study is a screening assessment of PFAS in industrial user discharges and the EPA will not use data generated from the data collection to derive national estimates, the EPA determined that stratification will not increase the precision of data collected and is not warranted to achieve the objectives of the POTW Influent PFAS Study. The EPA is selecting the POTWs with the greatest flow rates not to identify a homogeneous group of POTWs but to ensure that a diverse and robust data set of industrial users is created.

For the NSSS, the EPA is also interested in learning about potential industrial and domestic sources of PFAS to sewage sludge in order to help with PFAS source reduction; therefore, the same POTWs sampled for the POTW Influent PFAS Study are planned to be sampled for the NSSS. The NSSS will provide a current national data set describing PFAS concentrations and ancillary parameters in sewage sludge. This data collection will fulfill the goals of both the POTW Influent PFAS Study and the NSSS.

## **2d. Sampling Method**

The sampling method is the set of rules or procedures for selecting the individuals, or "sample," for the data collection from the population of interest, or "sample frame." From the 2022 CWNS population of over 15,000 POTWs, the EPA will select approximately 400 POTWs to complete the questionnaire and a subset of 200 to 300 questionnaire respondents to conduct sampling.

The EPA compiled publicly available technical data on 800+ POTWs that reported a design or average daily flow rate equal to or greater than 10 MGD and a service population equal to or greater than 50,000 people based on information collected from the 2022 CWNS, 2022 Discharge Monitoring Reports (DMRs), and the EPA's Integrated Compliance Information System - National Pollutant Discharge

Elimination System (ICIS-NPDES) database. The EPA established these criteria to focus the data collection on POTWs with the largest daily flow rates which will likely capture the largest number and diversity in types of industrial users and wastewater influents. These criteria are intended to select POTWs which have sufficient resources to complete the data collection and minimize burden to small businesses/entities and POTWs with minor NPDES POTWs. The EPA will consider the following factors when selecting POTWs to receive the questionnaire:

- **Number of Industrial Users.** The EPA will prioritize facilities that reported a higher number of significant industrial users (SIUs) and categorical industrial users (CIUs).
- **Flow Rates.** The EPA will prioritize facilities that reported higher daily flow rates because these likely capture the largest number and diversity in types of industrial users.
- **Geographic Distribution.** The EPA will include POTWs from all states and territories with POTWs meeting the acceptance criteria and select no more than 20 POTWs in an individual state or territory.
- **Municipal Authority Burden.** The EPA intends to limit the number of selected POTWs in an individual city or operated by a single municipal authority to fewer than 5.
- **Biosolids Programs.** The EPA will prioritize facilities with biosolids NPDES permits and/or sewage sludge generation and management information.
- **Ownership Type.** The EPA will only select publicly owned and/or operated facilities to eliminate collection of CBI.

The EPA will determine the specific POTWs to participate in the sampling program and industrial users to be sampled based on technical information collected through the questionnaires. For the POTW Influent PFAS Study, the EPA's selection of the 200 to 300 POTWs to conduct sampling will be driven by the number and type of industrial users and suspected or known sources of PFAS discharges reported by the POTWs. The EPA will exercise best judgement to determine the number of facilities in each industrial category to sample as part the sampling program. In selecting facilities, the EPA's goal will be to capture a plurality of sampling data for each industrial category with an existing ELG. The EPA will then select a group of 200 to 300 POTWs that collectively represents the distribution of industrial users the EPA wishes to sample. POTWs that receive wastewater discharges from multiple industrial categories are more likely to be selected for the sampling program.

For the NSSS, the EPA's goal will be to create a current national data set on sewage sludge concentrations of PFAS and ancillary parameters to help inform future risk assessments and risk management options. While any sewage sludge management practice will be considered for sampling, POTWs that generate biosolids will be more likely to be included in the sampling program.

In assessing specific POTWs for potential sampling, the EPA will also consider factors such as geographic location (i.e., ensuring that POTWs are selected for different states and regions of the United States), potential burden on operating entities (i.e., minimizing the number of POTWs selected for each municipal authority), and availability of existing PFAS monitoring data (i.e., whether sampling would be duplicative with permitting requirements or previous PFAS source assessments).

The EPA will exercise best judgement and coordinate with industry trade associations in selecting specific POTWs to complete the questionnaire and conduct sampling. The EPA acknowledges the sampling method may not result in a statistically representative sample of POTWs across the United

States. A statistically representative sample is not required in order to meet the stated goals of the POTW Influent PFAS Study or NSSS.

### 3. ESTIMATION PROCEDURE

As described in Section 2, the EPA determined that collecting wastewater samples from a total of 2,000 industrial users from a cross-section of industrial categories will be sufficient to achieve the POTW Influent PFAS Study objectives. Large POTWs, such as those required to complete the questionnaire, have dozens to hundreds of industrial users per facility; therefore, inclusion of 200 to 300 POTWs in the sampling program will allow the EPA to achieve sampling of 2,000 industrial users all industrial categories with and without existing ELGs. The EPA estimated that selecting 400 POTWs to complete the questionnaire and ultimately receiving responses from all selected POTWs will provide sufficient data and flexibility to the EPA to select 200 to 300 specific POTWs and industrial facilities to conduct sampling.

Although the EPA will not have a complete picture of all industrial facilities discharging to POTWs in the United States, the sample design for this data collection will produce sufficient information to achieve the objectives of the POTW Influent PFAS Study. If the EPA determines that regulatory action is warranted based on the findings of the POTW Influent PFAS Study, the EPA will likely pursue industry-specific data collection efforts to support those future rulemaking efforts.

Monitoring sewage sludge from 200-300 POTWs across the nation for PFAS and ancillary parameters also will fulfill the objectives of the NSSS through obtaining a robust national data set of current sewage sludge characteristics to help inform future risk assessments and risk management options.

### 4. ACCURACY/PRECISION

Accuracy measures how close the result is to the actual value of the measure. Precision measures how closely estimates made from the sample data approximate the characteristics of the population of interest. Information and data collected via the questionnaire and sampling program will support identifying and prioritizing industrial categories for potential regulation for the POTW Influent PFAS Study and fulfill the needs of the NSSS. The EPA evaluated accuracy of the data collection design and has taken steps to ensure information and data collected are suitable for use to achieve the objectives of the POTW Influent PFAS Study and NSSS.

**Accuracy.** The questionnaire will not require questionnaire respondents to complete non-routine tests or measurements. The design and implementation of the questionnaire will employ several quality assurance techniques to reduce the frequency of errors and minimize inaccurate or incomplete responses. For the sampling program, all aqueous and sewage sludge samples collected will be analyzed by laboratories using consistent, EPA-approved analytical methods. Further, all sampling results will undergo quality assurance review prior to compilation and submission to the EPA. POTWs will be required to certify that information and data submitted for the questionnaire and sampling program are, to their knowledge, accurate and complete. The design and requirements of this data collection will minimize the impact of potential non-sampling errors.

**Precision.** Because the POTW Influent PFAS Study is a screening assessment, the EPA did not establish precision targets and is not concerned with precision for this data collection. The same POTWs sampled for the POTW Influent PFAS Study will be monitored for the NSSS in order to gain a better understanding of potential industrial and domestic sources of PFAS to sewage sludge and obtain a national data set of

current sewage sludge characteristics to help inform future risk assessments and risk management options.

## **5. SPECIALIZED SAMPLING PROCEDURES**

No special sampling procedures are planned for the questionnaire or sampling program.

## **6. DATA COLLECTION**

This will be a single incident data collection; no periodic data collection is planned at this stage. Under this ICR, the EPA intends to administer a mandatory questionnaire and conduct a mandatory sampling program for approximately 2.7 percent of POTWs in the United States. Additionally, the EPA will develop a public-facing, web-based data submission tool (Voluntary Data Submission Portal) which will allow states, municipal authorities or service agencies, POTWs (including those not selected to complete the questionnaire or sampling program), and other stakeholders to voluntarily submit relevant existing data characterizing PFAS and AOF in industrial user effluent; domestic wastewater or sewage; and POTW influent, effluent, and sewage sludge. The EPA will consider relevant data collected through this Voluntary Data Submission Portal to augment data the EPA collects through the mandatory sampling program as part of the POTW Influent PFAS Study and NSSS. The collection methods for each of these efforts are described further in Sections 3 and 4 of Part A of this ICR supporting statement.

## **7. RESPONSE RATE/NO RESPONSE/DATA UTILITY**

### **7a. Response Rate**

The EPA expects that the response rate will be 100 percent for this mandatory questionnaire and sampling effort, which will be conducted under the authority of Section 308 of the Clean Water Act (Federal Water Pollution Control Act, 33 USC Section 1318). The sample size for the questionnaire is 400 facilities.

### **7b. No Response**

The EPA recognizes that some no response is unavoidable, and in past questionnaire efforts, the EPA has waived the duty to respond in extreme and rare cases (e.g., natural disasters) which also might occur for this data collection effort. As noted throughout this supporting statement, the EPA will conservatively assume that all POTWs which are selected for the questionnaire and sampling program provide a complete response so that the burden to industry is not underestimated. The EPA will implement efforts to reduce no response, including use of an easy-to-use format, operating helplines, and following up with potential nonrespondents.

### **7c. Burden Reduction**

The EPA designed the questionnaire to include burden-reducing features. The questionnaire will contain terminology and questions familiar to the POTWs, allowing for easy interpretation and completion. The questionnaire will allow for upload of existing documents, such as wastewater treatment diagrams and annual biosolids reports, instead of requiring respondents to manually enter this information into question responses or produce new documents. The questionnaire also groups similar topic questions together and will offer drop-down menus and checkbox selections to simplify responses, thus minimizing the number of text responses requiring input.

The questionnaire consists of 20 questions and should not require a burden of more than 23 hours (on average) for each facility's respondents to complete, verify, and submit. The EPA will implement the

questionnaire online which will facilitate access and completion. The EPA therefore concludes that completing the questionnaire does not represent an overly burdensome task. The questionnaire and sampling program will also serve as a response to EPA's NSSS. Combining these objectives reduces an individual POTW's burden to submit the same information to the EPA multiple times.

#### **7d. Data Utility**

The data collected through this data collection will serve to identify and quantify sources of PFAS discharges, prioritize industrial categories for potential regulation, and establish a current national data set of sewage sludge characteristics. Subsequently, if the EPA pursues a rulemaking for a certain industrial category, the data collected for the category may be used to conduct further analyses of the point source category and support proposed and/or final rulemaking analyses.

### **8. TESTS OF PROCEDURES**

The EPA does not intend to pre-test the questionnaire. For more than 40 years, the EPA has conducted surveys of numerous industrial sectors to collect information to support regulation development activities in the effluent guidelines program. While the EPA develops different questionnaires for each industry, there are common elements for all industries. The questionnaires collect the same basic data such as information about general facility and permit information, wastewater generation and management, and discharge. Thus, when the EPA develops a questionnaire for a particular industry, it generally tailors the questions for specific terms and processes used by that industry. In past years, the EPA has administered multiple electronic (Qualtrics-based) questionnaires and has relied on active participation by trade groups and their members in reviewing the questionnaires. In the EPA's experience, such collaboration generally tends to better reflect the industry at large than pre-tests. As discussed in Part A of this supporting statement, the EPA has already engaged trade associations and industry experts regarding this data collection. The EPA expects to continue to discuss and refine this questionnaire with industry experts prior to implementation. For this reason, the EPA considers additional review through the pre-test process to be unnecessary for this industry.

### **9. CONTACT INFORMATION**

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