



FACT SHEET

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 3

Four Penn Center
1600 John F. Kennedy Boulevard

NPDES Permit No. DC0000390

The United States Environmental Protection Agency (EPA) is Proposing the Reissuance of a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA) For:

**Pepco Holdings
701 Ninth Street, NW Room 6220
Washington, D.C. 20068**

**Facility Name and Location:
Benning Service Center – West
3400 Benning Road NE
Washington, DC 20019**

**RECEIVING WATER:
Anacostia River**

ACTION TO BE TAKEN:

EPA is proposing to issue a new NPDES permit for Pepco Benning Service Center – West subject to certain effluent discharge limitations, monitoring requirements, and other terms and conditions identified in the permit. The permit requirements are based on Section 402 of the Clean Water Act (33 U.S.C. 1342 et seq.), and NPDES regulations found at 40 CFR Parts 122, 124, 125 and 131.

Persons wishing to comment on, or request a public hearing for, the draft permit for this facility may do so in writing electronically by the expiration date of the public comment period. All public comments and/or requests for a public hearing must state the nature of the issues to be raised as well as the requester's name, address, and telephone number. All public comments and requests for a public hearing must be in writing and submitted electronically to the following:

Carissa Moncavage
Permit Writer
NPDES Permit Section
moncavage.carissa@epa.gov

Public Comment Start Date:

Public Comment Expiration Date:

Pursuant to 40 CFR § 124.13, “[a]ll persons, including applicants, who believe any condition of a draft permit is inappropriate or that the [EPA]’s tentative decision to...prepare a draft permit is inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period (including any public hearing) under [40 CFR] § 124.10. Any supporting materials which are submitted shall be included in full and may not be incorporated by reference, unless they are already part of the administrative record in the same proceeding, or consist of State or Federal statutes and regulations, EPA documents of general applicability, or other generally available reference materials. Commenters shall make supporting materials not already included in the administrative record available to EPA as directed by the Regional Administrator.” 40 CFR § 124.13.

After the public comment period ends, and all comments have been considered, EPA’s Regional Director for the Water Division will make a final decision regarding permit issuance. If no substantive comments have been received, the tentative conditions in the draft permit will become effective no less than 30 days after the issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days pursuant to 40 CFR § 124.19, in which case 40 CFR §§ 124.16 and 124.60 will apply such that contested permit conditions will be stayed but the remainder of the final permit will take effect.

The draft permit, fact sheet, and administrative record index are available on the EPA Region 3 public notice website <https://www.epa.gov/dc/epa-public-notices-district-columbia> or on the EPA Region 3 NPDES Permits website <https://www.epa.gov/npdes-permits/district-columbia-npdes-permits>. The administrative record contains all the records EPA used for the development of the draft permit, as required in 40 CFR § 124.10(d)(vi). Copies of any document listed in the administrative record index can be obtained by contacting the permit writer below.

For additional information, please email the permit writer, Carissa Moncavage at moncavage.carissa@epa.gov or call 215-814-5798.

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1.0 Facility Summary

1.1 Site Description

Potomac Electric Power Company (Pepco) owns the Benning Service Center which occupies approximately 77 acres in Washington, DC (the Site). The Benning Service Center is located at 3400 Benning Road N.E., Washington, D.C. The entire site is composed of three electric substations and a variety of administration, operation and maintenance activities, including office facilities, fleet services maintenance and a transformer maintenance shop, that support Pepco's electric transmission and distribution system throughout the Washington, D.C. area. The Site was formerly the location of the Benning Generating Station, but the power plant was shut down in June 2012, and the power plant buildings were demolished in 2014 and 2015. It now functions as an electric transmission and distribution center.

In 2021, EPA renewed Pepco's NPDES permit no. DC0000094 which authorizes discharges of stormwater from 8 outfalls at the site (Outfalls 013, 101, 014, 015, 016, 005, 006, and 401). In June 2022, roughly a year after DC0000094 was reissued, Pepco notified EPA of their intent to sell a portion of the property to a third party for eventual redevelopment. As a result of this potential sale, the site was divided into an east side and west side to distinguish between the parcel that Pepco intends to sell, sold ("Benning Service Center – West", also referred to as "Lot 800") and the parcel that Pepco intends to maintain ownership of after the sale ("Benning Service Center – East.").¹ To facilitate a smooth transfer of Outfall 101 from Pepco to the future owner of Lot 800, Outfall 101 is being removed from permit no. DC0000094 at Pepco's request and will be incorporated into this new permit, no. DC0000390. This is being done by simultaneously issuing this permit and modifying DC0000094. Pepco is legally responsible for complying with both permit no. DC0000094 and DC0000390 until this permit is transferred to a new owner in accordance with 40 CFR § 122.61. In summary, for the purpose of NPDES permit coverage, Lot 800 is now named "Benning Service Center – West" and will be covered under this permit. The east side of the property is covered separately under the existing permit no. DC0000094, which is now named "Benning Service Center – East."

The Benning Service Center – West is located at 3400 Benning Road N.E., Washington, D.C. occupying approximately 5.04 acres within Lot 800. This area consists of paved and gravel parking areas, remnant foundations of demolished structures, and grassy areas. No substations or active electrical switchyards are located within this area. No process wastewater is generated or discharged at Outfall 101; however, there will be periodic discharges of water from fire hydrant testing that will be discharged to Outfall 101 and has been added as an authorized discharge in the permit.

All the conditions in this permit were copied from Permit no. DC0000094 with the following exceptions:

1. The compliance scheduled in Part III. Section A was removed from this permit because the compliance period has passed and the schedule is no longer applicable.

¹ Initial communications indicated that the lot size was approximately 10 acres. However, Lot 800 that will eventually be sold is 5.04 acres.

2. Removed the special condition related to the monitoring of TMDL pollutants because the Anacostia Toxics TMDL was approved on March 29, 2024. The revised TMDL assigns wasteload allocations (WLAs) for Pepco. These WLAs were included in this permit.
3. Removed PCB references that were outdated and referring to the wrong section in Part 136.
4. The permittee requested authorization to periodically discharge fire hydrant testing through the outfalls authorized to discharge in the permit. EPA has no objection to this request and added fire hydrant testing water as an authorized discharge in Parts I.A and I.B in the permit. The permittee must dechlorinate the fire hydrant testing water before discharging and notify DOEE at least 24 hours before commencing the discharge. These additional requirements are in Part III.A.4 of the permit.

1.2 Discharge Description

Only stormwater discharges and periodic fire hydrant flushings occur at Benning Service Center – West via Outfall 101.

Drainage Area Designation	Drainage Area (acres)	Discharge Location	Receiving Water
DA 01	3.93	Outfall 101	Anacostia River
DA 04	1.11	Generally, all precipitation infiltrates into the ground except during very heavy rains when it flows to Outfall 101.	Anacostia River
DA 03	1.63	All precipitation to this DA infiltrates into the ground with no outfall	Not applicable
Outfall 101 Total Drainage Area			
	5.04		Anacostia River
Average flow (mgd)			
	0.53		Anacostia River

2.0 Stormwater Best Management Practices (BMPs)

Pepco employs a number of BMPs and other measures to manage and treat stormwater discharges at the Benning facility including the use of filters, screens, and absorbent booms at all storm drain inlets. These measures will be incorporated from permit no. DC0000094 and continued in the new permit for Outfall 101, DC0000390.

3.0 Environmental Justice (EJ)

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA has this goal for all communities and persons across the United States. EPA is committed to providing an environment where all people enjoy the same degree of protection from environmental and health hazards and equal access to the decision-making process to maintain a healthy environment in which to live, learn, and work. Although the power plant has been shut down for many years, historical operations at the site led to ongoing public engagement between Pepco and the surrounding community and local action groups making this draft permit a candidate for environmental justice considerations. EPA's Office of Environmental Justice worked with community stakeholders in D.C. to constructively and collaboratively address community concerns related to the reissuance of DC0000094. Because the purpose of this permitting action is to remove Outfall 101 from DC0000094 and cover Outfall 101 in a separate permit EPA determined that additional community outreach for this new permit was not necessary. Community concerns may be appropriately raised during the public comment period.

4.0 Special Conditions in the Draft Permit

4.1 Special Condition A. General Conditions (Part III.A)

Reopener (Part III.A.1)

This special condition is a reopener clause that allows the permit to be reopened and modified should the District of Columbia's Water Quality Standards be revised and/or if there are any changes to the TMDLs that are applicable to this permit.

Periodic discharges of firefighting activities and fire hydrant water (Part III.A.2)

This special condition authorizes periodic discharges of fire hydrant flushings and activities on an as needed basis from Outfall 101. The permittee requested to include these discharges because they are required to test their hydrants on an annual basis to ensure proper functioning.

4.2 Special Condition B. Requirements Applicable to PCB Monitoring and Limits (Part III.B)

This special condition was carried over from the 2021 permit. This condition outlines specific monitoring and reporting requirements for PCBs. Over the previous permit term, the permittee submitted PCB monitoring data using both the 40 CFR Part 136 method, Method 608, and the more sensitive Method 1668 which is not in Part 136. The sampling results periodically showed a presence of PCBs in the discharge using Method 1668. Because the permittee has transformers on site, sampling of PCBs remains in the permit and this special condition outlines PCB specific requirements.

4.3 Special Condition C. Whole Effluent Toxicity WET (Part III.C)

The 2021 NPDES Permit no. DC0000094 included a one-time WET monitoring requirement because the previous permit (2009) required acute WET testing which was performed on 100% effluent and not on a dilution series. This acute WET test was performed again using a dilution series in accordance with the requirements of the 2021 permit (NPDES Permit no. DC0000094). The acute WET testing conducted under the 2021 passed and as a result the draft permit (DC0000390) does not require the permittee to conduct WET testing. However, this special condition remains in the permit to satisfy anti-backsliding requirements but does not require the permittee to conduct acute WET testing. Section B.1.a of the permit (DC0000390) states “The permittee shall conduct acute toxicity testing, if applicable in Part I Section B of the permit, in accordance with procedures outlined in EPA-821-R-02-012 *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (Fifth Edition). ...” (underlined here for emphasis).

4.4 Special Condition D. Storm Water Pollution Prevention Plan (Part III.D)

This special condition outlines specific requirements for the management of stormwater to minimize the discharge of pollutants in the facility’s stormwater discharge.

4.5 Special Condition E. Best Management Practices for Hazardous and Toxic Wastes (Part III.E)

This special condition applies to all permittees who use, manufacture, store, handle or discharge any pollutant listed as toxic under Section 307(a)(1) of the Clean Water Act or any pollutant listed as hazardous under Section 311 of the Act and who have ancillary manufacturing operations which could result in significant amounts of these pollutants reaching waters of the United States. This special condition is included in the permit because of the potential to discharge PCBs and PAHs, pollutants that are listed under Section 311 of the Clean Water Act.

4.6 Special Condition F. Benchmark Monitoring (Part III.F)

The permit includes benchmark monitoring for some pollutants at Outfall 101. This special condition requires the permittee to take a corrective action if a sampling result exceeds the benchmark value in the permit. The benchmark value is not an effluent limitation; therefore, a benchmark exceedance is not a permit violation. However, if a corrective action is required as a result of a benchmark exceedance, failure to conduct a corrective action is a permit violation.

4.7 Special Condition G. Considerations under Federal Law [40 CFR § 122.29]

This special condition is not a requirement of the permittee. It outlines EPA’s determination of the effect of this discharge under section 7 of the Endangered Species act and the National Historic Preservation Act.

5.0 Receiving Water Characterization

5.1 303(d) Status of the Upper Anacostia River

The permittee discharges to the Upper Anacostia River. The 2021 permit (DC0000094) characterized the Anacostia River based on the District’s 2018 Integrated Report (IR) because that was the most current report at the time the permit was being drafted. Since then, the District finalized its 2020 Integrated report and, therefore, is the most current IR to use for this permit’s issuance. The listings have not changed from the 2018-2020 Integrated Reports so nothing in the permit or in this section was changed.

The District’s 2020 Integrated Report, the Anacostia River is not on the 303(d) list and has Total Maximum Daily Loads (TMDLs) for various pollutants. The applicable TMDLs are discussed in Section 5.2 below.

OUTFALL NO.	LATITUDE	LONGITUDE	RECEIVING WATER	DESIGNATED USES
101	38° 53' 46" N	76° 57' 36" W	ANACOSTIA RIVER	A, B, C, D, E

Classifications of the District’s Waters, Defined:

- Class A – Primary Contact Recreation
- Class B – Secondary Contact Recreation
- Class C – Protection and propagation fish, shellfish and wildlife
- Class D – Protection of human health related to consumption of fish and shellfish
- Class E – Navigation

5.2 Total Maximum Daily Loads (TMDLs)

The following TMDL information was copied from the Fact Sheet for Permit no. DC0000094 with updated information related to the recently approved Anacostia toxics TMDLs.

Federal regulations at 40 CFR § 122.44(d)(1)(vii)(B) require that NPDES permits be consistent with assumptions and requirements of any available wasteload allocations (WLAs) in TMDLs. This permit includes effluent limits that are consistent with the assumptions and requirements of the TMDLs. Each TMDL applicable to this discharge is discussed in detail below.

TMDLs applicable to this discharge:

Anacostia Watershed TMDLs	Chesapeake Bay TMDLs (Established 2010)
Trash, approved 2010	Total Nitrogen (TN), Total Phosphorus (TP), TSS that address Dissolved Oxygen (DO), pH, Chlorophyll <i>a</i> impairments
Total Suspended Solids (TSS), approved 2007	
Nutrients/Biological Oxygen Demand (BOD) approved 2008	
Chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor Epoxide, and PAHs (approved 2024)	

5.2.1 TMDL for Trash for the Anacostia River Watershed (approved 2010)

The trash TMDL identifies both point and non-point sources of trash in the Anacostia River. The point sources identified in the TMDL are primarily from Municipal Separate Storm Sewer Systems (MS4) and Combined Sewer Systems (CSS). The TMDL has a “Other Facilities” category which addresses industrial facilities such as Pepco and includes these facilities in the aggregate.² The permittee has trash cans

² See section 3.1 of the TMDL of Trash for the Anacostia River Watershed.

located throughout the property, with more trash cans located near buildings and work areas. There is a large part of the property where there are no trash cans, however the property isn't being used in these areas and the storm drains are adequately covered to prevent trash from entering the system.

5.2.2 Anacostia River Basin TMDL for Sediment/TSS (approved 2007)

The TMDL for Sediment/TSS requires an 85% reduction of the loading caps for both the Maryland and DC tidal and non-tidal waters. The TMDL does not assign a wasteload allocation to this facility and states "because most of the flow from the Pepco-Benning facility is stormwater, it is included as part of the urban loads in the TMDL analysis." The TMDL's technical memorandum for point sources identifies this facility's loads which are included in the DC MS4 loads for TSS. When the baseline loads for TSS were calculated, the TMDL included Pepco's discharge at the time which included TSS effluent limits at Outfalls 003 and 013 and internal monitoring points (IMPs) 201 and 010 (all associated with Pepco's permit no. DC0000094). The TSS effluents limits at these outfalls and internal monitoring points were 30 mg/L and 100 mg/L for the average monthly and daily maximum, respectively. However, discharges from Outfall 003 and internal monitoring points 201 and 010 no longer occur. Because this outfall and IMPs are no longer discharging and Outfall 101 did not have TSS limits previously, but has TSS limits of 100 mg/L in permit DC0000094, EPA believes the load transfer from Outfall 003 to Outfall 101 remains consistent with the assumptions and requirements of the TMDL for TSS.

5.2.3 Anacostia River Basin TMDL for Nutrients/BOD (Approved 2008)

The TMDL for Nutrients/Biological Oxygen Demand identifies this facility as an insignificant source of BOD and that TN and TP are not applicable. Part 2.2.5 of the TMDL identifies this facility as discharging BOD from a hydrostatic testing tank and that "discharges from the tank only occur, at most, once or twice a year; in the last two years, no discharges have occurred." However, the TMDL Technical Memorandum dated April 25, 2008 assigns this facility a wasteload allocation of 501 lbs/year for BOD which is based on maximum reported flow and an assumed maximum concentration of 30 mg/L. The 2009 permit (DC0000094) included Outfall 101 and had BOD limits for internal discharge point 201 (which discharged to Outfall 013) because this discharge point consisted of hydrostatic tank test water and wash water. The cleaning of these tanks is an activity that is no longer applicable since the facility was decommissioned and demolished. Moreover, the tank wash waters are not applicable to Outfall 101, therefore, monitoring for BOD is not required.

5.2.4 Anacostia River Basin TMDL for Arsenic, Chlordane, DDT, Dieldrin, Heptachlor Epoxide, and PAH 2 and PAH 3 (approved March 2024)

The TMDLs for Arsenic, Chlordane, DDT, Dieldrin, Heptachlor Epoxide, and PAH 2 and PAH 3 assign individual wasteload allocations (WLAs) for Pepco's permit number DC0000094. Both Outfall 013 and Outfall 101 were represented in the TMDL model. Because Pepco will now have two individual permits, one permit (DC0000094) which includes Outfall 013 and this permit, DC0000390, which includes Outfall 101, the TMDL individual WLAs need to be divided between the two permits. The new wasteload allocations for each permit are based on the drainage area for each outfall. The WLAs for each outfall were determined by adding the total drainage areas for outfalls 013 and 101, then dividing each outfall's drainage area by the total drainage area to get a percentage of each drainage area for each outfall. This

percent drainage area was then multiplied by the total WLA to calculate the WLA for each outfall. See Table 1 below for the breakdown of the WLAs.

Example calculation of WLA for Arsenic at Outfall 101

4.38 acres/54.65 acres * 100 = 8%

Arsenic WLA for Outfalls 013 and 101 = 6.3852 g/year

Arsenic WLA for Outfall 101 = 6.3852 * 8% = 0.511 g/year

Drainage area taken from the 2019 amended application (Form 2F)				TMDL WLAs per outfall in g/yr						
Outfall	Total Surface Area Drained (acres)	% Of Total	Outfall	As	Chlordane	DDT	Dieldrin	Heptachlor Epoxide	PAH 2	PAH 3
				013	50.27	92%	013	6.3852	0.0453	0.0052
101	4.38	8%	101	5.873449	0.041669	0.004783	0	0.0045073	0.019777	0.002024
				0.511751	0.003631	0.000417	0	0.0003927	0.001723	0.000176

Table 1. WLA calculations for outfalls 013 and 101 based on the drainage areas for each outfall.

The individual WLAs listed in the table above were included in Part I.B. of the permit.

5.2.6 TMDL for Total PCBs for Tidal Portions of the Potomac and Anacostia Rivers (approved 2007)

The TMDL requires a 99.9% reduction in PCBs for the upper Anacostia river segment. The jurisdictions (Maryland and D.C.) involved in the development of the TMDL have agreed to an adaptive implementation strategy for NPDES permits to comply with the wasteload allocation provisions of the TMDL as authorized by 40 CFR § 122.44(k). This implementation strategy focused on requiring data collection in NPDES permits and the use of non-numeric WQBELs (BMPs). The TMDL recommended, and the regulatory authorities agreed, PCB sampling in NPDES permit should be performed using the most current version of EPA Method 1668, or other equivalent methods capable of providing low-detection level, congener specific results.

The 2021 permit had a “no discharge” limit for PCBs. This meant that the discharge of PCBs was not authorized by the permit. The 2021 permit required monitoring of PCBs at all the outfalls using 40 CFR Part 136 Method 608 (PCB aroclors) and Method 1668 (PCB congeners) which is not in Part 136. The permittee was required to analyze for select PCB aroclors over the permit term using Method 608 to ensure compliance with the “no discharge” PCB limit in Part I of the permit. The test results obtained using test Method 608 were reported on the DMRs in accordance with 40 CFR § 122.41(j)(4) which required monitoring for compliance purposes be conducted according to test procedures approved under 40 CFR Part 136. ,.

The permittee was required to submit a PCB Source Tracking and Pollutant Minimization Plan. The permittee submitted the Plan on July 19, 2010 which identified potential sources of PCBs with proposed measures and controls for each potential pollutant source.³ A review of the lab data sheets from 2021-2022 showed some samples that were tested using Method 1668C had the presence of PCBs at Outfall 101. The minimum level or quantitation level reported by the lab is above the district’s water quality standard of 64 pg/L and because the lab reports non-detect at the ML, EPA cannot determine

³ For more information on the study and pollutant minimization plan, see Table 4 of the Plan which is located in the permit’s Administrative Record.

compliance with the water quality standard. Because of this and the fact that the facility stores and maintains transformers on site, annual PCB monitoring has been retained in the permit.

5.2.7 The 2010 Chesapeake Bay TMDL

EPA established the Chesapeake Bay TMDL for nitrogen, phosphorus, and sediment (Bay TMDL) in 2010 as a result of significant involvement and investment by the Chesapeake Bay Program (CBP) partnership. See EPA's website for more information on the development of the Bay TMDL:

<https://www.epa.gov/chesapeake-bay-tmdl/chesapeake-bay-tmdl-document>. The Bay TMDL identified 478 individual wasteload allocations (WLAs) for significant wastewater facilities across the 92 river segments and identified aggregate WLAs for non-significant wastewater facilities. The CBP partners, including the District, have been implementing the Bay TMDL since 2010; most recently, the Bay states developed Phase III Watershed Implementation Plans (WIPs) to provide further information on how they intend to continue implementing the Bay TMDL.⁴

5.2.7.1 The District's 2019 Phase III Watershed Implementation Plan (WIP)

The District's Phase III WIP, which was finalized in 2019, describes the District's strategy for continuing to reduce nitrogen, phosphorus, and sediment in the Chesapeake Bay. The District's Phase III WIP guides the District's continued implementation of the Bay TMDL and outlines the various pollutant reduction strategies the District plans to implement to meet planning targets. These planning targets were calculated by EPA and agreed to by the CBP partnership. As part of its Phase III WIP, the District developed local planning goals for various source sectors, including individually permitted wastewater point sources.

Chapter 6 of the District's Phase III WIP includes planning goals for individually permitted municipal and industrial facilities. The planning goals for these facilities are based on existing permit limits at the time of WIP development and DMR data for the specific progress reporting period of July 2017 through June 2018. These data were used as inputs to the Chesapeake Assessment Scenario Tool⁵ (CAST), which is a CBP partnership load estimator tool that provides estimates of load reductions for sources such as wastewater. States, federal agencies, and local governments use the results from CAST to identify which pollutant reduction strategies provide the greatest reduction in TN, TP, and TSS loads and to determine if WLAs are being met. DOEE used CAST to estimate load reductions and set planning goals for the nonsignificant permitted facilities in the District. See Table 6-5 of the District's Phase III WIP.

In an effort to better understand how the District's Phase III WIP planning goals for the nonsignificant permitted facilities are intended to implement the Bay TMDL aggregate WLAs, EPA Region 3 consulted with DOEE and the Chesapeake Bay Program Office. After several discussions, EPA Region 3 understands that the planning goals for the facilities listed in Table 6-5 of the District's Phase III WIP are not intended to be incorporated into NPDES permits as effluent limits. The District's Phase III WIP and the WLAs of the Bay TMDL both have the ultimate goal of reducing pollutant loadings into the Bay by 2025.

⁴ As described on EPA's website <https://www.epa.gov/chesapeake-bay-tmdl/chesapeake-bay-watershed-implementation-plans-wips>, the Watershed Implementation Plans are the roadmap for how the Bay jurisdictions, in partnership with federal and local governments, will achieve the Bay TMDL allocations.

⁵ For more information about CAST visit <https://cast.chesapeakebay.net/about>.

5.2.7.2 Nonsignificant Dischargers and the Bay TMDL

The Chesapeake Bay TMDL categorizes Pepco as a non-significant industrial discharger and includes this facility in the aggregate wasteload allocations for Total Nitrogen (TN), Total Phosphorus (TP), and TSS. Section 8.3.3 of the Bay TMDL acknowledges that due to the lack of information from nonsignificant discharges included in the aggregate, information on these discharges may be based on default assumptions regarding flow and concentrations. The TMDL expects these facilities to provide, at minimum, TN, TP, and TSS monitoring data to verify the loads do not contribute to any exceedance of the individual or aggregate WLA. Removing Outfall 101 from existing permit no. DC0000094 and adding it to this new permit will not add any flows to Pepco's existing loads. Therefore, permit no DC00000940 is consistent with the assumptions of the aggregate waste load allocation in the Chesapeake Bay TMDL for this facility.

5.2.7.3 Justification of the TN, TP, and TSS monitoring

TN and TP

This facility is categorized as a non-significant discharger of TN and TP and is included in the Bay TMDL's aggregate wasteload allocation for these pollutants. The permittee has not monitored for TN and TP so there are no discharge data for these two parameters to verify the assumptions of the TMDL for nonsignificant dischargers. Because this facility is not expected to be a significant source of TN and TP, the draft permit requires monitoring only for TN and TP. EPA may reopen the permit to include TN and/or TP limits based upon an evaluation of the monitoring data. After two years, the permittee can submit a request to EPA to modify the permit to remove this monitoring requirement.

TSS

Section 4.5.2 of the Bay TMDL states that discharges from industrial facilities represent a *de minimis* source of sediment. The aggregate WLA for sediment was established based on the TSS effluent limits for each facility included in the aggregate. From June 2021 to February 2023, the permittee has reported an average TSS concentration of 24.5 mg/L at Outfall 101, and is therefore expected to meet the limit of 100 mg/L imposed in the permit upon reissuance.

6.0 Basis for Effluent Limitations

In general, the Clean Water Act (Act) requires compliance with all applicable statutory and regulatory requirements, including effluent limitations based on the capabilities of technologies available to control pollutants (i.e., technology-based effluent limits) and limitations that are protective of the water quality standards of the receiving water (i.e., water quality-based effluent limits). Typically, technology-based effluent limitations or TBELs are developed for all applicable pollutants of concern (40 CFR § 122.44(a)). Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the Clean Water Act. EPA has not promulgated technology-based effluent limitation guidelines (ELGs) for the category or class of this discharge. As such, there are no TBELs included in the permit with the exception of TSS. The TSS effluent limits are carried over from

the 2009 permit (DC0000094) and are TBELs that were calculated based on best professional judgement (BPJ).

Water quality-based effluent limitations, or WQBELs, are developed where TBELs are not adequate to meet water quality standards in the receiving water (§122.44(d)). This permit contains water quality based effluent limits to ensure compliance with all applicable water quality standards.

7.0 Water Quality Based Effluent Limitations (WQBELs)

40 CFR § 122.44(d)(1)(i) requires limitations to be established in permits to control all pollutants or pollutant parameters that are or may be discharged at a level that *cause*, have the *reasonable potential (RP) to cause*, or *contribute* to an excursion above any state water quality standard (WQS), including state narrative water quality criteria. The WQBELs in this permit will be as stringent as necessary to ensure that the designated uses of the Anacostia River are protected, maintained, and/or attained. EPA assessed the reasonable potential (RP) for the discharge from this facility to cause, have the RP to cause, or contribute to an exceedance of the District's applicable WQS. EPA used the *Technical Support Document for Water Quality-based Toxics Control (TSD)* approach to conduct that analysis.

7.1 pH and Oil & Grease

The pH and Oil & Grease effluent limits for Outfall 101 are WQBELs adopted from District's WQS for those parameters, specified in Section 21-1104.8 of the District of Columbia's Water Quality Standards Regulations.

7.2 Iron and Copper

The iron and copper effluent limits are calculated WQBELs and discussed in more detail below in Section 9.0.

7.3 TSS

As discussed in Section 5.0 above, the TSS limits in the permit are based on TMDL assumptions and requirements.

8.0 Reasonable Potential Analysis

A reasonable potential analysis was conducted for Outfall 101 when DC0000094 was reissued in 2021. The 2021 RP analysis was updated to include current DMR data as well as to incorporate a site specific mixing study. The new permit will be issued with a 2-year term, which is intended to coincide with the term of the existing permit, DC0000094.

When the RP analysis was conducted for Outfall 101 in 2021, all data submitted to EPA was used to determine if the discharge shows the potential to exceed in-stream water quality criteria. 40 CFR § 122.44(d)(1)(iii) requires effluent limitations be established in permits when it is determined that a discharge will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including narrative criteria. Procedures in the TSD were used in the RP

analysis. Data collected over the previous four years were evaluated, which includes data reported on the permittee's DMRs. For pollutants in which the RP analysis shows the potential to exceed in-stream water quality values, water quality-based effluent numbers must be calculated as required at 40 CFR § 122.44(d).

The District of Columbia water quality criteria for copper, lead, zinc, cadmium, and nickel are expressed as dissolved. EPA is assuming a 1:1 translator using a conservative approach to convert the total dissolved metals criterion to total recoverable effluent limits, consistent with EPA Metal Translator Guidance. For more details on the reasonable potential analysis, including calculations, See Appendix A.

9.0 RP Discussion

As stated in the 2021 Fact Sheet for Permit no. DC0000094, Pepco proposed to include benchmark monitoring values rather than set Daily Maximum Limits in the permit for the pollutants of concern. These benchmarks would trigger additional stormwater controls if the average of four-quarters of monitoring samples exceeds the applicable benchmarks, following the same approach as under EPA's Multi-Sector General Permit (MSGP). EPA still believes this approach is not appropriate for this discharge because various pollutants were found to have RP to exceed water quality criteria in the 2021 RP analysis and the site has a long history of discharging metals via these outfalls to the Anacostia River, which is impaired and has TMDLs for metals. EPA determined in the 2021 reissuance of DC0000094 that benchmark monitoring was appropriate for the pollutants with reportable concentrations but do not demonstrate RP. EPA still maintains this determination for Permit no. DC0000390. The 2015 and 2021 MSGP evaluates benchmark monitoring results using the average of four quarterly samples, however, this approach was not applied to the benchmark monitoring in the 2021 permit nor was it applied to this permit because, as stated above, this facility has a history of these pollutants in their discharge and the receiving waterbody is impaired for these pollutants. The benchmark values that were calculated for the 2021 permit and carried over to this permit were calculated in accordance with Section 5.4 of the TSD. The benchmark value is not an effluent limitation; a benchmark exceedance, therefore, is not a permit violation. However, if a corrective action is required as a result of a benchmark exceedance, failure to conduct a corrective action is a permit violation.

As discussed above in Section 5.0 and in the 2021 Fact Sheet for Permit no. DC0000094, the TSS effluent limits are carried over from the 2009 permit (DC0000094) and are TBELs that were calculated based on best professional judgement (BPJ). The TSS limits are being carried over to be consistent with the TMDL assumptions and requirements.

Since stormwater discharges are intermittent events, EPA determined in the 2021 reissuance of DC0000094 that effluent limits expressed as an average monthly is not appropriate, therefore, only maximum daily limits were included in that permit which is consistent with 40 CFR §122.45(e). EPA maintains this determination for this permit.

9.1 Outfall 101 Copper, iron, cadmium, lead, zinc, nickel, and Oil & Grease

The following discussion RP discussion for Copper, iron, cadmium, lead, zinc, nickel, and Oil & Grease was copied from the 2021 Fact Sheet for Permit no. DC0000094 with the exception of

the RP findings that changed as a result of the incorporation of the site specific mixing study and dilution factor used in the updated analysis.

Copper and iron showed reasonable potential to cause or contribute to an excursion of water quality criteria when dilution was applied, therefore, limits were calculated and imposed in the permit for these pollutants. These limits are included in Part I.B.1 of the permit.

There was no RP for cadmium, lead, zinc, and nickel when dilution was applied to the analysis, however, a benchmark monitoring and reporting requirement was imposed because this pollutant has a history of being present in the discharge. These requirements are included in Part I.B.2 of the permit.

There was no RP for oil & grease to cause or contribute to an excursion of DC's WQS when a dilution factor was applied, however, because of the industrial activities occurring on the site, oil & grease continues to be a pollutant of concern for this discharge. Therefore, the permit limits for oil & grease will remain in the permit at Outfall 101.

10.0 Endangered Species Protection

EPA requested an official species list from the U.S. Fish and Wildlife Service (USFWS) using their *Information for Planning and Consultation* tool found on their website at: <https://ecos.fws.gov/ipac> to determine if there are any federally listed threatened or endangered species or their designated critical habit(s) that will be affected by this discharge. In addition, a biological evaluation will be submitted to the USFWS during or after the public notice period. EPA will wait for a response and will not reissue the permit until EPA receives concurrence from the USFWS.

For listed species or critical habitats that fall under the jurisdiction of The National Oceanic and Atmospheric Administration (NOAA) Fisheries (also known as National Marine Fisheries Service or NMFS) EPA will submit a biological evaluation during or after the public notice period. EPA will wait for a response and will not reissue the permit until EPA receives concurrence from NMFS.

11.0 National Historic Preservation Act

The National Historic Preservation Act of 1966 and implementing regulations (36 CFR Part 800) requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation, or designee, the opportunity to comment on such undertakings. See Section 106, 54 U.S.C. § 306108. EPA notified the District of Columbia State Historic Preservation Office (DC SHPO) that it is proposing to issue NPDES permit no. DC0000390 and that EPA has determined that this permit does not have the potential to affect historic properties. See 36 CFR § 800.3(1).

12.0 Anti-Backsliding

Section 402(o) of the CWA and 40 CFR §122.44(l) prohibit the renewal, reissuance or modification of an existing NPDES permit that contains effluent limits, permit conditions, or standards that are less stringent than those established in the existing permit, unless certain exceptions are met. The 2021

permit contained Water Quality Based Effluent Limits (WQBELs) at Outfall 101 for iron, copper, lead, zinc; and benchmark levels for cadmium and nickel. The new permit for this outfall incorporated a site specific mixing study resulting in an RP analysis that did not show reasonable potential to contribute to or cause an excursion of DC's water quality criteria for lead, zinc, cadmium, and nickel. There was RP for iron and copper. The permit includes less stringent limits for iron and copper and less stringent benchmark values for the benchmark monitoring for lead, zinc, cadmium, and nickel as a result of incorporating the site specific mixing study.

Both the benchmark values (lead, zinc, cadmium, and nickel) and effluent limits (iron and copper) are less stringent than the 2021 permit as a result of the new site specific mixing study. Thus triggering an anti-backsliding analysis in accordance with CWA Section 402(o)(1). Where the effluent limitation under consideration is water quality-based, Section 401(o)(1) states that such backsliding may occur only in compliance with the requirements of Section 303(d)(4) of the CWA.

CWA Section 303(d)(4) addresses relaxation of water quality-based effluent limits under two circumstances: where the receiving water is not attaining the applicable water quality standards (WQS) (CWA Section 303(d)(4)(A)) and where the receiving water is attaining the applicable WQS (CWA Section 303(d)(4)(B)). The current permit contains less stringent effluent limits for pollutants (iron and copper) where the WQs are being attained. The permit also contains less stringent benchmark values for pollutants (lead, zinc, cadmium, and nickel) where the WQs are being attained. For the purposes of backsliding, there are no pollutants that fall under 303(d)(4)(A) (i.e. standards not attained); therefore, an anti-backsliding analysis under CWA 303(d)(4)(A) was not conducted.

CWA Section 303(d)(4)(A) Standard not attained

There are no pollutants in this permit with less stringent limits that apply to this category.

CWA Section 303(d)(4)(B) Standard attained (lead, zinc, cadmium, nickel, iron, copper)

The WQBELs from the 2021 permit for lead, and zinc were removed because the reasonable potential analysis did not show a reasonable potential to cause or contribute to an exceedance of the applicable WQS for this pollutant. The effluent limits for iron and copper are less stringent than the 2021 permit because of the incorporation of the site specific mixing study. Based upon EPA's Assessment, Total Maximum Daily Load tracking and Implementation System (ATTAINS) online database, the Anacostia River has been determined to be attaining the applicable WQS for lead, zinc, iron, and copper triggering an anti-backsliding review under CWA Section 303(d)(4)(B). Because these pollutants are attaining water quality standards, the relaxation of the WQBELs is consistent with the exception to the prohibition against backsliding found at CWA Section 303(d)(4)(B) providing it is also consistent with the District's antidegradation policy. The Anacostia River is a Tier 1 designated waterbody. The District of Columbia's Municipal Regulations Title 21 Section 21-1102.1 define a Tier 1 designation as "Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." The relaxation of the effluent limit is consistent with the District's Tier 1 antidegradation policy because the discharge is meeting the water quality standards for lead thereby maintaining the existing instream water uses of the Anacostia River. Because the discharge is meeting water quality standards for lead, and the District's antidegradation policy is being met, the removal of this limit is consistent with the exception to the prohibition to backsliding found at CWA Section 303(d)(4)(B).

13.0 Antidegradation Statement

The Anacostia River is a Tier 1 protected water. The draft permit contains water quality-based effluent limits sufficient to maintain and protect the water quality necessary to protect existing uses. Discharges from this facility therefore will not downgrade the water quality of Anacostia River.

14.0 Clean Water Act Section 401

In accordance with CWA 401(a)(1), EPA requested a water quality certification from the District of Columbia, via DOEE, to ensure compliance with the District's WQS. A CWA section 401 water quality certification was issued by DOEE for this permit on August 28, 2023.

In accordance with CWA 401(a)(2) EPA notified the Maryland Department of the Environment (MDE) and the Virginia Department of Environmental Quality (VADEQ) on September 27, 2023 to inform these neighboring jurisdictions that EPA Region 3 determined that NPDES Permit no. DC0000390 may affect the water quality in these states. EPA has not received any responses from MDE or VADEQ.

DRAFT

Appendix A – Reasonable Potential Analysis Calculations

The following section was copied from the 2021 Fact Sheet for Permit no. DC0000094. Only the information relevant to Outfall 101 was included and the numbers were updated to incorporate current dilution factor and DMR data.

A.1 Parameters of Concern

The parameters of concern for Outfall 101 are copper, iron, cadmium, lead, zinc, nickel, Total Suspended Solids (TSS), pH, and WET. A parameter of concern is defined as a pollutant with quantifiable values reported to EPA. A parameter is considered a candidate for a RP analysis when the reported quantifiable values are at or above water quality criteria after accounting for variability.

The TSS limits are TBELs from the 2009 permit (DC0000094) based on BPJ and are being carried over to this permit in order to be consistent with the assumptions and requirements of the Anacostia and Chesapeake Bay TMDLs.

A.2 Five-step TSD approach to Reasonable Potential Analysis

Using the TSD approach, the following is a description of the 5 steps used to conduct the RP analysis at Outfall 101.

- 1) Determine the total number of effluent data values (n) for the pollutant of interest and identify the highest value of the dataset for that parameter.
- 2) Determine the coefficient of variation (CV) of the dataset. The CV is equal to the standard of deviation divided by the long-term average. The default CV for fewer than 10 data values is 0.6, as specified in Box 3-2 of the TSD.
- 3) Determine the appropriate confidence level for the RP analysis. For this permit, EPA used the 99th confidence level, recommended by the TSD in section 5.5.4.
- 4) Determine the RP multiplier, using Table 3-1 of the TSD. Generally, if n is greater than 20, the multiplier is calculated per section 3.3.2 of the TSD. However, the RP multiplier was calculated for all pollutants regardless of the number of samples. The highest value from the data set is then multiplied by the RP multiplier. Use this value with the appropriate dilution to project a maximum receiving water concentration (MRWC).

Before projecting the maximum receiving water concentration, EPA calculates an “adjusted effluent concentration” or AEC to determine if the pollutant of concern is a candidate for completing reasonable potential analysis. If the pollutant does not exceed the water quality criterion (WQC) after applying the multiplying factor to the highest effluent concentration, then that pollutant does not continue with the RP analysis to completion. The AEC is calculated by multiplying the highest effluent concentration (HEC) by the reasonable potential multiplier (RPM) which is the first part in Step 4 above.

If the $AEC > WQC$ then the pollutant should continue with the RP analysis and the projected MRWC is calculated which is in the second part of Step 4.

- 5) Compare the projected maximum receiving water concentration (MRWC) to the applicable standard. EPA finds reasonable potential when the projected MRWC is greater

than the ambient criterion.

TSD Steps 1-4

Outfall 101							
Parameter of concern	# of samples	Highest Effluent Concentration	CV	RP Multiplier	Adjusted Effluent Concentration	DC WQC	Continue with RP Analysis?
Cadmium (µg/L)	15	1.25	0.93	7.74	10.0	1.79	YES
Copper (µg/L)	15	85.7	1.02	4.35	373.1	13.44	YES
Iron (mg/L)	20	4.1	0.89	3.70	15	1.00	YES
Lead (µg/L)	14	68.9	0.86	3.70	254	64.6	YES
Nickel (µg/L)	20	101.0	1.18	5.17	522	468.2	YES
Zinc (µg/L)	20	274.0	0.93	3.90	1070	117.2	YES
Oil & Grease (mg/L)	7	5.2	0.60	2.09	11	10.0	YES

Step 4, continued. Calculate the Maximum Receiving Water Concentration (MRWC):

$$MRWC = ((AEC - IBC/DF) + IBC, \text{ where}$$

AEC – Adjusted Effluent Concentration

IBC – Instream Background Concentration

DF – Dilution Factor – see calculation after the table in Step 5 below

EPA obtained Anacostia River instream background concentrations for copper and zinc that were collected by the DC Department of Energy and Environment (DOEE). These background concentrations were used in the RP analysis.

TSD Step 5.

Outfall 101						
Parameter of concern	Adjusted Effluent Concentration	Instream Background Concentration	Dilution Factor	MRWC	WQC	RP?
Cadmium (µg/L)	10	Not available	12.4	0.780	1.79	NO
Copper (µg/L)	373	7.2 µg/L	12.4	37	13.44	YES
Iron (mg/L)	15.2	Not available	12.4	1.22	1.00	YES
Lead (µg/L)	254	Not available	12.4	21	64.58	NO
Nickel (µg/L)	522	Not available	12.4	42	468	NO
Zinc (µg/L)	1070	15.7 µg/L	12.4	101	117.2	NO
Oil & Grease (mg/L)	11	Not available	12.4	0.875	10.0	NO

A.3 Dilution Factor (DF):

The permittee submitted a site-specific mixing study to EPA in accordance with Part III.C of NPDES Permit No. DC0000094. The study suggested an acute dilution factor of 12.4. After a detailed review of the mixing study, EPA has accepted the study and incorporated the dilution factor into the permit. The mixing study will be valid for the remainder of this permit term and the next reissuance.

A.4 Developing a Water-Quality Based Effluent Limit:

For those pollutants where there was a reasonable potential to cause or contribute to an exceedance of applicable WQSs (copper and iron), the second step is the development of WQBEL for each pollutant. The procedure for this is described at Section 5.4 of the TSD.

1. Compute the Wasteload Allocation (WLA): $WLA = ((WQC - IBC) * DF) + IBC$, where

WQC – Water Quality Criterion
 IBC – Instream Background Concentration
 DF – Dilution Factor

Outfall 101				
Parameter of Concern	Water Quality Criterion	Instream Background Concentration	Dilution Factor	Wasteload Allocation
Copper (µg/L)	13	7.2	12.4	85
Iron (mg/L)	1.00	Not available	12.4	12

2. Calculate the Long-Term Average (LTA). The long-term average calculation is based on the 99th confidence level as reflected with the z score of 2.326.

$$LTA = WLA * e^{(0.5 * \sigma^2 - 2.326 * \sigma)}$$

$$\sigma^2 = \ln(CV^2 + 1)$$

$$\sigma = \text{square root of } \sigma^2$$

Outfall 101					
Pollutant	Z	CV	σ^2	σ	LTA
Copper (µg/L)	2.326	1.02	0.717	0.847	16.9
Iron (mg/L)	2.326	0.89	0.581	0.762	2.8

3. Calculate the Maximum Daily Limits (MDL) permit limits:

- i. $MDL = LTA * e^{(2.326 * \sigma - 0.5 * \sigma^2)}$
 $\sigma^2 = \ln(CV^2 + 1)$
 $\sigma = \text{square root of } \sigma^2$

The MDL is based on the 99th confidence level with the z score of 2.326 as recommended by the TSD⁶.

Outfall 101							
Pollutant	Z	CV	σ^2	σ	LTA	Maximum Daily Limit	2021 Permit limit
Copper (µg/L)	2.326	1.02	0.717	0.847	16.9	85	67
Iron (mg/L)	2.326	0.89	0.581	0.762	2.8	12.4	9.6

⁶ Refer to section 5.5.4 of the TSD