



**Maryland Department of Environment**  
**Water and Science Administration**  
**Compliance Program**  
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**Inspector:** Ronald Wicks  
**AI ID:** 3076

**Site Name:** Patapsco WWTP  
**Facility Address:** 3501 Asiatic Ave, Curtis Bay, MD 21226  
**County:** Baltimore City County

**Start Date/Time:** November 02, 2022 09:15 AM  
**End Date /Time:** December 01, 2022 05:20 PM

**Complaint Number:**  
**Media Type(s):** NPDES Municipal Major Surface Water

**Contact(s):**  
Neal Jackson  
Eric Johnson  
Andrea  
Buie-Branum

## **NPDES Municipal Major Surface Water**

**Permit / Approval Numbers:** 15DP0580  
**NPDES Numbers:** MD0021601  
**Inspection Reason:** Follow-up (Non-Compliance)  
**Site Status:** Active  
**Compliance Status:** Noncompliance  
**Recommended Action:** Additional Investigation Required  
**Evidence Collected:** Photos or Videos Taken, Record Review, Visual Observation  
**Delivery Method:** Email  
**Weather:** Clear Average

### **Inspection Findings:**

The Patapsco wastewater treatment plant (WWTP) is a 73 million gallons per day (MGD) capacity WWTP with ferric chloride for removal of phosphorus. The treatment system has grit removal, mechanical fine screens, primary clarifiers, oxygen activated sludge reactors, secondary clarifiers, biological aerated filters for nitrification, denitrification filters, flow distribution chamber, chlorine contact chamber, dichlorination, and cascade post aeration chamber prior to final discharge to the Patapsco River. The receiving water is designated Use II waters protected for estuarine and marine aquatic life. The average flow is approximately 55-57 MGD; however, during heavy rainfall flows can double due to infiltration from the sewer lines. Patapsco WWTP's biosolids are processed by Synagro, Inc., a private company, located on-site that draws the undigested biosolids and then dewateres the biosolids and transports off site.

The permit effective date is 10/1/2017, expiration date is 09/30/2022 (the permit has been administratively extended) with a reapplication date of 03/31/2021. The renewal application was received by the Maryland Department of the Environment (MDE or Department). The facility's activity code or standard industrial classification is 4952, and the North American Industry Classification System is 22132.

Today, I (Ronald Wicks) completed a compliance evaluation inspection at the Patapsco WWTP, NPDES Discharge Permit number MD0021601, and State number 15-DP-0580.

I met Neal Jackson, Plant Manager, Eric Johnson, Wastewater Operations Supervisor II, and Andrea Buie-Branam, Environmental Compliance Manager on site for this evaluation.

During a preliminary meeting with the above people, I discussed my plans for this inspection and what I expected to accomplish during this evaluation. I began the evaluation with a discussion on progress in completing corrective actions and new developments since my last evaluation. The details are listed below based on the treatment process or topic.

### **Biosolids Treatment and Management**

Due to the high concentration of hydrocarbons detected in the sludge, Synagro is not using the air dryer normally used to efficiently process sludge. Synagro is not pelletizing the sludge, but is processing solids to cake at a much slower rate. According to Jackson, Synagro has been monitoring the hydrocarbon concentration of the sludge and plans to begin a gradual startup of the air dryer for the pelletizing of the biosolids in mid-November pending the outcome of a series of testing events.

According to Jackson, the Patapsco WWTP is working with Synagro to improve biosolids processing and removal from the site. Originally, the solids were pulled from the sludge blending tanks (SBT). This operation was controlled by Synagro; however, analytical data show that the sludge in the SBTs has petroleum hydrocarbon concentrations at levels that Synagro determined were too high to process in the dryer. Biosolids are now being taken from the gravity sludge thickeners (GST) instead of the SBTs, where the hydrocarbon concentrations are very high.

A portable belt press has been set up at the site to dewater the sludge in the SBTs. Currently, there is approximately 1,800,000 million gallons of sludge left to process. According to Jackson, the Patapsco WWTP can process 30,000 gallons of sludge per day using the portable belt press and based on the current volume all of the sludge should be processed by early January 2023. High levels of methane can build up in the SBTs as the air space increases in the SBTs so I asked Jackson how the methane will be controlled. He indicated that they are using recirculating pumps so that there is no build-up of methane.

According to Jackson and Johnson, 45–50 dry tons of biosolids are now being processed daily by Synagro and the centrifuged sludge is sent out of state by railcar. The removal of the sludge by rail began on June 23, 2022. The inventory of biosolids has been reduced to a point where according to Jackson and Johnson, sludge is being processed the same day it is pumped from the treatment system. The tailings transfer station that was being used as a temporary sludge storage site has been

cleared of sludge and is now being cleaned out and upgraded with new piping to prevent drainage from leaving the site. Once completed, it will go back to its original purpose of a drying area for tailings from the fine screening area.

### **Total Petroleum Hydrocarbon (TPH) Source Investigation**

On July 27, 2022, the Department received a letter from Baltimore City (City) containing a status report update on efforts to forensically determine the source(s) of the hydrocarbon-related constituents in the influent from the Patapsco WWTP. The report specified that additional monitoring would be conducted in the collection system near one or more significant industrial users (SIU). If it is determined that an SIU is the source of the TPH, Baltimore City would take appropriate measures, in coordination with the SIU, to mitigate TPH from their discharge. The Department has not received a status update since the July 27, 2022, letter, therefore, an update detailing progress made to date is required. **Within 15 days of the receipt of this report, the City shall submit a status update on measures to mitigate TPH in the influent to the Patapsco WWTP.**

### **Grit Building**

The domestic waste enters the plant at the grit building where there are six grit chambers. Hazen and Sawyer, Inc, a third-party contractor has cleaned and repaired some of the grit processing equipment. Initially, Hazen and Sawyer determined that all six grit chambers were not functioning as designed due to the grit and rags in the chambers. All of the grit chambers have been cleaned and put into service. Hazen and Sawyer has also repaired and put into service one of the cranes with a clamshell bucket. Due to problems with odor control and ventilation at the grit building, confined space entry requirements are in place. This situation has made it difficult to enter and work in the building due to hydrogen sulfide (H<sub>2</sub>S). Baltimore City Department of Public Works (DPW) will refurbish the grit building under Capital Project SC 938. According to Jackson, when completed, the grit building will be an open-air structure with just a roof and no walls. Jackson further stated that until the building is refurbished, they are looking into the possibility of adding ferric chloride to an inlet interceptor to reduce H<sub>2</sub>S and phosphates in the sewage coming into the plant. Ferric chloride can be used as a pre-treatment step in WWTPs to significantly reduce odors associated with sulfur-containing compounds, as well as reduce total suspended solids (TSS), biochemical oxygen demand (BOD), and phosphates from wastewater. The facility generates 60–70 tons of grit per month, which is landfilled off site. There are now six roll off dumpsters at the grit building, which has made the loading and disposal of the grit more efficient.

### **Fine Screening Process**

Five of the eight screens have been recently refurbished. Baltimore City has appropriated the funds to upgrade the bar screens by replacing all the internal parts and installing a more effective wash system. All eight of the screening units are scheduled to be refurbished. According to Jackson and Johnson, the remaining three fine screening units are scheduled to be taken offline in December 2022, and sent out for refurbishing.

### **Primary Settling Tanks (PST)**

There are currently five of the six PSTs online. The #6 PST is currently out of service. I asked Jackson about the status of a Capital Improvement Project for FY18 that was approved by the Board of Estimates in 2017 to provide upgrades for the PSTs. These improvements include the following:

- Pump and scum removal upgrades for all PSTs;
- Replacement actuators in all scum troughs;
- Replacing the flight brackets on PSTs #2-6 with new functional heavy-duty brackets;
- Installing scum trough with actuated adjustment rods in PST #1-3; and
- Installing a heavy-duty mixer in the scum trough between PSTs #5 and #6.

According to Jackson, the replacement of the actuators in the scum troughs are to be done ahead of the other items in the FY18 Capital Improvement Project.

### **Gravity Sludge Thickeners (GST)**

Currently, only two of the three GSTs are operational. GSTs #1 and #2 are in operation, while the third GST #4 requires extensive repairs to be functional. During the gravity thickening process, the biosolids are condensed to produce a concentrated solids material and a relatively solids-free supernatant. However, this is not being effectively done using only GSTs #1 and #2. The sludge blankets have been high causing a high concentration of solids being discharged over the weirs of the two GSTs.

According to Jackson, repairs to GST #4 are nearing completion and the speculative completion date, due to long lead time for materials, is January 2023. The Patapsco WWTP is currently providing a monthly status report to the Department every 30 days on the status of the repairs.

### **Liquid Oxygen (LOX) Plant**

The LOX required for the biological reactors is produced in the LOX Plant. The LOX Plant produces >99% pure oxygen through cryogenic distillation of air. The LOX Plant separates oxygen from air by liquefying air at extremely low temperatures. The LOX Plant has two separate trains for the production of oxygen and each with its own compressor. Both of the compressors had failed, and while one has been refurbished, the other is still out being refurbished so there is only one active train. The Patapsco WWTP has been supplementing the biological reactors with oxygen trucked in from an outside contractor. In addition, there have been delivery delays that have exacerbated the problem.

During this inspection, the LOX Plant was down. The one active train is not able to produce pure oxygen for the biological reactors and all oxygen is being supplied and trucked in by a private contractor. According to Jackson, the facility lost power 7 days ago during a storm causing a computer failure and loss of the supervisory control and data acquisition (SCADA) system. Therefore, oxygen is being trucked in by a third-party contractor until the plant gets the SCADA system functional again. The purchased oxygen cannot enter the biological reactors with the same pressure as can be done using the onsite LOX Plant. Due to this, the second stage dissolved oxygen can only reach 5 milligrams per liter (mg/L), which is under the minimum 6 mg/L required for



second stage nitrification in the biological treatment. Therefore, ammonia as N and organic nitrogen concentrations have been high due to unsatisfactory nitrification in the biological reactors. Today, the ammonia concentrations of the effluent leaving the biological reactors is between 16 and 20 mg/L. According to Jackson, Baltimore City has awarded the contract to Hazen and Sawyer Inc. to construct a new oxygen delivery plant to replace the existing LOX Plant.

### **High Purity Oxygen Biological Reactors (biological reactors)**

The #1 and #4 reactors are not functioning due to the aerators in the biological reactors being inoperative. Today, reactors # 2, #3 #5, and #6 are online with all associated aerators functioning. Due to the problems described above with the LOX Plant, the reactors are not getting sufficient oxygen in order to adequately control the BOD and lower ammonia concentrations. Due to this, the biological reactors are not being optimized for effective nitrification (NH<sub>3</sub> removal). As mentioned above, currently, the ammonia nitrogen concentration of the effluent leaving the biological reactors is high and ranging between 16 and 20 mg/L indicating unsatisfactory nitrification in the reactors. In addition, the inability to control the BOD, due to the inadequate supply of oxygen, is also affecting nitrification downstream at the Biological Aeration Filters (BAFs).

### **Secondary Clarifiers**

The Patapsco WWTP has eight secondary clarifiers and currently six are being used as intended. The #2 secondary clarifier is offline for repairs and secondary clarifier #3 is being used exclusively to filter backwash for the BAFs that are trying to contain the media being discharged during the backwash process.

### **BAF**

The next topic of discussion was the media leakage problem from the nitrifying filters. The filters used are Veolia Water technologies (VWT), a biological activated filter (BAF). The media loss has been an ongoing problem since 2020. There were reports to the Department of small floating particles around the facility's outfall and I have observed the media in the secondary clarifiers and contact chambers.

Previously, the Patapsco WWTP reported that the media leakage problem was isolated to BAF cell #5, and was taken out of service to stop the leakage problem. However, during today's site review, I found that cell #5 was back online. The media loss occurs during the backwash cycle and there is a significant accumulation of the media in the backwash mud wells and on the ledges of the wells. Secondary clarifier #3 was taken offline from normal operation and is now being used to collect the backwash water in an attempt to prevent the media from going further downstream in the treatment process. The effluent from secondary clarifier #3 flows back to the PSTs.

The Department's June 29, 2022 and July 7, 2022, inspection report specified that the Patapsco WWTP shall provide a written plan or standard operating procedure (SOP) by August 3 on how the BAF media will be removed from the mud well and steps that will be taken to prevent further media loss. Baltimore City DPW responded to the Department by stating that there is no observed media loss during backwashes and once the BAF system begins nitrifying again, the City will take

down one mud well at a time to remove the media. Baltimore City DPW also stated that a purchase order is being processed to obtain the funding to address the media problem.

The media shall not discharge to the surface waters of the state and final effluent containing media is not acceptable. This issue must be addressed and permanently resolved. This accumulated media must be removed from the backwash mud well and disposed of appropriately, and further investigation on the cause of the media leakage is required. **Baltimore City shall continue to provide updates to the Department every 30 days as specified in the June 29, 2022 and July 7, 2022 report and provide an explanation on how the media will be removed from the mud wells and the disposal method as well as corrective measures taken to address the media leakage.**

### **Denitrification Filters (DNF)**

Currently, 31 of the 34 DNF are online and functioning. The three DNF that are offline are down for repairs. The third-party engineering report states that for current flow conditions 24 DNF are required for satisfactory process operations.

### **Chlorine Contact Chambers (CCC)**

The scum collection trough on CCC #2 has been out of service for over 4 months and requires repairs in order for it to function and skim off fats, oils, and grease (FOG) and floating scum. According to Jackson, Baltimore City DPW has outlined the scope of the work necessary to get the troughs functioning and the project is awaiting procurement approval. Jackson stated that PLASTECH Services is the contractor that has been selected to complete the work. Jackson further stated that manual skimming is performed as needed by staff. According to the December 6, 2022 Progress Report from the Patapsco WWTP, the replacement scum trough on CCC #2 was delivered on November 7, 2022. The repairs were completed and the scum trough was returned to service on November 11, 2022. The completion of the above repairs has satisfied the corrective action required for the scum trough on CCC #2 required by the June 29, 2022, July 7, 2022 and August 24, 2022 MDE inspection reports.

### **Operations and Maintenance (O&M), Preventive Maintenance (PM), and Staffing**

Previous inspection reports noted that operating conditions in many process areas require improvements due to unsatisfactory PM and lack of satisfactory process controls. These conditions have led to a failing treatment process due to poorly functioning equipment. According to the November 10, 2022 Patapsco WWTP progress report submitted to the Department, the Patapsco WWTP has prepared formal PM SOPs that are now being fine-tuned. The current process utilizes the ELKE system. The PM work orders are now generated through the ELKE system based on schedules defined by the manufacturer's O&M guidance.

According to the plant manager, the ransomware attack shutdown the control apps for the inventory system. I asked the plant manager if the inventory system was back online or if they were able to determine the status of spare parts and equipment. Jackson stated that they are still working on the inventory problem. Inventory control is to be managed under the ELKE system and the asset

management system will be used to reconcile available parts. According to the November 10, 2022 progress report, Baltimore City District Public Defender personnel are currently assessing central inventory resource needs. According to the progress report, after the assessment, the Patapsco WWTP will order a sufficient supply of spare parts, equipment, and other supplies.

## Self-Monitoring Program

### A. Sampling and Analysis

For 2022, there have been a significant number of samples that were not reported due to laboratory or operator error (see Table 1 below). **Failure to monitor and report as specified by the permit is a violation of 40 CFR Parts 122 and 125 and Title 9 of the Environmental Article.** According to the permittee, most of those errors are due to problems by the laboratory that are out of their control. However, this does not change their obligations to monitor and report all sampling data collected in support of the Clean Water Act.

In order to comply with 40 CFR Part 122 and 125 and of Title 9 of the Environmental Article, the Patapsco WWTP must ensure that measures are taken to ensure that all samples meet the sampling and analytical requirements of 40 CFR Part 136 so that rejection is not required. Some compliance methods require rejection of data that fail quality control (QC) criteria. However, when there is not opportunity for reanalysis, resampling or corrective action may cause a violation of 40 CFR Part 122 or 125 reporting requirements.

The reporting requirements in Parts 122 or 125 may take precedence over the otherwise applicable reporting or preservation requirements of a particular analytical method. When sampling or analytical QC results do not meet 40 CFR Part 136 requirements and there is no opportunity to resample, the permittee sample result must be reported in the comments section of the discharge monitoring report (DMR) with explanation and flagged, but do not include it in the calculation for the averages.

In addition, due to the significant number of failures to report by the Patapsco WWTP, total monthly and annual maximum loading rates are bias low for total nitrogen, total phosphorus, and TSS due to the exclusion of data. These exclusions impact weekly and monthly average concentration data required by the permit as well.

The reported data does not represent actual total loading rates for the above parameters. For example, three TSS sample results for July 2022 were not used for reporting due to the sample temperature being slightly above the required maximum sample holding temperature of 6°C upon arrival at the laboratory. The laboratory noted that the samples were received on ice but some of the samples in the cooler were above 6°C. In addition, in some cases, the samples were lost and never analyzed. The July 2022 total monthly load for TSS was reported as 128,600.lbs./month excluding 14,834 lbs. from the monthly total due to sampling/laboratory errors. The annual cumulative loading for the month is also affected by these errors.

In the Department’s 8/24/22 inspection report, it was specified that within 30 days, the Patapsco WWTP must conduct a root cause analysis to identify and correct the problems associated with samples that were not reported because of variances from 40 CFR Part 136 requirements. The Patapsco WWTP responded with the following statement: “ The City of Baltimore has met with its contracted lab to review issues with meeting 40 CFR part 136”.

**Since the Patapsco WWTP has failed to comply with the directive of the inspection report, the Department is requesting that the Patapsco WWTP now comply. Therefore, within 15 days of the receipt of this report, the Patapsco WWTP must submit to the Department the results of the above root cause analysis and implement the necessary corrective actions.**

Table 1

Date	Parameter	Issue	Action
3/4/22	<i>Enterococci</i>	Laboratory analysts failed to incubate samples for the method-specified 24 hrs.	Discussed with analyst
4/3/22	<i>Enterococci</i>	The Patapsco operator delivered the sample a day late, therefore the sample arrived at the laboratory beyond the EPA 40 CFR Part 136 specified maximum holding time.	Patapsco WWTP detailed a plan of action in the 5-day letter submitted to the Department
7/2/22	BOD and TSS	The samples were considered invalid because the temperature upon arrival at the laboratory exceeded the maximum temperature of 6°C specified by 40 CFR Part 136 for TSS and BOD. In addition, the results of laboratory control sample for BOD did not meet the recovery rate of 85 – 115%	Laboratory analytical problem and failure to properly ice samples for transport to the laboratory
7/2/22	Total Kjeldahl Nitrogen (TKN), Ammonia, Nitrate-Nitrite and total Phosphorus	The samples were considered invalid because the temperature upon arrival at the laboratory exceeded the maximum holding temperature of 6°C specified by 40 CFR Part 136	
7/8/22	BOD	BOD result was considered invalid because the temperature of the incubator was above the method specified temperature of 21°C	Laboratory oversight
7/9/22	BOD	BOD result was considered invalid because the temperature of the incubator was above the method specified temperature of 21°C	Laboratory oversight
7/11/22	Orthophosphate	Sample was held beyond the 48-hr holding time specified by 40 CFR Part 136.	Laboratory oversight
7/13/22	BOD	BOD result was considered invalid because the temperature of the incubator was above the method specified temperature of 21°C	Laboratory oversight

7/18/22	TSS and BOD	The samples were considered invalid because the temperature upon arrival at the laboratory exceeded the maximum holding temperature of 6°C specified by 40 CFR Part 136	
7/18/22	TKN, Ammonia, Nitrate-Nitrite and total Phosphorus	The samples were considered invalid because the temperature upon arrival at the laboratory exceeded the maximum holding temperature of 6°C specified by 40 CFR Part 136	
7/31/22	TSS and BOD	The samples were considered invalid because the temperature upon arrival at the laboratory exceeded the maximum holding temperature of 6°C specified by 40 CFR Part 136	
7/31/22	TKN, Ammonia, Nitrate-Nitrite and total Phosphorus	The samples were considered invalid because the temperature upon arrival at the laboratory exceeded the maximum holding temperature of 6°C specified by 40 CFR Part 136	
8/1/2022	Orthophosphate	Sample was held beyond the 48-hr holding time specified by 40 CFR Part 136.	Laboratory oversight
8/3/2022	TKN, Ammonia, Nitrate-Nitrite and total Phosphorus	The permittee considered the samples invalid because the samples were flagged by the laboratory because the temperature upon arrival at the laboratory was 7 °C, which is 1° above the maximum holding temperature of 6°C specified by 40 CFR Part 136	
8/10/2022	Free Cyanide	Sample was held beyond the 14-day holding time specified by 40 CFR Part 136.	Laboratory oversight
8/12/2022	BOD*	The initial BOD result, which was analyzed within holding time, was estimated to be >79.3 mg/L, which would indicate that the laboratory did not use the appropriate sample dilutions for this sample matrix. The sample was reanalyzed outside of the holding time using some of the remaining sample. The BOD result for the second sample set was 321 mg/L but outside of the assigned holding time.	Laboratory oversight
8/29/2022	Orthophosphate	Sample was held beyond the 48-hr holding time specified by 40 CFR Part 136.	Laboratory oversight
9/10/2022	Total Phosphorus	Sample was held beyond the 28-day holding time specified by 40 CFR Part 136.	Laboratory oversight

9/16/2022	BOD	The sample was flagged by the laboratory because the incubation time exceeded the maximum method incubation time by 30 minutes.	Laboratory oversight
9/17/2022	BOD	The sample was flagged by the laboratory because the incubation time exceeded the maximum method incubation time by 30 minutes.	Laboratory oversight
9/17/2022	TSS	The sample was accidentally discarded before it was analyzed.	Laboratory oversight
9/18/2022	BOD	Sample was held beyond the 48-hr holding time specified by 40 CFR Part 136.	Laboratory oversight
10/5/2022	TSS	Sample was held beyond the 7-day holding time specified by 40 CFR Part 136.	Laboratory oversight
10/9/2022	TSS and BOD	The sample collector used the incorrect sampling bottle. The sampling bottle contained acid which was not appropriate for these parameters.	Permittee oversight

#### B. Flow Measurement and Calibration

Flow data reported to the Department show that the sewage flow coming into the plant on a daily basis is 15–30% greater than the amount of wastewater being discharged. I discussed this with Jackson and Johnson to see if there was an explanation for the discrepancy. According to Johnson, the influent flow meter has not been functioning since February. On June 1, 2022, the Department received copies of the influent and effluent flow measurement system calibration records done by plant mechanics for the period January–May 2022. These records do not show any problems with the flow measuring system. There should be further assessments conducted by a third-party engineering company. The Department received an email from Joseph Kebede, Bureau Head, dated November 25, 2022, outlining the steps to be taken to address the flow discrepancy, including an evaluation by Sherwood Logan and Associates, Inc. scheduled for December 9, 2022, and recommendations for corrective measures from Hazen and Sawyer.

#### C. Polychlorinated biphenyls (PCB) Minimization Plan

The total PCB loading for the 1<sup>st</sup> through 4<sup>th</sup> quarters of 2021 is 206.5 grams, which is above the annual waste load allocation (WLA) of 27.2 grams/year. Special Condition A2 footnote 4b specifies that within 60 days of exceeding the WLA, the permittee shall submit a PCB minimization plan (PMP) to the Department for approval to track the sources, and Best Management Practice (BMP) implementation. The Department provided a guidance document to ensure that the plan encompasses a full range of PCB minimization activities.

The Department specified in the May 18, 2022, inspection report that, “Within 60 days of the receipt of the report, the Patapsco WWTP shall submit to the Department for approval a PCB minimization plan designed to track and eliminate PCB sources entering the treatment

plant.” On November 10, 2022, the Patapsco WWTP submitted a PCB action plan to the Department. However, this action plan does not address the specific minimization actions specified in the Department’s outline for pollutant minimization plans for PCBs for sanitary wastewater treatment plants. **Therefore, the Patapsco WWTP shall submit to the Department for approval within 30 days of the receipt of this report a revised comprehensive PCB minimization plan that follows the guidance document previously provided to the permittee.**

D. PST skimming records

During a review of the PST skimming records, I found that the skimming practices do not follow the guideline in the facilities FOG Mitigation Plan. The skimming records are not being updated daily as required in the plan. **The Patapsco WWTP must follow the skimming requirements agreed upon in the FOG Mitigation Plan.**

**Permit Effluent Violations**

There have been a continual series of permit effluent violations reported for the following constituents due to operational and process problems:

- BOD
- TSS
- Total phosphorus (TP)
- Total Nitrogen (TN)
- Total Ammonia as N
- Enterococcus

During a data review of the DMRs and monthly operating reports for April through October 2022, the following reported violations were observed as shown in Table 2 below:

**Table 2**

<b>Date</b>	<b>Parameter</b>	<b>Result Reported</b>	<b>Permit Violation</b>	<b>Permit Limitation</b>
<b>April 2022</b>	<b>TSS</b>	<b>Monthly Average Concentration- 61 mg/L</b>	<b>Exceeded Monthly Average Concentration</b>	<b>30 mg/L</b>
<b>April 2022</b>	<b>TSS</b>	<b>Monthly Average Loading – 29,231 Lbs.</b>	<b>Exceeded Monthly Average Loading</b>	<b>18,000 Lbs.</b>
<b>April 4/1 – 4/7 2022</b>	<b>TSS</b>	<b>Weekly Average Concentration - 155 mg/L</b>	<b>Exceeded Weekly Average Concentration</b>	<b>45 mg/L</b>
<b>April 4/1 – 4/7 2022</b>	<b>TSS</b>	<b>Weekly Average Loading - 74,486 Lbs.</b>	<b>Exceeded Weekly Average Loading</b>	<b>27,000 Lbs.</b>

<b>April 4/1 – 4/7 2022</b>	<b>Total Phosphorus</b>	<b>Weekly Average Concentration – 4.6 mg/L</b>	<b>Exceeded Weekly Average Concentration</b>	<b>3.mg/L</b>
<b>April 4/1 – 4/7 2022</b>	<b>Total Phosphorus</b>	<b>Weekly Average Loading – 2,513 Lbs.</b>	<b>Exceeded Weekly Average Loading</b>	<b>1,830 Lbs.</b>
<b>April 2022</b>	<b>Total Phosphorus</b>	<b>Monthly Average Concentration – 2.56 mg/L</b>	<b>Exceeded Monthly Average Concentration</b>	<b>2.mg/L</b>
<b>April 2022</b>	<b>Total Phosphorus</b>	<b>Annual cumulative loading - 128,800 lbs.</b>	<b>Exceeded the 2022 total cumulative annual loading for 2022 in March 2022 and will continue to exceed the limit until 12/31/2022</b>	<b>66,700 lbs./year</b>
<b>April 2022</b>	<b>Total Nitrogen</b>	<b>Annual cumulative loading 1,111,800.lbs.</b>	<b>Exceeded the total annual cumulative loading for 2022. Will continue to exceed the limit until 12/31/2022</b>	<b>889,300 lbs./yr.</b>
<b>April 22</b>	<b>Enterococcus</b>	<b>Monthly Geomean concentration 54 MPN/100 ML</b>	<b>Exceeded Monthly Geomean Concentration</b>	<b>35 MPN/ 100 ml</b>
<b>April 4/1 – 4/7 2022</b>	<b>Biochemical Oxygen Demand</b>	<b>Reported Weekly Average Concentration - 60 mg/L</b>	<b>Exceeded Weekly Average Concentration</b>	<b>45 mg/L</b>
<b>April 4/1 – 4/7 2022</b>	<b>Biochemical Oxygen Demand</b>	<b>Weekly Average Loading – 30,136 Lbs.</b>	<b>Exceeded Weekly Average Loading</b>	<b>27,000 Lbs.</b>
<b>April 22</b>	<b>Biochemical Oxygen Demand</b>	<b>Monthly Average Concentration- 38 mg/L</b>	<b>Exceeded Monthly Average Concentration</b>	<b>30 mg/L</b>
<b>April 22</b>	<b>Biochemical Oxygen Demand</b>	<b>Monthly Average Loading – 18,778 Lbs.</b>	<b>Exceeded Monthly Average Loading</b>	<b>18,000 Lbs.</b>
<b>May 2022</b>	<b>Enterococcus</b>	<b>Monthly Geomean concentration 38.2 MPN/100 ML</b>	<b>Exceeded Monthly Geomean Concentration</b>	<b>35 MPN/ 100 ml</b>
<b>May 2022</b>	<b>Ammonia as N</b>	<b>Monthly Average Concentration- 14.2 mg/L</b>	<b>Exceeded Seasonal Monthly Average Concentration (5/1-10/31)</b>	<b>6.3 mg/L</b>



May 2022	Ammonia as N	Monthly Average Loading – 7,100 Lbs.	Exceeded Seasonal Monthly Average Loading (5/1-10/31)	3,836 Lbs.
May 2022	Total Nitrogen	1,456,300.Lbs.	Exceeded the total annual cumulative loading for 2022. Will continue to exceed the limit until 12/31/2022	889,300 lbs./yr.
May 2022	Total Nitrogen,	344,600 Lbs. Seasonal Cumulative Total 5/1-10/31	Exceeded Seasonal cumulative total	333,330 Lbs.
June 2022	Ammonia as N	Monthly Average Concentration- 13.5 mg/L	Exceeded Seasonal Monthly Average Concentration (5/1-10/31)	6.3 mg/L
June 2022	Ammonia as N	Monthly Average Loading – 5,938 Lbs.	Exceeded Seasonal Monthly Average Loading (5/1-10/31)	3,836 Lbs.
June 2022	Total Phosphorus	Seasonal Cumulative Total 5/1-10/31 35,500 Lbs.	Exceeded Seasonal cumulative total	33,330 Lbs.
June 2022	Total Nitrogen	1,738,700.lbs./yr.	Exceeded the total annual cumulative loading for 2022. Will continue to exceed the limit until 12/31/2022	889,300 lbs./yr.
June 2022	Total Phosphorus	164,300.lbs./yr.	Exceeded the total annual cumulative loading for 2022. Will continue to exceed the limit until 12/31/2022	66,700.lbs./yr.
June 2022	Total Nitrogen,	627,000.Lbs. Seasonal Cumulative Total 5/1-10/31	Exceeded Seasonal cumulative total Will continue to exceed the limit until 10/31/2022	333,330 Lbs.
July 2022	Ammonia as N	Monthly Average Concentration- 10.3 mg/L	Exceeded Seasonal Monthly Average Concentration (5/1-10/31)	6.3 mg/L
July 2022	Ammonia as N	Monthly Average Loading – 4,302 Lbs.	Exceeded Seasonal Monthly Average Loading (5/1-10/31)	3,836 Lbs.

<b>August 2022</b>	<b>Total Phosphorus</b>	<b>Seasonal Cumulative Total 5/1-10/31 42,800.Lbs.</b>	<b>Exceeded Seasonal cumulative total</b>	<b>33,330 Lbs.</b>
<b>August 2022</b>	<b>Total Nitrogen</b>	<b>2,004,900.lbs./yr.</b>	<b>Exceeded the total annual cumulative loading for 2022. Will continue to exceed the limit until 12/31/2022</b>	<b>889,300 lbs./yr.</b>
<b>August 2022</b>	<b>Total Phosphorus</b>	<b>171,600.lbs./yr.</b>	<b>Exceeded the total annual cumulative loading for 2022. Will continue to exceed the limit until 12/31/2022</b>	<b>66,700.lbs./yr.</b>
<b>August 2022</b>	<b>Total Nitrogen,</b>	<b>893,200.Lbs. Seasonal Cumulative Total 5/1-10/31</b>	<b>Exceeded Seasonal cumulative total Will continue to exceed the limit until 10/31/2022</b>	<b>333,330 Lbs.</b>
<b>September 2022</b>	<b>Total Nitrogen</b>	<b>2,251,500.lbs./yr.</b>	<b>Exceeded the total annual cumulative loading for 2022. Will continue to exceed the limit until 12/31/2022</b>	<b>889,300 lbs./yr.</b>
<b>September 2022</b>	<b>Total Phosphorus</b>	<b>189,400.lbs./yr.</b>	<b>Exceeded the total annual cumulative loading for 2022. Will continue to exceed the limit until 12/31/2022</b>	<b>66,700.lbs./yr.</b>
<b>September 2022</b>	<b>Total Phosphorus</b>	<b>Seasonal Cumulative Total 5/1-10/31 60,600.Lbs.</b>	<b>Exceeded Seasonal cumulative total</b>	<b>33,330 Lbs.</b>
<b>September 2022</b>	<b>Total Nitrogen,</b>	<b>1,139,800.Lbs. Seasonal Cumulative Total 5/1-10/31</b>	<b>Exceeded Seasonal cumulative total Will continue to exceed the limit until 10/31/2022</b>	<b>333,330 Lbs.</b>
<b>October 2022</b>	<b>Total Nitrogen</b>	<b>2,309,200.lbs./yr.</b>	<b>Exceeded the total annual cumulative loading for 2022. Will continue to exceed the limit until 12/31/2022</b>	<b>889,300 lbs./yr.</b>
<b>October 2022</b>	<b>Total Phosphorus</b>	<b>1,92,400.lbs./yr.</b>	<b>Exceeded the total annual cumulative loading for 2022. Will</b>	<b>66,700.lbs./yr.</b>

			<b>continue to exceed the limit until 12/31/2022</b>	
<b>October 2022</b>	<b>Total Phosphorus</b>	<b>63,600.Lbs. Seasonal Cumulative Total 5/1-10/31</b>	<b>Exceeded Seasonal cumulative total</b>	<b>33,330 Lbs.</b>
<b>October 2022</b>	<b>Total Nitrogen,</b>	<b>1,197,500.Lbs. Seasonal Cumulative Total 5/1-10/31</b>	<b>Exceeded Seasonal cumulative total Will continue to exceed the limit until 10/31/2022</b>	<b>333,330 Lbs.</b>

After the preliminary meeting, I continued the inspection with a site review. The domestic waste enters the plant at the grit building where there are six grit chambers. Hazen and Sawyer, Inc, is still repairing and cleaning the grit building process equipment. Initially, Hazen and Sawyer determined that all six grit chambers were not functioning as designed due to the grit and rags in the chambers. All of the grit chambers have been cleaned and put into service. Hazen and Sawyer Inc. has also repaired and put into service one of the clamshell cranes. Due to the problems with odor control and ventilation at the grit building, confined space entry requirements are in place. Respirators are required for entry to the grit building, so we were not able to inspect the grit handling system. I evaluated the fine screening system, which is the next phase of treatment after the grit building. There are two influent lines coming into the plant, domestic, which is 90-95% of the flow and industrial, which makes up the remaining 5-10% of the flow. The sewage travels from the grit chambers to the fine screening units. The sewage is pumped to the influent tank at the fine screen building and travels to the fine screening building. The facility has eight screening units and five of the eight screening units were online and functioning.

During this inspection, I observed an accumulation of rags and debris falling off of the conveyor belts. **The housekeeping practices in this area require more attention and improvements are necessary to prevent and minimize potential problems downstream due to trash and debris impairing and clogging equipment.**



11/2/22 Fine screening unit.





11/2/22 Fine screening building – unsatisfactory maintenance of the trash conveyor system and housekeeping practices.

The next area of evaluation was the Tailings Transfer Station. The Patapsco WWTP has been using the Tailings Transfer Station as a temporary sludge storage area to store unprocessed sludge. This area is now being cleared of sludge. According to Johnson, now that Synagro is using the railcars to transport the centrifuged sludge off-site, there is no need to store the sludge at the Tailings Transfer Station. The railcars offer a greater capacity than trucks and this change has significantly reduced the Patapsco WWTP's biosolids inventory. Tailings Transfer Station will go back to being used as a storage area for the tailings from the fine screening area as designed. The entire transfer station area has been cleared of sludge.

The wastewater travels from the fine screening to the PST for initial settling of the solids and scum removal. The plant has six primary settling tanks with three passes. The bottom sludge from the PSTs is gathered by screw collectors at the bottom of the tanks and collected in hoppers and then sent to the GSTs.

Today, five of the six PSTs were online. PST #6 was taken offline for service.

During an inspection of the PSTs, I observed a considerable amount of media as well as scum and FOG floating on the surface of the PSTs especially in #1, #2, and #3. According to Jackson, the scum troughs are checked twice a day to remove the scum and manual skimming, with a net, is

being conducted as well to try to manage the floating scum and FOGs. There was no manual skimming or rotations being done during my time inspecting the PSTs. I observed a considerable amount of scum in many of the scum troughs. The facility must ensure the operational integrity of the primary treatment system and take a proactive approach by removing the accumulation of FOGs that have accumulated in some of the PSTs. More frequent checks of the scum troughs should be conducted to prevent media and FOGs from flowing downstream.



11/2/22 PST #1 Note the floating media and scum.





11/2/22 PST #1 – Note the heavy layer of scum and media on the surface of the water.





11/2/22 Scum trough at PST #2.



11/2/22 Another scum trough at PST #2.





11/2/22 PST#6 Offline for service.

The wastewater travels from the PSTs to the high-pressure pure oxygen reactors, which are below ground. Each of the six PSTs has an associated reactor. The first stage receives no oxygen and oxygen is added to the second stage to maintain a dissolved oxygen concentration of 6 to 12 mg/l. The second stage dissolved oxygen (DO) is monitored by the operators and adjusted as necessary. The waste streams from reactors #1 through #4 are split between four secondary clarifiers and the wastewater from reactors #5 and #6 split between four smaller separate secondary clarifiers.

During an inspection of the secondary clarifiers, I found the following:

- Secondary clarifier #3 is still being used to collect the backwash from the BAF and the DNF in an attempt to isolate the BAF media that is being discharged during backwash. As previously stated, the effluent from the #3 clarifier goes back to the influent line of the PSTs. The floating media was observed on the surface of the water.
- Currently, six of the eight clarifiers are active and being used for wastewater treatment to settle solids.

- Secondary clarifier #2 is offline for repairs due to a problem with the suction tube assembly. The tank must be drained prior to completing the maintenance work so it will take several weeks to complete the repairs.
- I observed trash and debris on the launder weir cover for secondary clarifier #1. According to Jackson, a high flow incident caused the problem, and the cleanup is on their list of maintenance items.
- The skimmer arm on clarifier #5A is slightly bent and a part of the scum scraper is missing.



Secondary clarifier #1 note debris on the launder covers.





Secondary clarifier #3: the backwash from the BAF discharges to this clarifier in an attempt to isolate and control the media from the BAF mud wells that are being discharged during backwash cycles.

Next, I conducted an evaluation of the BAF system. Currently, 20 of the 22 filters were online during this evaluation. BAF #13 and #16 were down for service. During the 8/24/22 inspection, I was told that the permittee was in the process of getting the BAF system to work in auto-mode. Currently, blower #3 is out of service and there is no redundancy. In addition, there is a motor control issue. According to Jackson, the BAF will be fully automatic by January 2023, once the blower problem is addressed. Jackson further indicated that the Tertiary Pumping Station is now 100% automated. The Tertiary Pump Station has five pumps with four active pumps and one pump for backup.

In the BAF process, wastewater flows upwards through the cells that contain tightly packed media that provides a surface for the microorganisms to attach to and grow. Air is added to the bottom of the cell to provide oxygen for the microorganisms to thrive. This media is being lost and discharged during the backwash process. According to the Patapsco WWTP, it has been isolated to Cell #5. The ENR filters used are VWT, BAF. The Patapsco WWTP has been working with VWT to resolve the problem. Now according to Johnson, there is no longer a problem with the leakage of media and the media being discharged are from the residual media in the backwash mud wells. During an



inspection of the BAF mud well, where the backwash is discharged before going into clarifier #3, I observed the entire surface of the water in the mud well is covered with a heavy layer of media with the potential to return to the beginning of the treatment system. **The Patapsco WWTP must clean the mud wells in order to prevent further discharges of media.**



11/2/22 BAF cell #5 heavy foaming due to BOD level.



11/2/22 Picture of backwash mud well showing media accumulation. Effluent from the mud wells goes to Secondary Clarifier #3.



The DNF was the next step during the site review. The facility has 34 denitrification filters for denitrification and today 31 were in service. There have been issues with overloading the filters with solids requiring the DNF system to be bypassed. During this inspection, the filters in service appeared to be functioning satisfactorily. There was scum floating in some of the filters.



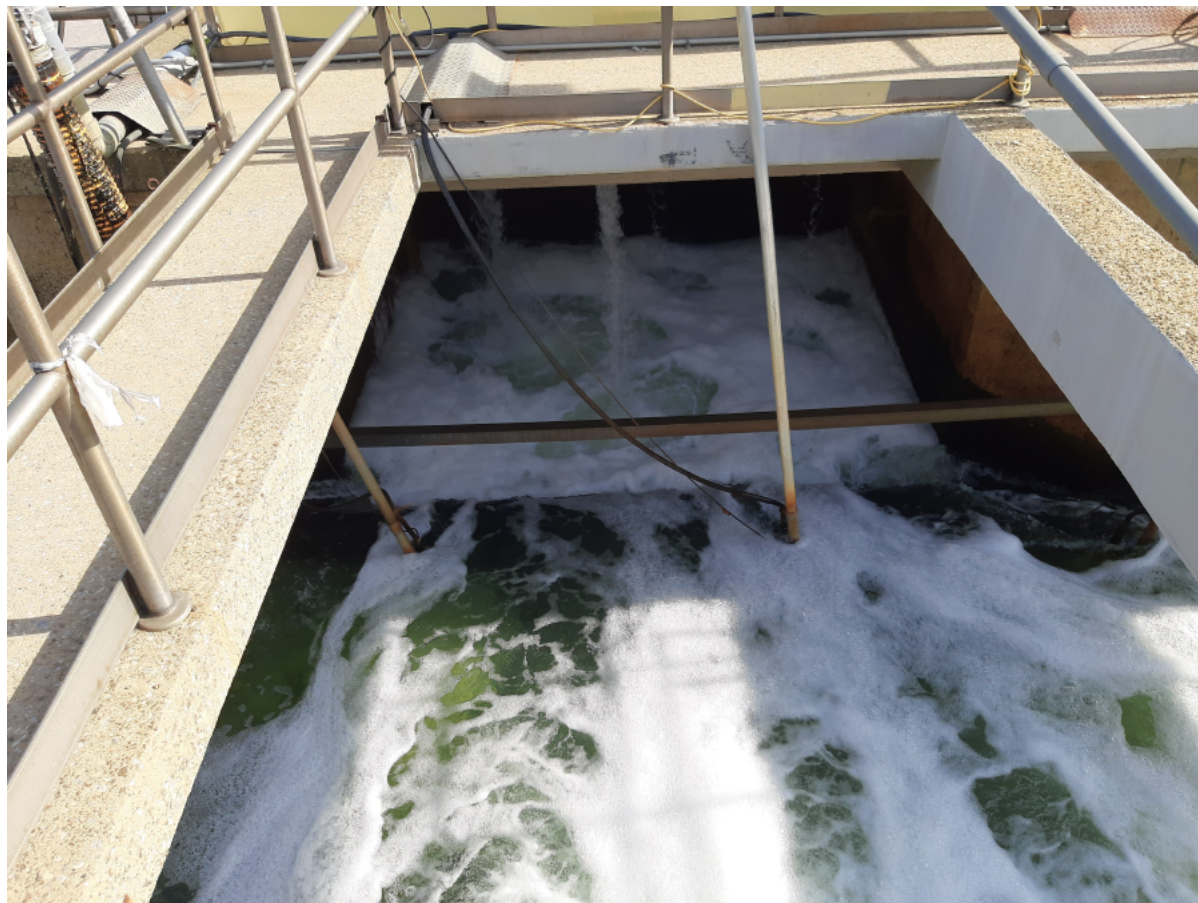
11/2/22 DNF

Next, I inspected the CCCs prior to the final discharge. There are four contact chambers and three of the four are currently online. Each contact chamber has three scum logs or troughs to remove floating scum. As discussed above, during this inspection, the scum trough on CCC #2 was not functional, and required repairs. The repair work was completed subsequent to this inspection and the #2 CCC was returned to service on November 11, 2022. I observed a layer of floating scum and FOG at the chlorine contact basins. Currently there was no manual skimming being done at the chlorine contact basins. There was scum and solids observed in the chlorine contact basins.



11/2/22 Chlorine contact basin. The water level is at an appropriate height to rotate the scum log in order to collect the floating FOG/scum.





11/2/22 Final discharge point.

### **Effluent Monitoring Equipment**

The facility is collecting 24-hour, flow-proportional composite samples at Outfall 001 in accordance with the requirements of the permit. The primary refrigerated, automatic composite sampler was inspected. I found that the temperature of the compartment was satisfactory, and the sampling container was also clean. The temperature of the refrigerated compartment was 5 °C, which meets 40 CFR Part 136 requirements. I inspected the final effluent in the sampling container and observed that the composite sample was a medium amber color with suspended particulates.





11/2/22 Automatic sampling equipment.

## **GSTs**

Gravity thickening is the process by which biosolids are condensed to produce a concentrated solids product and a relatively solids-free supernatant. The facility has three GSTs (#1, #2 and #4) and during this inspection, I observed that two were online. However, the skimmer arm on GST #1 is not functional due to the scrapper flaps being broken.

The #4 GST is not functional. The scrapers, drive, and pumps require replacement. According to Jackson, the funding to repair the scrapper arm, that was causing a shaft drive problem, was approved and the repairs have begun. During an inspection of #1 GST and #2 GST, I observed the following problems:

- The sludge blankets were above an acceptable level causing the effluent (supernatant) from the GSTs to have a higher-than-normal solids concentration. The high sludge blanket is also causing the top layer of supernatant to be charcoal in color;
- The # 2 GST skimmer arm was not in complete alignment with the surface of the water and required reinforcement;
- There were rags on the weirs of GST #2;
- Scum collection baffle openings are impacted with solids and scum and should be cleared of the substances; and
- Media from the BAF floating in the tanks.

Inspection Date: November 02, 2022  
Site Name: Patapsco WWTP  
Facility Address: 3501 Asiatic Ave, Curtis Bay, MD 21226



11/2/22 GST#1





11/2/22 GST #2 rags on the weirs and media floating on the surface.



11/2/22 GST #2 media floating on the surface.

### **Total Annual Cumulative Load for 2020, 2021, and 2022**

The annual nitrogen load for 2020 was 1,029,200 lbs. and the annual phosphorus load for 2020 was 114,500 lbs. The facility did not meet the annual loading limitations for these parameters for 2020. The cumulative totals for 2021 were also not met and increased by approximately 50% from 2020, which indicates no discernable progress in improving treatment during this time period. See Table 3 below. **In addition, as reported in Table 1 above, the annual cumulative totals specified by the permit were exceeded for total phosphorus in March 2022 and April 2022 for TN. The first 10 months of 2022 show that the annual cumulative total for nitrogen has exceeded the 2021 loading rates.**

**Table 3**

Parameter	Cumulative Total for 2020	Cumulative Total for 2021	Cumulative Total for 2022 as of October 31, 2022	Limit	Compliance
Total Suspended Solids	1,690,800 lbs./yr.	3,192,300 lbs./yr.	3,091,200.1 lbs./yr.	6,669,776 lbs./yr.	Y
Total Nitrogen	1,029,200 lbs./yr.	1,993,300 lbs./yr.	2,309,200. Lbs./year	889,300 lbs./yr.	N
Total Phosphorus	114,500 lbs./yr.	252,300 lbs./yr.	192,400. lbs.	66,700 lbs./yr.	N
Annual Flow	18,098.2 MG/yr.	18,340.6 MG/yr.	NA	NA	NA

### Operation and Maintenance

There are a number of out of service and malfunctioning process equipment that require replacement or repairs as detailed in this and previous compliance evaluation reports. **The majority of these process equipment issues have been outstanding for months and many for over one year.** The data above show that there has not been an improvement in the treatment and removal of solids, TN, and phosphorus during the past 2 years. The problems with the treatment stem are a result of inadequate monitoring of process controls and inadequate PM. The Patapsco WWTP must improve operating practices by utilizing PM procedures that are devised to reduce incidents of process equipment failures and inefficiency due to poorly functioning equipment. The Patapsco WWTP has been operating in a corrective maintenance mode and correcting problems instead of operating in a PM mode. According to Jackson, this is currently changing. The Patapsco WWTP is using the ELKE system for all maintenance. The system generates daily 6:30 AM maintenance sheets for all supervisors. These sheets contain a list of maintenance items that must be performed for the day. Jackson further stated that the supervisors meet with him daily at 1:00 PM to address the status of the daily maintenance items.

As reported in the 8/24/22 inspection report, PM helps to cut facility operating costs by eliminating unforeseen equipment failures and the need for corrective maintenance. PM improves the facility's reliability of treatment processes by minimizing the time equipment is out of service. PM can increase the useful life of equipment and thereby avoiding costly premature replacement of equipment. PM also prevents possible compliance violations.

The Patapsco WWTP **shall** develop and initiate a PM program including but not limited to the following:

1. A written PM program covering all major equipment items;

2. Types of repair and other PM tasks necessary for each piece of equipment including interval or frequency of service;
3. PM tasks should be scheduled in accordance with the manufacturer's recommendations;
4. All PM tasks should be recorded, filed, and reviewed so future maintenance problems can be assessed properly; and
5. A central inventory of spare parts, equipment, and supplies should be maintained and controlled.

There should also be well-trained, competent plant staff to perform the routine PM tasks. An ongoing training program should be developed and implemented to ensure that staff have the skills necessary to operate and maintain the process equipment.

### **FOG Mitigation Plan**

At the request of the Department, a revived FOG Mitigation Plan was submitted on November 3, 2022. The plan is still under review; however, there are corrections that must be made to this revision. Once the revised plan is fully reviewed, the Department will contact the Patapsco WWTP with a list of corrective actions for the plan.

### **With respect to the above MDE authorization the following violations of Environmental Article 9 by the Patapsco WWTP were observed on this date:**

- A. The Department has not received a status update on the TPH source tracking investigation progress for TPH since the July 27, 2022 letter.
- B. Media, that washed out of the BAF cells, has accumulated in the backwash mud wells and is now being discharged to a secondary clarifier and then back to the head of the plant.
- C. The fine screening system is not being maintained to the level necessary to ensure that downstream equipment functions satisfactorily. During previous inspections in 2021 and 2022, the belt conveyors were not operable due to the accumulation of debris such as rags, paper, and plastic items. During this inspection, the belts were functioning; however, there was an accumulation of debris on and around the belts. The belts are old with missing and damaged skirting which allows the debris to fall from the belt and clog the mechanical parts. Due to this issue, the system requires constant maintenance to prevent blockage of the belt mechanisms.
- D. There are three GSTs on site; however, only two are in service at this time. The two GSTs that are in service are not processing the sludge as designed due to being overloaded with sludge. During gravity thickening, the biosolids are condensed to produce a concentrated solids material and a relatively solids-free supernatant. However, with the two units in operation, this is not being done. The supernatant from the GSTs has an excessive amount of solids that are keeping the solids concentration too high in the bioreactors. This is causing nitrification issues.

- E. The PSTs had an accumulation of floating media from the BAF which may impede and impact downstream treatment processes.
- F. Skimming specified in the FOG Mitigation plan is not being performed and documented at the frequency required by the plan.
- G. On November 10, 2022, the Patapsco WWTP submitted a PCB Action plan to the Department. However, this action plan is not acceptable as submitted because it does not address the specific minimization actions specified in the Department's outline for pollutant minimization plans for PCBs for sanitary WWTPs.
- H. For 2022, there have been a significant number of samples that were not reported due to laboratory or operator error (see Table 1 above). In the Department's 8/24/22 inspection report, it was specified that within 30 days, the Patapsco WWTP must conduct a root cause analysis to identify and correct the problems associated with samples that were not reported because of variances from 40 CFR Part 136 requirements. This has not been completed as required.
- I. Currently, two Pure Oxygen Biological Reactors are offline due to problems with the aerators and the four Pure Oxygen Biological Reactors that are online are compromised due to problems at the LOX Plant (1 compressor is out for refurbishing and problems with the SCADA system is preventing the LOX Plant from functioning with the one available compressor). Therefore, oxygen is being trucked in for use in the Pure Oxygen Biological Reactors. The BAF is not nitrifying due to high BOD levels caused by lack of pure oxygen needed to operate the Pure Oxygen Biological Reactors. These types of problems have persisted at this facility. The facility does not have the redundancy and resiliency required because of the condition of essential process equipment.

**To bring this site into compliance with Environment Article Title 9, the Patapsco WWTP shall make the following corrections:**

- 1. With respect to item A above, within 15 days of the receipt of this report, the Patapsco WWTP shall submit a status update on measures to mitigate TPH in the influent to the Patapsco WWTP.**
- 2. With respect to item B above, within 15 days of the receipt of this report, the Patapsco WWTP shall provide a written plan or SOP on how the BAF media will be removed from the mud well and steps that will be taken to prevent further media loss or discharge to the surface waters.**
- 3. With respect to item C above, the Patapsco WWTP shall immediately initiate better maintenance and housekeeping practices at the fine screen building to prevent and minimize potential problems and maintenance issues downstream. Within 30 days of the receipt of this report, the Patapsco WWTP shall develop, implement and submit to the Department for review a corrective action plan designed to keep rags, paper, plastics, and other debris from clogging the transport belt. The plan shall include**



**procedures for regular manual cleaning of the belt transport system. This was reported as a deficiency on the May 18, 2022 inspection report.**

- 4. With respect to item D above, the Patapsco WWTP shall operate and process sludge in the GSTs in a manner that maintains a solids-free supernatant. Since the two operating GSTs are overburdened with solids, the #4 GST should be repaired so that the active GSTs can be taken offline one at a time and cleaned. This action will greatly improve the quality of supernatants from the GSTs. Within 30 days of the receipt of this report, the Patapsco WWTP shall submit to the Department a status report on the progress of the repairs to the #4 GST with an updated report every 30 days until the #4 GST is back in service.**
- 5. With respect to item E above, the Patapsco WWTP shall immediately ensure the operational integrity of the primary treatment system and must take a proactive approach by removing the accumulation of media that has accumulated in some of the PSTs.**
- 6. With respect to item F above, skimming activities shall be performed and documented at the rate specified in the FOG Mitigation Plan.**
- 7. With respect to item G above, within 30 days of the receipt of this report, the Patapsco WWTP shall submit to the Department for approval a revised comprehensive PCB minimization plan that follows the guidance document previously provided to the permittee.**
- 8. With respect to item H above, within 15 days of the receipt of this report, the Patapsco WWTP must submit to the Department a report based on the results of the root cause analysis specified in the August 24, 2022 inspection report to address the problems associated with missed sampling events due to sample collection, holding, shipment, and analytical testing errors. The report must contain detailed solutions and a proposed implementation date for the necessary corrective actions.**
- 9. With respect to item I above, the Patapsco WWTP must take immediate action and begin making the necessary repairs to failing and nonfunctional equipment and adequately maintain back-up and active process equipment.**

*State law provides for penalties for violations of Maryland Environment Article Title 9 for each day the violation continues. The Maryland Department of the Environment may seek penalties for the aforementioned violations of Title 9 on this site for each day the violation continues.*

NPDES Municipal Major Surface Water - Inspection Checklist

Inspection Item	Status	Comments
Does the facility have a discharge permit?	No Violations Observed	
Is the discharge permit current?	No Violations Observed	
If the permit is not current, has the facility applied for renewal?	No Violations Observed	
Does the facility operate as authorized by their current permit?	Out of Compliance	See Narrative Section for details
Has the Permittee exceeded the permitted capacity of the WWTP?	No Violations Observed	
Is the number and location of discharge points as described in the discharge permit?	No Violations Observed	
Has permittee submitted the correct name and address of receiving waters?	No Violations Observed	
Is the permittee meeting the compliance schedule per permit requirements?	No Violations Observed	
Has the operator or superintendent been certified by the Board in the appropriate classification for the facility?	4 - Not Evaluated	
Are adequate records being maintained for the sampling date, time, and exact location; analysis dates and times; individual performing analysis; and analytical results?	4 - Not Evaluated	
Are adequate records being maintained for the analytical methods/techniques used?	No Violations Observed	
Does the permittee retain a minimum of 3 years' worth of monitoring records including raw data and original strip chart recordings; calibration and maintenance records; and reports?	No Violations Observed	
Do lab records reflect that lab and monitoring equipment are being properly calibrated and maintained?	4 - Not Evaluated	Contract lab not evaluated
Does the permittee/laboratory use suitable QA/QC procedures and operate a formal quality assurance (QA) program using appropriate controls?	4 - Not Evaluated	Contract Lab not evaluated
Has the permittee submitted the monitoring results on the proper Discharge Monitoring Report form?	No Violations Observed	
Do the Discharge Monitoring Reports reflect permit conditions?	No Violations Observed	
Has the permittee submitted these results within the allotted time electronically?	No Violations Observed	
Is the facility being properly operated and maintained including:(a) stand-by power or equivalent provisions available, (b) adequate alarm system for power or equipment failure available, (c) all treatments units are in service, .	Out of Compliance	See Narrative Section for details
Is sewage sludge managed correctly per permit requirements?	No Violations Observed	
If a by-pass occurred since last inspection, has the permittee submitted notice of the by-pass within the allotted time?	No Violations Observed	

NPDES Municipal Major Surface Water - Inspection Checklist

Inspection Item	Status	Comments
If a non-complying discharge occurred since the last inspection, was the regulatory agency notified within the allotted time?	No Violations Observed	
If applicable, has the permittee complied with all special conditions of their permit?	Out of Compliance	See Narrative Section for details
Have overflows occurred since the last inspection?	No Violations Observed	
Have records of overflows been maintained at the facility for at least five years?	No Violations Observed	
Are flow measuring devices properly installed and operated, calibration frequency of flow meter adequate, flow measurement equipment adequate to handle expected ranges of flow?	Out of Compliance	See Narrative Section for details
Are discharge monitoring points adequate for representative sampling?	No Violations Observed	
Do parameters and sampling frequency meet the minimum requirements?	Out of Compliance	See Narrative Section for details
Does the permittee use the method of sample collection required by the permit?	No Violations Observed	
Are analytical testing procedures approved by EPA?	No Violations Observed	
If alternate analytical procedures are being used, has proper approval been obtained?	2 - Not Applicable	
Has the permittee notified the Department of the name and address of the commercial laboratory?	No Violations Observed	
Were discharges observed at the authorized outfalls?	No Violations Observed	
If discharges were observed, do the discharges or receiving waters have any visible pollutants observed?	No Violations Observed	
Were discharge samples collected?	No Violations Observed	
Does this facility have coverage under a NPDES stormwater discharge permit?	No Violations Observed	
If the permittee has coverage under a NPDES storm water permit, has a stormwater pollution prevention plan been developed and implemented as required?	No Violations Observed	See Narrative Section for details
Are the permit conditions being met?	Out of Compliance	

Inspector: Ronald Wicks 12/1/22  
 Ron Wicks /Date  
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 410-537-3510

Received by: Neal Jackson 12/20/22  
 Signature/Date  
 Neal Jackson  
 Print Name