



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Hamid Karimi, PhD., Deputy Director
Natural Resources Administration
DC Department of the Environment
Water Quality Division
51 N Street, NE
Washington, D.C. 20002

DEC 31 2014

Dear Dr. Karimi:

The U.S. Environmental Protection Agency (EPA) Region III is pleased to inform you that we are approving the *E. coli* Total Maximum Daily Loads (TMDLs) for the Potomac River and tributaries as revisions to the bacteria TMDLs approved on December 20, 2004. The revision submitted by the District of Columbia Department of the Environment (DDOE) on December 23, 2014 includes a new *E. coli* Bacteria Allocations and Daily Loads for the Anacostia River and Tributaries (Appendix C), Calculations (Appendix D) and Response to Comments documents, along with supporting documentation (herein referred to collectively as the "2014 TMDL Revision"). The 2014 TMDL Revision incorporates by reference the earlier submission of the original 2004 *Final Total Maximum Daily Load for Fecal Coliform Bacteria in Upper Potomac River, Middle Potomac River, Lower Potomac River, Battery Kemble Creek, Foundry Branch, and Dalecarlia Tributary* (2004 TMDL).

The 2014 TMDL Revision was established in accordance with Sections 303(d)(1)(c) and (2) of the Clean Water Act (CWA) to address impairments of water quality to the non-tidal and tidal segments of the Potomac River as well as the tributaries as identified on the District's 1998 CWA Section 303(d) list of impaired waters. These segments were listed for bacteria impairments, and TMDLs were written for fecal coliform, which was the basis of the Water Quality Standard (WQS) at the time of the listing and TMDL development.

Anacostia Riverkeepers, Friends of the Earth, and Potomac Riverkeepers filed a complaint, Case No.: 1:09-cv-00098-JDB (*Anacostia Riverkeepers*) on January 15, 2009 challenging multiple TMDLs established for District waters, including the original 2004 TMDL. In connection with that matter, the existing 2004 TMDL was deemed deficient because it was established before the D.C. Circuit's decision in *Friends of the Earth vs. the Environmental Protection Agency*, 446 F.3d 140, 144 (D.C. Cir. 2006) and did not include daily loads consistent with that decision. EPA represented to the court that, with respect to the fecal coliform TMDLs, including the original 2004 TMDL, any action taken to address the absence of a daily load expression should also address the District's revised bacteria water quality standard from fecal coliform to *E. coli*. Accordingly, the court vacated the 2004 TMDL but stayed vacatur until December 31, 2014.

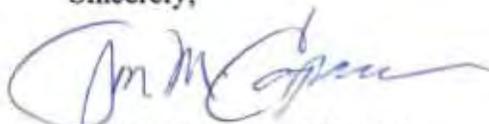


The TMDL revisions, being approved today, provide allocations as *E. coli*, the parameter on which the current standard is based. In addition, daily loading expressions for the new *E. coli* allocations are also provided. The assumptions and modeling underlying the original 2004 TMDL were not challenged in *Anacostia Riverkeeper* and therefore were not revised in connection with this effort. EPA believes that the revisions we are approving today adequately respond to the plaintiffs' complaint, and therefore, will not require vacatur of the original TMDLs by the court.

The 2004 TMDL as revised by Appendices C and D and its supporting documentation submitted to EPA on December 23, 2014, now supersedes the 2004 TMDL. A copy of EPA's Decision Rationale for approval of these TMDL revisions is enclosed.

If you have any questions or comments concerning this letter, please do not hesitate to contact me, or have your staff contact Ms. Helene Drago, TMDL Program Manager, at (215) 814-5796.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jon M. Capacasa", written over a faint circular stamp.

Jon M. Capacasa, Director
Water Protection Division

Enclosure

cc: C. Burrell, DDOE
G. Onyullo, DDOE



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1650 Arch Street
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Decision Rationale
2014 E. coli Bacteria Allocations and Daily Loads for the
Potomac River and Tributaries, TMDL Revision, District of
Columbia

A handwritten signature in blue ink that reads "Jon M. Capacasa".

Jon M. Capacasa, Director
Water Protection Division

Date: 12/31/2014

Decision Rationale
2014 *E. coli* Bacteria Annual and Daily Load Allocations for the Potomac River and Tributaries, TMDL Revision, District of Columbia

I. Introduction

The Clean Water Act (CWA) requires a Total Maximum Daily Load (TMDL) be developed for water quality limited waterbodies, *i.e.*, those waterbodies identified by the State (or the District) as impaired where technology-based effluent limitations and other controls will not provide for attainment of water quality standards. A TMDL is a determination of the amount of a pollutant from point, nonpoint, and natural background sources, including a Margin of Safety (MOS), that may be introduced into a water quality limited waterbody.

This document sets forth the rationale for the U.S. Environmental Protection Agency's (EPA) approval of the revision to the 2004 *Final Total Maximum Daily Load for Fecal Coliform Bacteria in Upper Potomac River, Middle Potomac River, Lower Potomac River, Battery Kemble Creek, Foundry Branch, and Dalecarlia Tributary*, (hereafter referred to as the "original" or "2004 TMDLs"). The revision submitted by the District of Columbia Department of the Environment (DDOE) on December 23, 2014 includes: *E. coli Bacteria Allocations and Daily Loads for the Potomac River and Tributaries* (Appendix C), *Calculations* (Appendix D) and Comment Response Document, along with supporting documentation (herein referred to collectively as the "2014 TMDL Revision" or the "revised TMDLs"). The 2014 TMDL Revision adds Appendices C and D to the 2004 TMDLs, and the daily and annual loads set forth in Appendices C and D supersede the fecal coliform loads set forth in the 2004 TMDL.

II. Background

EPA received DDOE's original submission of the 2004 TMDL on July 29, 2004. Based on the submission, EPA approved the 2004 bacteria TMDLs on December 22, 2004. Except where otherwise noted, EPA's Decision Rationale for the 2004 TMDLs is incorporated by reference.

On January 15, 2009, Anacostia Riverkeeper, Friends of the Earth, and Potomac Riverkeepers filed a complaint (Case No.: 1:09-cv-00098-JDB) challenging multiple TMDLs established for District waters, including the 2004 TMDLs. In connection with that matter, the plaintiffs asserted, and EPA conceded, that the existing 2004 TMDLs were deficient because they were established before the D.C. Circuit's decision in *Friends of the Earth vs. the Environmental Protection Agency*, 446 F.3d 140, 144 (D.C. Cir. 2006) and did not include daily loads consistent with that decision. EPA represented to the court in *Anacostia Riverkeeper* that, with respect to the fecal coliform TMDLs, including the 2004 TMDLs, any action taken to address the lack of daily loads in the 2004 TMDLs should also address the District's revised bacteria water quality standard from fecal coliform to *E. coli*. EPA advised the court that this would entail development of a translator from fecal coliform to *E. coli*. EPA also advised the court that it estimated that such action would take between three and five years. Accordingly, the court vacated the 2004 TMDLs but stayed the vacatur until December 31, 2014.

The District's 2014 TMDL Revision incorporates the current water quality standard (WQS) for *E. coli* that the District promulgated in October 2005 after the approval of the original TMDLs, and establishes TMDLs for Escherichia coli (*E. coli*). The data, assumptions and modeling underlying the original TMDLs were not challenged in *Anacostia Riverkeeper* and therefore were not revised in connection with the 2014 TMDL Revision. Where appropriate, the annual allocations in the original TMDLs were translated to *E. coli*, the parameter on which the currently applicable WQS is based, using a District of Columbia (DC) specific translator. The DC-specific translator was developed using the statistical relationship between paired fecal coliform and *E. coli* data collected from waters in the District, Maryland and Virginia. The paired fecal coliform and *E. coli* data used in the development of the LTCP and the methodology used in the development of the fecal coliform loads in the 2004 TMDL was used to calculate annual loads for combined sewer overflows (CSOs), CSO-Bypass, and the wastewater treatment plant. In addition, daily loading expressions for the new *E. coli* allocations are also provided. It is an assumption and requirement of the 2014 TMDL Revisions that both the annual and daily loads must be achieved in order to ensure that the applicable water quality standards will be met.

III. TMDL Analysis

A. TMDL Revision Description

The waterbodies addressed by this revision are the same ones that received allocations under the original TMDLs: the Potomac River mainstem and the Potomac River tributaries of Battery Kemble Creek, Foundry Branch, and Dalecarlia Tributary. The 2004 TMDLs provided loads for the MPN of colonies of fecal coliform for various sources and identified the necessary percentage reduction required for each source in order to meet the TMDL including upstream and background sources; direct stormwater runoff (LAT), separate stormwater sewers (SW), combined sewer overflows (CSOs), and the Blue Plains Wastewater Treatment Plant (WWTP). While the sources remain the same, the Blue Plains WWTP allocation was disaggregated to provide separate allocations for Outfall 001 and Outfall 002. The revised TMDLs convert the original annual fecal coliform loads into equivalent annual *E. coli* loads. See "Annual Load Calculation Methodologies" in the December 2014 Appendix C for the methodologies used to calculate the revised *E. coli* allocation for each source. The revised TMDLs also include daily maximum *E. coli* loads. See "Daily Loads Calculation Methodologies" in the December 2014 Appendix C for the methodologies used to calculate the daily *E. coli* allocation for each source. For calculations and information supporting the methodologies, please see Appendix D of the 2014 TMDL Revision. The TMDL annual and daily loads are in Section III.C of this Decision Rationale.

B. The 2014 TMDLs are designed to achieve applicable water quality standards

1. Applicable Designated Uses

Water Quality Standards (WQS) consist of three components: designated uses; narrative and/or numerical water quality criteria necessary to support those uses; and an anti-degradation policy. The District has classified the Potomac River and its tributaries for current and designated uses including:

- Class A: “Primary Contact Recreation”;
- Class B: “Secondary Contact Recreation and aesthetic enjoyment”;
- Class C: “Protection & Propagation of fish, shellfish and wildlife”;
- Class D: “Protection of human health related to consumption of fish and shellfish”; and
- Class E: “Navigation.”

[Title 21 of the District of Columbia Municipal Regulations (DCMR) §1101.1].

2. Water Quality Criteria Applicable to the Designated Uses

The WQS that were adopted by DC at the time of the 2004 TMDL, Class A and Class B waters were required to achieve the WQS for bacteria as measured by fecal coliform as the indicator organism. When the 2004 TMDL was developed for the Potomac River and its tributaries, the fecal coliform bacteria standard for Class A waters was a maximum 30-day geometric mean of 200 MPN. The geometric mean is based on a minimum of no fewer than five samples within the 30-day period. The standard for Class B waters was a 30-day geometric mean of 1,000 MPN. However because all the relevant waterbodies were designated as Class A waters, which were subject to the more restrictive bacteria standard, the 30-day geometric mean of 200 MPN for Class A designation was used as the applicable water quality standard to be achieved in all the waterbodies in the 2004 TMDL.

Effective January 1, 2008, the District bacteriological WQS changed from fecal coliform to *E. coli*. The current Class A water quality criterion for bacteria is a geometric mean of 126 MPN (Maximum 30-day geometric mean for five samples) and is used in both water quality trend assessments and permits. In addition, the District’s water quality criterion include a 410 MPN for a single sample value but specifies that this value is used solely for assessing trends.¹ Class B and Class C waters do not have an *E. coli* standard. Currently, all waters subject to this TMDL, including the Potomac mainstem and all tributaries, are designated as Class A waters (DCMR, WQS, 21-1101.2), see Table 1.

¹ While EPA does not believe that the 410 MPN for a single sample value constitutes an applicable water quality standard for purposes of this TMDL, EPA notes that the DC DOE has provided an analysis demonstrating that the allocations in the TMDL would satisfy the single sample value at least 90% of the time.

Table 1. Classification of the District's waters

Surface waters of the District	Use classes	
	Current use	Designated use
Potomac River	B, C, D, E	A, B, C, D, E
Potomac River tributaries (except as listed below)	B, C, D	A, B, C, D
Battery Kemble Creek	B, C, D	A, B, C, D
C & O Canal	B, C, D, E	A, B, C, D, E
Rock Creek	B, C, D, E	A, B, C, D, E
Rock Creek tributaries	B, C, D, E	A, B, C, D, E
Tidal Basin	B, C, D, E	A, B, C, D, E
Washington Ship Channel	B, C, D, E	A, B, C, D, E
Oxon Run	B, C, D	A, B, C, D
Anacostia River	B, C, D, E	A, B, C, D, E
Anacostia River tributaries (except as listed below)	B, C, D	A, B, C, D
Hickey Run	B, C, D	A, B, C, D
Watts Branch	B, C, D	A, B, C, D
Wetlands	C, D	C, D

Source: DCMR 1101.2

The District has adopted both numeric (as discussed above) and narrative criteria in the standards regulation to restore and protect the quality of the District waters. The applicable narrative criteria include:

- “The surface waters of the District shall be free from substances in amounts or combinations that do any one of the following: [c]ause injury to, are toxic to, or produce adverse physiological or behavioral changes in humans, plants, or animals” (DCMR, WQS, 21-1104.1).
- “For the waters of the District with multiple designated uses, the most stringent standards or criteria shall govern” (DCMR, WQS, 21-1104.2).
- “Class A waters shall be free of discharges of untreated sewage, litter and unmarked submerged or partially submerged man-made structures that would constitute a hazard to the users of Class A waters” (DCMR, WQS, 21-1104.2).

3. The TMDL revisions are designed to achieve all applicable water quality standards

To support the TMDL revision, EPA and DDOE developed a District-specific translator using the statistical relationship between paired fecal coliform and *E. coli* data collected from waters in the District, Maryland and Virginia (LimnoTech 2011 and 2012).² The data used to develop the

² Documentation related to development of the translator is in LimnoTech’s 2011 Memorandum, *Final Memo Summarizing DC Bacteria Data and Recommending a DC Bacteria Translator (Task 2)* and Limno Tech’s 2012

DC translator was composed of paired fecal coliform and *E. coli* in-stream monitoring measurements for DC and adjacent waters collected by three agencies: DDOE, the Virginia Department of Environmental Quality (VDEQ), and the Maryland Department of the Environment (MDE). The translator is representative of ambient and stormwater bacteria concentrations and was used to convert the original fecal coliform allocations into *E. coli* values for the following sources: upstream, direct and tributary stormwater runoff, and other tributary sources. Although a translator was considered to represent all sources including CSOs, the translator was not reliable for predicting loads beyond the observed data set. Therefore, the CSO data was excluded from the dataset and was not used in the development of the translator rather, the dataset used in the development of DC Water's LTCP was used to convert the fecal coliform load to *E. coli* loads. During the development of the D.C. Water and Sewer Authority's (WASA's) (now known as D.C. Water) Combined Sewer System Long Term Control Plan (LTCP), DC Water modeled how the controls and best management practices once in place would impact the water quality of the District, including the Potomac, using a dataset that included among others, fecal coliform and *E. coli*. The option chosen in the LTCP demonstrated that the former fecal coliform and the current *E. coli* standards would be met in stream when the LTCP for CSO discharges in the District is fully implemented. Based on this demonstration, *E. coli* loads for all CSO-related discharges were subsequently calculated using the LTCP model output, as was done in the 2004 TMDLs for the fecal coliform loads.

The original TMDLs were based on a series of computer simulations to determine the level of annual load reductions needed to meet WQS. The WQS were considered to be met if no model segment in the District had a fecal coliform maximum 30-day geometric mean exceeding the 200 MPN Class A standards. Using the District-specific bacteria translator, a fecal coliform value of 200 MPN is associated with an *E. coli* value of approximately 104 MPN, which is below the 126 MPN *E. coli* criteria. It is important to consider that under the original modeling analysis, reductions to sources of fecal bacteria were made until the waterbodies met the fecal coliform geometric mean standard of 200 MPN at all times. Because the bacteria translator provides a means to calculate an equivalent *E. coli* load, under a given scenario that meet the fecal coliform standard, the equivalent *E. coli* standard will also be met. Therefore, for sources where allocations were calculated using the translator, fecal coliform loads translated to *E. coli* loads will result in loads designed to achieve an *E. coli* value of a geometric mean of 104 MPN, a concentration below the District's numeric criterion of 126 MPN. This difference allows a margin of safety that accounts for any uncertainty in the data.

For all CSO related discharges and the Blue Plains discharges, DDOE used paired fecal coliform and *E. coli* dataset that was collected during the development of the LTCP. Specifically, the LTCP developed an event meant concentration (EMC) for *E. coli*, from the CSO outfalls and Blue Plain's Outfall 001. DDOE directly applied the *E. coli* WQS of 126 MPN/100ml to develop the WLA for Blue Plains Outfall 002, and used the EMC to develop the *E. coli* allocations for the CSOs and Outfall 001. Because the 2004 TMDLs relied upon the technical data and models used to develop the LTCP, the approach for calculating the *E. coli* annual allocations is consistent with the underlying data, assumptions, and modeling of the 2004 TMDL.

An EMC is defined as the total mass of pollutants discharged divided by the total flow volume for a monitored storm event (DC Water and Sewer Authority, 2002)³. EMCs for each monitored storm were calculated by computing a flow weighted average concentration of all the samples that were taken during the storm. In addition, overall EMCs for each site were calculated by computing flow weighted averages over all the monitored storm events. The LTCP-based EMC for the Potomac CSOs for *E. coli* is 686,429 MPN / 100 mL. An EMC was calculated for Outfall 001 which receives treatment unlike the other CSOs. The LTCP-based EMC for *E. coli* is 51,250 MPN / 100 mL for Outfall 001. The EMC and the predicted flow volume under full implementation of the LTCP were used to demonstrate that the WQS will be met.

As indicated in EPA's 2004 Decision Rationale for the original TMDLs, computer simulation models of the District's combined sewer and storm water system were constructed by DC Water as part of the LTCP. The TAM/WASP model was then used to assess the impact of CSOs on water quality in the Potomac River and to demonstrate that the LTCP adequately protects water quality standards when fully implemented. Based on this demonstration, EPA agrees that the CSO allocations in this revision, calculated using the EMC from the LTCP, will also meet WQS.

Numeric criteria are science-based measurable benchmarks set at levels to achieve applicable designated. The District's water quality standards specifically link its numeric criteria to achievement of designated uses. See 21 DCMR§ 1104.8 ("Unless otherwise stated, the numeric criteria that shall be met to attain and maintain designated uses are as follows..."). Where there is an existing numeric criterion applicable to a particular pollutant, it is reasonable to use that criterion as the quantitative implementation of the narrative standard and designated uses. Thus, by the revision achieving the numeric criteria for a Class A waterbodies all narrative criteria and designated uses will be achieved.

C. The 2014 TMDLs include a total allowable load as well as individual wasteload allocations and load allocations.

EPA finds that the revised TMDLs meet the requirements to include total loads as well as individual wasteload allocations and load allocations to specific sources. The sources are identified consistent with the 2004 TMDLs, and EPA's Decision Rationale approving the 2004 TMDLs with respect to source identification is incorporated here by reference. . The revised annual *E. coli* allocations are summarized in Tables 2 and 3 below.

³ DC WASA (District of Columbia Water and Sewer Authority). 2002. Final Report: 2002. Combined Sewer System Long Term Control Plan. Washington, DC.

Table 2. Potomac River average annual *E. coli* allocations (MPN)

Source	Upper Potomac	Middle Potomac	Lower Potomac
Upstream	7.09E+15	7.46E+15	9.58E+15
CSO - WLA	2.70E+13	1.78E+15	2.55E+14
Separate Storm Water (MS4) - WLA	2.35E+14	1.24E+13	2.65E+14
Direct Storm Runoff - LA	1.10E+14	1.37E+14	3.77E+14
Blue Plains	0.00E+00	0.00E+00	5.99E+15
WWTP	0.00E+00	0.00E+00	6.77E+14
Rock Creek	0.00E+00	1.87E+14	0.00E+00
Anacostia River	0.00E+00	0.00E+00	1.83E+15
Sub-Total Allocated	7.46E+15	9.58E+15	1.90E+16
MOS ^a	7.51E+13	3.40E+12	2.49E+13
Total	7.46E+15	9.58E+15	1.90E+16

a. The revised MOS is consistent with the assumptions of the original TMDL.

Table 3. Potomac River tributaries *E. coli* annual wasteload allocations (MPN)

	Total Load	Storm Water - WLA	Direct Runoff - LA	MOS
Battery Kemble Creek	1.17E+11	7.04E+10	2.50E+09	4.37E+10
Foundry Branch	1.12E+11	6.85E+10	5.82E+09	3.71E+10
Dalecarlia Tributary – DC	5.61E+11	4.01E+11	0.00E+00	1.60E+11
Dalecarlia Tributary – MD	1.96E+10	1.39E+10		5.58E+09

In addition, the revised TMDLs include daily loading expressions for the *E. coli* allocations. This has been done consistent with the court's vacatur in the *Anacostia Riverkeeper* and with *Friends of the Earth vs. the Environmental Protection Agency*, 446 F.3d 140, 144 (D.C. Cir. 2006). In November 2006, EPA issued the memorandum *Establishing TMDL Daily Loads in Light of the Decision by the U.S. Court of Appeals for the D.C. Circuit in Friends of the Earth, Inc. v. EPA et. al., No. 05-5015 (April 25, 2006) and Implications for NPDES permits*, which recommends that all TMDLs and associated load allocations and wasteload allocations include a daily time increment in conjunction with other appropriate temporal expressions that might be necessary to implement the relevant WQS. In compliance with that recommendation, the revised TMDLs present corresponding daily load expressions for the annual load allocations. The daily *E. coli* allocations are summarized in Tables 4 and 5 below.

Table 4. Mainstem daily loads (*E. coli*) (MPN)

Source		Allocation	Upper Potomac	Middle Potomac	Lower Potomac
Upstream		Max daily	2.69E+14	2.70E+14	2.40E+15
		Avg daily	1.94E+13	2.04E+13	2.62E+13
CSO - WLA		Max daily	7.16E+13	1.99E+15	4.11E+14
		Avg daily	2.70E+13	4.11E+14	1.27E+14
Separate Storm Water (MS4) – WLA		Max daily	2.98E+13	1.38E+12	1.44E+13
		Avg daily	6.97E+11	6.48E+10	7.92E+11
Direct Storm Runoff - LA		Max daily	3.95E+12	7.34E+12	1.43E+13
		Avg daily	3.08E+11	1.14E+12	1.06E+12
Blue Plains WWTP	001 - WLA	Max daily ¹	0.00E+00	0.00E+00	4.37E+14
		Max daily ²	0.00E+00	0.00E+00	0.00E+00
	002 - WLA	Max daily ³	0.00E+00	0.00E+00	2.47E+12
		Max daily ⁴	0.00E+00	0.00E+00	1.76E+12
Rock Creek		Max daily	0.00E+00	1.67E+14	0.00E+00
		Avg daily	0.00E+00	5.11E+11	0.00E+00
Anacostia River		Max daily	0.00E+00	0.00E+00	1.68E+15
		Avg daily	0.00E+00	0.00E+00	5.00E+12

¹ On days when flows exceed operationally allowable influent limits to Outfall 002.

² On days when no discharge is allowable.

³ On days when wet weather conditions exist.

⁴ On days when dry weather conditions exist.

Table 5. Tributaries daily loads (*E. coli*)

Source/tributary	Allocation	MPN
Battery Kemble Creek	Max daily	9.93E+08
	Avg daily	3.19E+08
Foundry Branch	Max daily	9.50E+08
	Avg daily	3.06E+08
Dalecarlia Tributary	Max daily	4.95E+09
	Avg daily	1.59E+09

The calculation methodologies were described in Appendix C, and the daily loads were developed in a manner consistent with the following assumptions in EPA's 2007 *Draft Options for Expressions of Daily Loads in TMDLs*. The approach used to calculate daily loads in these revised TMDLs identifies a representative maximum daily or average daily load for the annual TMDL for each source identified in the original report. DDOE has elected to identify a maximum daily and an average daily load, except for Blue Plains as discussed below. The approach does not presume that the maximum daily load provided could be discharged every day and still meet the in-stream WQS. While expressions of daily loading values are useful in illustrating the variability in loading that can occur under a TMDL scenario, the annual load must also be met to comply with the TMDL. To comply with the assumptions and requirements of this TMDL, including the stated endpoints, all bacteria loads discharged to the Potomac and its

tributaries must be consistent with all of the stated loading limits in the TMDL—annual average, daily average, and maximum daily. This means that even if the allowed highest flow maximum daily load were to occur, the average annual maximum allowable loads must still be met.

D. Background, Critical Conditions, Seasonal Variations and Reasonable Assurance.

This aspect of the original TMDLs and EPA's Decision Rationale approving the original TMDLs are unchanged and incorporated by reference.

E. The 2014 TMDL Revision includes an additional Margin of Safety.

The revised TMDLs retain the 1% explicit MOS and implicit MOS provided in the assumptions and requirements of the original TMDLs. In addition, for the sources that had allocations developed using the translator, a fecal coliform value of 200 MPN (the endpoint of the 2014 TMDL) is associated with an *E. coli* value of approximately 104 MPN, which is below the current WQS of 126 MPN *E. coli*. Therefore, fecal coliform loads translated to *E. coli* loads in this TMDL revision will result in loads that translate to a lower concentration than the applicable WQS. EPA considers this an additional explicit MOS from the original TMDLs that accounts for any uncertainty in the data.

F. The 2014 TMDLs have been subject to public participation.

EPA finds that DDOE provided an appropriate opportunity for public review and comment on the Draft *Appendix C: E. coli Bacteria Allocations and Daily Loads for the Potomac River and Tributaries and Appendix D: Calculations* documents. A 30-day public comment period was originally held from February 8, 2013 to March 10, 2013, and then extended until March 25, 2013, based on a stakeholder request for extension of the public comment period. Copies of the appendices were available for public review at the Martin Luther King, Jr. Library located in Washington, D.C. and were also posted online at the DDOE and EPA Region III websites. A public meeting was held on March 4, 2013, at the Metropolitan Washington Council of Governments offices located in Washington D.C. to discuss the Draft TMDL Revisions for all interested parties.

The second public review was open from May 30, 2014 through July 3, 2014, and was extended following a request from Earthjustice to July 25, 2014. Draft *Appendix C: E. coli Bacteria Allocations and Daily Loads for the Potomac River and Tributaries and Appendix D: Calculations* documents were made available, but the second public review was limited to the wasteload allocations (WLAs) developed for the Blue Plains Wastewater Treatment Plant. A response to comments document was submitted to EPA as part of the TMDL submittal which responded to all comments received during the two public review periods. Comments were received from D.C. Water and Earthjustice (on behalf of Anacostia Riverkeeper and Potomac Riverkeeper), and DC DOE made changes to the revised TMDLs arising out of the public comments received. EPA considered those comments; and the District's response to them, in its evaluation of the TMDL submission.

EPA believes that there has been adequate opportunity for public participation in the development of the 2014 TMDL Revision.