



FACT SHEET ADDENDUM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 3
1600 John F. Kennedy Boulevard
Philadelphia, Pennsylvania 19103-2852

**NPDES Permit No. DC0000094
Modification No.2**

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

Pepco Benning Service Center – East

**FACILITY LOCATION:
3400 Benning Road NE – East
Washington, D.C. 20019**

**RECEIVING WATER:
Anacostia River**

ACTION TO BE TAKEN:

In accordance with 40 CFR §§ 122.62(a)(2) and 122.63(a), EPA is proposing to modify the NPDES permit for Pepco Benning Service Center based on new information that was not available at the time of permit reissuance and to correct typographical errors.

Persons wishing to comment on, or request a public hearing for, the draft permit modification for this facility may do so in writing electronically by the expiration date of the public comment period. Note that only the conditions subject to this modification are reopened. 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 issuance of the permit modification. If no comments requesting a change in the permit modification are received, the tentative conditions in the draft permit modification become effective immediately upon issuance, in accordance with 40 CFR § 124.15(b)(3). If an appeal is submitted to the Environmental Appeals Board (EAB) within 30 days of issuance of this final permit decision pursuant to 40 CFR § 124.19, then 40 CFR §§ 124.16 and 124.60 apply, and any contested permit conditions will be stayed. Uncontested permit conditions remain effective and will take effect 30 days after notification to the EAB, applicant, and interested parties.

The draft permit modification, fact sheet, and administrative record index are available on the EPA Region 3 public notice website <https://www.epa.gov/dc/epa-public-notice-district-columbia>. The administrative record contains all the records EPA used for the development of the draft permit modification, 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.

The permittee has requested a permit modification to remove Outfall 101 from this permit (NPDES permit no. DC0000094) in anticipation of the sale of the portion of the site containing that outfall. In advance of the potential sale, the site was divided into an east side and west side. For NPDES permitting purposes, the parcel that is intended to be sold has been named “Benning Service Center – West” (also referred to as “Lot 800”) and the parcel that Pepco intends to maintain ownership of after the sale is named Benning Service Center – East. As such, the facility location name for this permit was changed to “Benning Service Center – East” in this proposed modification action.

In addition to the request to remove Outfall 101 from this permit, the permittee has also requested to add periodic fire hydrant testing to the permit. This will result in periodic discharges of potable water at some or all of the outfalls. EPA has approved this request, however, the permittee will be required to notify DOEE at least twenty-four (24) hours prior to testing and to dechlorinate the fire hydrant flushings prior to discharging to the Anacostia River.

A separate permit application was submitted by Pepco for NPDES permit coverage of Outfall 101. Separating DC0000094 into two different permits is intended to facilitate transfer of the NPDES permit covering Outfall 101 from Pepco to the future owner of Lot 800 (Outfall 101). Outfall 101 will be authorized to discharge under NPDES permit no. DC0000390 and will be issued concurrently with this permit modification.

The following sections of the permit are being modified:

1. Part I Sections B.3, B.4, B.5, C.3, D.3, and D.4. Monitoring requirements for Outfall 101.
The permittee has requested removal of Outfall 101 in anticipation of the sale of the “Lot 800” portion of the site. A separate permit application was submitted for Outfall 101 for NPDES permit coverage for this outfall. A draft permit under new Permit no. DC0000390 will cover discharges from Outfall 101 and will be issued concurrently with this permit modification. See the draft fact sheet and draft permit for Permit no. DC0000390 for the details of that permitting action.
2. Removed all references to Outfall 101 throughout the permit:
 - a. Part I. Section F. Additional Monitoring Requirements
 - i. Part I.F.5.a. Benchmark Monitoring
 - ii. Part I.F.8 sampling location
 - iii. Part I.F.9 qualifying rain events
3. Part III Section A. Compliance Schedule for Outfall 101.
This section was removed from the permit because it included a compliance schedule for Outfall 101 which is no longer applicable.
4. Part III Section B.1 Additional Monitoring Requirements for Total Maximum Daily Loads (TMDLs).
The permit required quarterly monitoring of the TMDL pollutants (Arsenic, DDT, DDD, DDE, Chlordane, Dieldrin, Total PAHs, Total Heptachlor Epoxide) for outfalls 014, 015, 016, 005, 006, and 401. If the data did not exceed the District’s water quality standard for that pollutant after four consecutive quarters, monitoring for that TMDL pollutant can be discontinued. Therefore,

monitoring for Arsenic, DDT, DDD, DDE, Chlordane, Dieldrin, Total PAHs, Total Heptachlor Epoxide was removed for these outfalls.

Individual wasteload allocations (WLAs) were added for Outfall 013 based on the Anacostia Toxics TMDLs approved in March 2024. The requirements for this special condition for Outfall 013 were no longer applicable because this condition was based on the previous TMDL which has now been replaced. The new WLAs for Outfall 013 were included in the permit instead.

5. Part III Section J. Definitions and Abbreviations.
Updated definition for “drainage system” to include all outfalls, not just 013 and 101.
6. Part I. F.5. Additional Monitoring and Reporting Requirements.
Added clarifying language on how to report non-detects.
7. Incorporated the wasteload allocations of the recently approved TMDLs for organics and metals (approved 2024).

Under 40 CFR 122.44(d)(1)(vii), water quality-based effluent limits must be consistent with the assumptions and requirements of any available wasteload allocation for the discharge. 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 which is this permit, and DC0000390 which includes Outfall 101, the TMDL individual WLAs need to be divided between the two outfalls and, therefore, the two permits. The new wasteload allocations for each permit are based on the respective drainage areas 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 013

$50.27 \text{ acres} / 54.65 \text{ acres} * 100 = 92\%$

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

Arsenic WLA for Outfall 013 = 6.3852 * 92% = 5.87 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	0	0.0049	0.0215	0.0022
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.

8. Part III.C. in the 2021 permit

The permittee submitted a site specific mixing zone study which evaluated how the effluent discharged at Outfall 013 mixes with the receiving stream. Because this study was submitted it is no longer applicable and therefore removed from the permit. The mixing study suggested new dilution factors, which were incorporated into this permit modification. A new reasonable potential analysis was then conducted using these site specific dilution factors.

9. Re-evaluated Reasonable Potential Analysis

The 2021 permit included dilution factors that were based on a calculation using the discharge flow and receiving waterbody flow. EPA included a provision in the 2021 permit allowing the permittee to submit a mixing zone study to evaluate to what extent the discharge mixes with the receiving stream. If a site specific mixing zone study was not submitted to EPA within two years from the permit effective date, the effluent limits and benchmark values determined using the calculated dilution factor would be replaced with end-of-pipe limits. The site specific mixing study, submitted within the requisite timeframe, resulted in a different dilution factor for Outfall 013. As a result, a reasonable potential (RP) analysis was re-evaluated using the new dilution factor from the site specific study. The RP analysis was conducted on DMR data from the last four years (2020-2024) to determine if the discharge shows the potential to exceed in-stream water quality criteria using the new dilution factors. 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. 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.

A default hardness value of 100 mg/L was used to calculate the hardness dependent water quality criteria.

9.1 Parameters of Concern

Outfall 013 discharges to the Anacostia River. The parameters of concern for this facility are copper, iron, cadmium, lead, zinc, nickel, Total Suspended Solids (TSS), and pH. 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 based on BPJ and have been carried over to this permit in order to be consistent with the assumptions and requirements of the Anacostia and Chesapeake Bay TMDLs.

9.2 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 013.

- 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 013							
Parameter of concern	# of samples	Highest Effluent Concentration	CV	RP Multiplier	Adjusted Effluent Concentration	DC WQC	Continue with RP Analysis?
Cadmium (µg/L)	15	0.60	0.82	3.77	2.26	1.79	YES
Copper (µg/L)	15	55.60	1.42	5.94	330	13.44	YES
Iron (µg/L)	15	2240	1.03	4.22	9451	1000	YES
Lead (µg/L)	15	46.5	1.07	4.41	205	64.6	YES
Nickel (µg/L)	10	37.6	0.60	3.02	113	468	NO
Zinc (µg/L)	15	169.0	0.80	3.28	555	117.2	YES
Oil & Grease (mg/L)	15	5.40	0.41	1.66	9.0	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 013						
Parameter of concern	Adjusted Effluent Concentration	Instream Background Concentration	Dilution Factor	MRWC	WQC	RP?
Cadmium (µg/L)	2.26	Not available	2.2	1.03	1.79	NO
Copper (µg/L)	330	7.2 µg/L	2.2	154.01	13.44	YES
Iron (µg/L)	9451	Not available	2.2	4295.96	1000.00	YES
Lead (µg/L)	205	Not available	2.2	93.14	64.58	YES
Nickel (µg/L)	113	Not available	2.2	52	468	NO
Zinc (µg/L)	555	15.7 µg/L	2.2	261	117.2	YES
Oil & Grease (mg/L)	9.0	Not available	2.2	4.1	10.0	NO

9.3 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, the step after the RP analysis 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 013				
Parameter of Concern	Water Quality Criterion	Instream Background Concentration	Dilution Factor	Wasteload Allocation
Copper (µg/L)	13.44	7.2	2.2	21
Iron (µg/L)	1000	Not available	2.2	2200
Lead (µg/L)	64.6	Not available	2.2	142
Zinc (µg/L)	117.2	15.7	2.2	239

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 013					
Pollutant	Z	CV	σ^2	σ	LTA
Copper (µg/L)	2.326	1.42	1.10	1.05	3.16
Iron (mg/L)	2.326	1.03	0.721	0.849	438
Lead (µg/L)	2.326	1.07	0.765	0.875	27.2
Zinc (µg/L)	2.326	0.80	0.492	0.701	60.0

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 TSD¹.

Outfall 013							
Pollutant	Z	CV	σ^2	σ	LTA	Maximum Daily Limit	2021 Effluent Limit
Copper (µg/L)	2.326	1.42	1.10	1.05	3.16	21	17.1
Iron (µg/L)	2.326	1.03	0.721	0.849	438	2,200	1,591
Lead (µg/L)	2.326	1.07	0.765	0.875	27.2	142	102.8 (benchmark value)
Zinc (µg/L)	2.326	0.80	0.492	0.701	60.0	239	177.2

Because the limits for copper, iron, and zinc are less stringent in this modification action than in the previous permit, an anti-backsliding analysis was conducted in accordance with Section 402(o) of the Clean Water Act (CWA) and 40 CFR § 122.44(l).

Section 402(o) of the Clean Water Act (CWA) and 40 CFR §122.44(l)

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 imposed Water Quality Based Effluent Limitations (WQBELs) at Outfall 013 for copper, iron, and zinc. The 2021 permit also contained benchmark monitoring for cadmium, lead, and nickel.

¹ Refer to section 5.5.4 of the TSD

Nickel and Cadmium

The revised RP analysis using the new dilution factors still showed no reasonable potential to cause or contribute to an exceedance of nickel and cadmium water quality standards; therefore, benchmark monitoring will continue in the permit for these two parameters.

Copper, Iron, Lead, Zinc

The revised RP analysis using the new dilution factors showed a reasonable potential to cause or contribute to an exceedance of copper, iron, lead, and zinc water quality standards; therefore, effluent limits for these parameters were imposed in the permit.

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 permit contains less stringent effluent limits where the WQS is being attained; therefore, CWA Section 303(d)(4)(B) applies and is discussed in more detail below.

CWA Section 303(d)(4)(B) Standard attained for copper, iron, and zinc

There was reasonable potential to exceed the district's water quality standard for copper, iron, lead, and zinc and the incorporation of the new dilution factors resulted in less stringent limits for these pollutants.

Because the Anacostia is attaining for copper, iron, lead and zinc , the relaxation of the limits and benchmark values 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 limits is consistent with the District's Tier 1 antidegradation policy because the discharge is meeting the water quality standards for copper, iron, and zinc thereby maintaining the existing instream water uses of the Anacostia River.

Anti-backsliding regulatory provisions at 40 CFR § 122.44(l)

The regulations at 40 CFR § 122.44(l)(1) restrict the relaxation of final effluent limitations and the relaxation of standards or conditions contained in existing permits. Thus, this regulation, in effect, addresses all types of backsliding not addressed in the CWA provisions (e.g., backsliding from limitations derived from effluent guidelines, from new source performance standards, from existing case-by-case limitations to new case-by-case limitations, and from conditions such as monitoring requirements that are not effluent limitations).

Lead

The 2021 permit contained benchmark values for lead; however, the reasonable potential analysis using the new dilution factor showed a reasonable potential to cause or contribute to an exceedance of the water quality standard for lead. As a result, an effluent limit for lead was calculated and imposed in the permit. The lead effluent limit was based on new information that was not available at the time the 2021 permit was issued thus meeting the anti-backsliding exception found at 40 CFR 122.44(l)(2)(i)(B)(1).

Cadmium and Nickel

The 2021 permit contained benchmark values for cadmium and nickel. The new reasonable potential analysis still showed no RP for cadmium and nickel; however, the benchmark values are less stringent because the new dilution factors were used to determine these values. The new dilution factors constitutes information that was not available at the time the 2021 permit was issued thus meeting the anti-backsliding exception found at 40 CFR 122.44(l)(2)(i)(B)(1).

10. Added fire hydrant testing to all outfalls per Pepco's request.

All other provisions in the permit remain unchanged.