



FACT SHEET

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

NPDES Permit No. DC0000370

The United States Environmental Protection Agency (EPA) Proposed 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:

**Lincoln Memorial Reflecting Pool
2010 Ash Road, S.W.
Washington, D.C. 20024**

Applicant Information	
Applicant Name	United States National Park Service, National Mall & Memorial Parks
Applicant Mailing Address	900 Ohio Drive, S.W. Washington, D.C. 20024

PUBLIC COMMENT

Public Comment Start Date: April 25, 2018

Public Comment Expiration Date: May 25, 2018

Persons wishing to comment on, or request a public hearing for, the draft permit for this facility may do so in writing by the expiration date of the public comment period. A request for a public hearing must state the nature of the issues to be reissued as well as the requester's name, address, and telephone number. All comments and requests for public hearings must be in writing and should be submitted to EPA as described in the Public Comments section of the attached Public Notice.

After the public comment period expires, and all comments have been considered, EPA's regional Director for the Water Protection 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.

SUMMARY**FACILITY DESCRIPTION**

The Lincoln Memorial Reflecting Pool (LMRP) is a national landmark that is located close to the center of Washington, D.C, in the National Mall area, and is managed by National Mall and Memorial Parks (NAMA), a unit of the National Park Service. LMRP is considered a recreational facility that has been classified as a minor industrial facility for permitting purposes. The facility consists of the Lincoln Memorial Reflecting Pool itself (“Pool”), a water treatment facility, and walkways.

The Pool, which has a surface area of approximately 338,843 square feet, was constructed in 1922 – 1923 and then rehabilitated in 2010-2012. Currently, the Pool holds approximately 4.5 million gallons of water and is filled with potable water from the District of Columbia’s (District) potable water supply. The intended source of water to fill the Pool is water from the Tidal Basin (Basin), which will be treated at filling; however, the use of water from the Basin depends on the conditions of the Basin. Since the Pool has only been filled with potable water since 2012, the permittee will be required to submit an effluent characterization report before discharging if the Pool has been filled with water from the Basin. The permit will contain special conditions regarding the use of water from the Basin, use of potable water, and emergency discharges.

Aerial view of the Lincoln Memorial Reflecting Pool, Washington, D.C.



Image from the United States Library of Congress Prints and Photographs Division under digital ID highsm.17233 (<http://hdl.loc.gov/loc.pnp/highsm.17233> accessed April 2, 2018). Labels were added to the image for illustrative purposes.

Water is currently supplied to the Pool from the District by a potable water connection and may be supplied to the Pool by the water treatment facility via the raw water pump station. Also, make-up water from the World War II Memorial may be used to add water to the Pool. The water level in the Pool is controlled by an overflow weir. If the water level within the Pool is greater than the overflow weir

elevation, water flows by gravity to the Basin. Approximately 1.5 million gallons of water is continually circulated and filtered through the Pool and water treatment facility daily. 1.728 million gallons of water is the maximum amount that can be circulated through the water treatment facility daily. The water treatment facility consists of screening equipment, sand filters, ozone disinfection equipment, flow metering, and supporting systems and is capable of operating in more than one mode; it is able to receive and treat incoming water from a raw water pump station and convey the water to the Pool (fill mode) and it circulates and treats the water of the Pool once the Pool has reached the desired fill level (circulation mode). The water treatment facility also has the capability to pump the water within the Pool to the sanitary sewer and convey treated water from the Basin to the Constitution Gardens Pond (Pond) once installation of the Pond's force main is complete.

The water treatment facility is normally operated in circulation mode to maintain the water quality in the Pool and ensure that the water remains reflective. In this mode of operation, water from the center channel of the Pool flows by gravity to the water treatment facility to start the treatment process. Once a circulation pump is started, the water from the Pool is drawn and conveyed to the screening stages. The screened water then flows to two sand filters operating in parallel. Ozone is added after sand filtration. The treated water is then supplied to the Pool.

The Pool requires draining for intermittent maintenance and cleaning. There are two means of draining the Pool: (1) a gravity drain discharges to the Tidal Basin, and (2) the drain pump located within the water treatment facility conveys water within the Pool to a sanitary sewer. The permittee submitted an application to cover an annual discharge (draining) of water from the Pool to the Basin. The discharge is expected to occur, at minimum, every year and is expected to occur during the winter months (December, January, and February).

There is no storage of bulk chemicals on site. Chemicals stored on site consist of cleaners and water quality testing chemicals at the water treatment facility. The permittee also anticipates using other chemicals to treat algae blooms that may occur due to environmental conditions or a temporary shutdown of the water treatment facility and in the case that the pH in the Pool is expected to exceed 8.5 at the time of discharge. The permit will contain special conditions for the use of chemicals.

In the spring of 2017 the Reflecting Pool was infested with a parasite called schistosome that killed approximately 80 ducklings. The pool was drained, cleaned, and re-filled with potable water. The likely cause of the parasite infestation was determined to be the pool not being drained and cleaned during the winter months coupled with consecutive hot temperatures in May. Therefore, to reduce the likelihood of another parasitic infestation an annual requirement to drain and clean the reflecting pool is imposed in Part III Section D. of the permit.

This will be the first NPDES permit for LMRP; however, LMRP is considered an existing facility since the Environmental Protection Agency (EPA) has approved discharges from LMRP in the past. For the discharges that occurred prior to the effective date of this permit, NAMA consulted with EPA and the District of Columbia Department of Energy & Environment (DOEE), conducted sampling, and submitted a monitoring plan for the discharge prior to discharging.

DISCHARGE DESCRIPTION

The Lincoln Memorial Reflecting Pool discharge is comprised of treated water from the Tidal Basin and/or treated potable water from the D.C. water supply. Since the Pool has been designed to receive minimum amounts of stormwater, the Pool is expected to discharge a negligible amount of stormwater.

NAMA will not be authorized to discharge stormwater. However, NAMA will be required to review and update its Storm Water Pollution Prevention Plan since industrial activities that take place within LMRP may pose a risk to stormwater.

OUTFALL NO.	LATITUDE	LONGITUDE	RECEIVING WATER	DESIGNATED USES	RECEIVING WATER IMPAIRMENT	TMDL
001	38° 53' 16.27"	77° 02' 24.45"	Tidal Basin	Class A, B, C, D, E	pH, E. coli, Total PCBs	Yes

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

INFLUENT AND EFFLUENT CHARACTERIZATION

The table on page 5 below includes the most recent monitoring data that was submitted with and in addition to NAMA's NPDES permit application. EPA considered the information in the monitoring reports and the parameters that have been discussed in previous conversations with NAMA and DOEE in determining the parameters to be included in the NPDES permit. All parameters that were identified as present in the effluent through monitoring will be considered as parameters of concern.

Parameter	Number of Results Submitted ⁽¹⁾	Date Sampled	Data Source
Barium [$\mu\text{g/L}$]	1 (intake)	01/12/2015	<i>LMRP NPDES Permit Application Narrative – Volume 2</i> (LMRP App. Vol. 2) – monitoring data
	1 (effluent)		
Biochemical Oxygen Demand, 5-day (BOD ₅) [mg/L]	1 (effluent)	05/12/2016	NAMA's response to EPA's request for additional information (NAMA's response) – Analytical Report
Chemical Oxygen Demand (COD) [mg/L]	1 (effluent)	05/12/2016	NAMA's response – Analytical Report
Chlorophyll a [$\mu\text{g/L}$]	1 (effluent)	01/12/2015	LMRP App. Vol. 2 – monitoring data
Copper [$\mu\text{g/L}$]	1 (intake)	01/12/2015	LMRP App. Vol. 2 – monitoring data
	1 (effluent)		
Dissolved Oxygen (DO) [mg/L]	23 (intake)	09/01/2012	<i>Monitoring Report for Lincoln Reflecting Pool Draining – September 3, 2012</i> (09/03/2012 Report) attachment – Baseline water chemistry data
	1 (effluent)		
	3 (intake)	10/03/2012	09/03/2012 Report
	3 (effluent)		
	28 (intake)	01/02/2014	<i>January 2, 2014 Draining Event Monitoring Report</i> (01/02/2014 Report) - attachment
	3 (effluent)		
	2 (intake)	01/12/2015	LMRP App. Vol. 2 – monitoring data
2 (effluent)			
E. coli [MPN/100 ml]	1 (effluent)	01/12/2015	LMRP App. Vol. 2 – monitoring data
Fecal Coliform [MPN/100 ml]	1 (effluent)	01/12/2015	LMRP App. Vol. 2 – monitoring data
Flow [mgd]	1 (effluent)	05/04/2016	NAMA's response - EPA Form 2C
	1 (intake)	09/02/2016	EPA & DOEE data
Magnesium [$\mu\text{g/L}$]	1 (intake)	01/12/2015	LMRP App. Vol. 2 – monitoring data
	1 (effluent)		
Manganese [$\mu\text{g/L}$]	1 (intake)	01/12/2015	LMRP App. Vol. 2 – monitoring data
	1 (effluent)		
Molybdenum [$\mu\text{g/L}$]	1 (intake)	01/12/2015	LMRP App. Vol. 2 – monitoring data
	1 (effluent)		

Parameter	Number of Results Submitted ⁽¹⁾	Date Sampled	Data Source
Nickel [$\mu\text{g/L}$]	1 (intake)	01/12/2015	LMRP App. Vol. 2 – monitoring data
	1 (effluent)		
Nitrogen (Nitrate-Nitrite) [mg/L]	1 (effluent)	02/06/2015	LMRP App. Vol. 2 – monitoring data
Nitrogen (Total) [mg/L]	1 (intake)	09/01/2012	09/03/2012 Report attachment – Baseline water chemistry data
	3 (effluent)		
	1 (effluent)	02/06/2015	LMRP App. Vol. 2 – monitoring data
Nitrogen (Total – Kjeldahl) [mg/L]	1 (effluent)	02/06/2015	LMRP App. Vol. 2 – monitoring data
Oil & Grease [mg/L]	1 (intake)	01/12/2015	NAMA's response - EPA Form 2C
	1 (effluent)		
pH [standard units (SU)]	23 (intake)	09/01/2012	09/03/2012 Report attachment – Baseline water chemistry data
	1 (effluent)		
	3 (intake)	10/03/2012	09/03/2012 Report
	3 (effluent)		
	28 (intake)	01/02/2014	01/02/2014 Report
	3 (effluent)		
	2 (intake)	01/12/2015	LMRP App. Vol. 2 – monitoring data
	2 (effluent)		
1< (effluent)	05/04/2016	NAMA's response - EPA Form 2C	
Phosphorus (Total) [mg/L]	1 (intake)	09/01/2012	09/03/2012 Report attachment – Baseline water chemistry data
	3 (effluent)		
	1 (effluent)	02/06/2015	LMRP App. Vol. 2 – monitoring data
Strontium [$\mu\text{g/L}$]	1 (intake)	01/12/2015	LMRP App. Vol. 2 – monitoring data
	1 (effluent)		
Temperature [$^{\circ}\text{C}$]	1 (intake)	09/01/2012	09/03/2012 Report attachment – Baseline water chemistry data
	23 (effluent)		
	3 (intake)	10/03/2012	09/03/2012 Report
	3 (effluent)		
	28 (intake)	01/02/2014	01/02/2014 Report
3 (effluent)			

Parameter	Number of Results Submitted ⁽¹⁾	Date Sampled	Data Source
	2 (intake)	01/12/2015	LMRP App. Vol. 2 – monitoring data
	2 (effluent)		
	1 (effluent)	05/04/2016	NAMA's response - EPA Form 2C
Total Organic Carbon (TOC) [mg/L]	1 (effluent)	05/12/2016	NAMA's response – Analytical Report
Total Residual Chlorine (TRC) [µg/L]	No data submitted		
Total Suspended Solids (TSS) [mg/L]	1 (intake)	12/20/2013	01/02/2014 Report - attachment
	1 (effluent)		
	1 (intake)	01/12/2015	LMRP App. Vol. 2 – monitoring data
	1 (effluent)		
	1 (effluent)	05/12/2016	NAMA's response – Analytical Report
Turbidity [NTU]	57 (intake)	01/02/2014	01/02/2014 Report
	3 (effluent)		
	1 (intake)	01/12/2015	LMRP App. Vol. 2 – monitoring data
	1 (effluent)		
Zinc [µg/L]	1 (intake)	01/12/2015	LMRP App. Vol. 2 – monitoring data
	1 (effluent)		

⁽¹⁾ The source of intake data is the Tidal Basin. The source of effluent data is the Pool, which was filled with potable water from the District's potable water supply

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 (TBELs) are developed for all applicable pollutants of concern and water quality-based effluent limitations (WQBELs) are developed where TBELs are not adequate to meet water quality standards in the receiving water. The final effluent limitations in NAMA’s permit for LMRP will ensure that all applicable water quality standards (WQS) are achieved. Since the discharge is expected to occur only once per year (intermittent discharge), weekly and monthly average limits are not appropriate.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS (TBELs)

40 C.F.R. § 122.44(a) and §125.3 requires that permits include conditions requiring dischargers to meet applicable technology-based requirements (i.e. TBELs). When EPA has not promulgated effluent limitation guidelines (ELG) for an industry, permit limitations may be based on best professional judgement (BPJ). (40 CFR125.3(c)) The technology-based limits for this facility are based on BPJ decision-making since no ELG applies to the facility.

The facility is subject to the secondary treatment standards established for POTWs found in 40 C.F.R. § 133.102. The secondary treatment standards include an average weekly limit of 45 mg/L and an average monthly limit of 30 mg/L for BOD₅ and TSS. A multiplier of two was applied to the average monthly limit to determine the maximum daily limit. The following technology-based limits apply to the facility and are subject to water quality analysis and BPJ where applicable.

Parameter	Limit	
BOD ₅	60 mg/L	Maximum Daily
pH	6.0 – 8.5 SU	
TSS	60 mg/L	Maximum Daily

BOD₅, COD, TOC Rationale

Per 40 C.F.R. § 122.44(a), §125.3, and BPJ, a technology-based effluent limit of 60 mg/L for BOD₅ will be required in the permit. Monitoring for COD and TOC will not be required since BOD₅ is typically used to establish the concentration of organic matter in wastewater samples.

pH Rationale

The District’s water quality criterion is more stringent than the TBEL, therefore will be required in this permit. pH will be discussed in further detail below.

TSS Rationale

There is no numeric water quality criterion for TSS. Per 40 C.F.R. § 122.44(a), §125.3, and BPJ, a technology-based effluent limit of 60 mg/L for TSS applies to this facility; however, as previously discussed with DOEE, the TSS level in the Pool should not exceed 25 mg/L. Therefore, an effluent limit of 25 mg/L will be required in the permit.

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 to cause*, or *contribute* to an excursion above any state water quality standard, including state narrative criteria. The WQBELS in this permit will be as stringent as applicable the District’s WQS to ensure that the designated uses of the Tidal Basin are protected, maintained, and/or attained. EPA applied the District’s WQS to assess the effluent for reasonable potential (RP) to exceed the District’s WQS. If there is RP, WQBELS will be developed. Since the discharge is intermittent and a relatively shorter exposure time is representative of the LMRP discharge, the acute water quality criteria were used for the constituents listed in Table 1 of Section 21-1104 in DOEE’s Water Quality Standards.

EPA’s *Technical Support Document for Water Quality-based Toxics Control (TSD)* approach (EPA-505-2-90-001, March 1991) will be used to determine if the parameters that have a water quality criterion have reasonable potential (RP) to exceed the criterion. Section 1105.7(f) of the District’s Water Quality Standards allows for a mixing zone not more than one-third of the width of the receiving waterbody. This was applied to the RP analysis. As required by 40 CFR part 122.44(d), water quality-based effluent limits will be established for the parameters that have reasonable potential to exceed the District’s water quality criteria. Monitoring and reporting will be required for parameters that do not have reasonable potential to exceed the District’s water quality if the maximum reported effluent concentration exceeds the respective influent concentration.

Mass-balance Equation: $Q_s C_s + Q_d C_d = Q_r C_r \rightarrow C_r = \frac{Q_s C_s + Q_d C_d}{Q_r}$

- where:
- Q_s = critical upstream receiving water flow
 - C_s = critical receiving water background concentration
 - Q_d = critical effluent flow
 - C_d = critical effluent concentration
 - Q_r = critical downstream receiving water flow
 - C_r = downstream (expected) receiving water concentration

Therefore, Q_s = Tidal Basin flow

Receiving Stream Flow (Tidal Basin)	
Surface Area (square meters)	415,000
Tidal Range (meters per 12 hours)	0.85
Flow (cubic meters per 12 hours)	352,750
Flow (cubic meters per hour)	29,395.83
Flow (gallons per hour)	7,765,556.08
Flow (gallons per minute (gpm))	129,425.93
1/3 Flow (gpm)	43,142

- C_s = intake concentration of parameter
- Q_d = LMRP discharge flow

Reflecting Pool Discharge Flow	
Approximate Amount of Water Discharged to Tidal Basin (gallons per day)	4,000,000
Duration of Discharge (days)	4
Reflecting Pool Discharge Flow (gpm)	694.44

C_d = critical effluent concentration

40 CFR 122.44(d)(1)(ii) requires the permitting authority to use procedures which account for the variability of the pollutant or pollutant parameter in the effluent when determining RP. EPA assumes that the maximum observed effluent concentration does not represent the “critical” condition because the limited data set does not account for day-to-day variability in effluent quality. Therefore, EPA will use the TSD approach, which consists of a statistical analysis that assumes effluent data follow a lognormal distribution, to determine the critical effluent concentration (C_d).

To calculate C_d , first we will determine the reasonable potential multiplying factor based on the probability basis and coefficient of variation, and then multiplied the factor times the maximum observed effluent concentration.

Confidence Level & Probability Basis	95%
Coefficient of Variation	0.6
Reasonable Potential Multiplying Factor	6.2

$Q_r = Q_s + Q_d$

C_r = downstream (expected) receiving water concentration

	Copper	Manganese	Nickel	Zinc
Q_s (gpm)	43,141.98	43,141.98	43,141.98	43,141.98
C_s (µg/L)	3	4.9	0.64	19
Q_d (gpm)	694.444	694.444	694.444	694.444
C_d (µg/L)	18.6	30.38	3.968	117.8
Q_r (gpm)	43,836.42	43,836.42	43,836.42	43,836.42
C_r (µg/L)	3.247	5.304	0.693	20.565

Parameter	Effluent (Pool) Concentration (µg/L)	Intake (Tidal Basin) Concentration (µg/L)	Monitoring Required (Y/N)
Copper	3.0	1.1	Y
Manganese	4.9	13	N
Nickel	0.64	0.83	N
Zinc	19	17	Y

Parameter	Downstream (Expected) Receiving Water Concentration (µg/L)	Acute Criterion (CMC) (µg/L)	Chronic Criterion (CCC) (µg/L)	WQBEL Required (Y/N)
Copper ¹	3.247	17.2	11.21	N
Manganese ²	5.304	100	50	N
Nickel ³	0.693	584.6	64.93	N
Zinc ³	20.565	146.35	147.55	N

Copper, Manganese, Nickel, and Zinc Rationale

Data submitted with the application show that the maximum reported effluent concentrations exceed the respective influent concentrations for copper and zinc. Therefore, monitoring and reporting will be required for copper and zinc in this permit. Data submitted with the application show that the maximum reported effluent concentrations do not exceed the respective influent concentrations for nickel and manganese. Therefore, monitoring will not be required for nickel and manganese.

Parameter	Date Sampled	Effluent (Pool) Concentration	Intake (Tidal Basin) Concentration	Acute Criterion	WQBEL Required (Y/N)
Chlorophyll a [µg/L]	01/12/2015	0.0		25	N
Dissolved Oxygen (DO) [mg/L]	09/01/2012	9.9 – 12.5	10.6	5.0	Y
	10/03/2012	12.5 – 14.3	7.2 – 10.1		
	01/02/2014	14.71 – 16.19	12.49 – 13.44		
	01/12/2015	15.47 – 32.16	36.02 – 36.55		
E. coli [MPN/100 ml]	01/12/2015	<1	10	410	N
Fecal Coliform [MPN/100 ml]	01/12/2015	<2	8		N
Oil & Grease [mg/L]	01/12/2015	ND	ND	10	N
pH [standard units (SU)]	09/01/2012	9.25 – 9.32	8.88	6.0 - 8.5	Y
	10/03/2012	9.13 – 9.48	8.2 – 8.7		
	01/02/2014	7.86 – 8.08	6.48 – 7.36		
	01/12/2015	5.97 – 6.53	7.82 – 7.83		

¹ The acute criterion (Criterion Maximum Concentration or CMC) for this metal is dependent on the hardness of the receiving water (i.e., the Basin), which is 130 mg/L.

² There is no CCC (Criterion Continuous Concentration) or CMC (Criterion Maximum Concentration) value for manganese in the DC WQS. Therefore, EPA's National Recommended WQC for human health was used (publication year 1993).

Parameter	Date Sampled	Effluent (Pool) Concentration	Intake (Tidal Basin) Concentration	Acute Criterion	WQBEL Required (Y/N)
	05/04/2016	5.97 – 9.61			
Temperature [°C]	09/01/2012	20.8 – 21.3	22	(1) 32.2 and (2) 2.8 above ambient	N
	10/03/2012	23.4 – 25.7	22.7 – 23.5		
	01/02/2014	1.27 – 4.58	4.38 – 4.57		
	01/12/2015	1.77 – 3.40	0.52		
	05/04/2016	3.22			
Total Residual Chlorine (TRC) [µg/L]	No data submitted			19	Y
Turbidity ³ [NTU]	01/02/2014	-6.2 – 4.7	5.4 – 22.4	20 above ambient	Y
	01/12/2015	0.79	3.2		

Chlorophyll *a* Rationale

Data submitted with the application show that the discharge does not have reasonable potential to cause or contribute to an excursion above the District's water quality criterion of 25 µg/L. However, due to the variability of the presence of algae in the Pool, monitoring and reporting will be required for chlorophyll *a* in this permit.

Dissolved Oxygen (DO) Rationale

Data submitted with the application show that the discharge does not have reasonable potential to cause or contribute to an excursion above the District's water quality criterion of 5.0 mg/L. However, as previously discussed in the facility's discharge monitoring plan and report, DO is a major parameter of concern and the DO level in the Basin should remain above 5.0 mg/L. Therefore, a water quality based effluent limit of 5.0 mg/L will be required in this permit. In addition, due to the variability of DO and since the Basin is a dynamic system, the permittee must also monitor and report DO in the Basin. Also, the permit will contain additional requirements regarding the DO level in the Basin.

Fecal Coliform and *E. coli* Rationale

The District's 2006 Water Quality Standards discontinued the fecal coliform criteria on December 31, 2007. The District replaced the fecal coliform water quality criteria with the *E. coli* criteria. Data submitted with the application show that the discharge does not have reasonable potential to cause or contribute to an excursion above the District's water quality criterion of 126 MPN/ 100 mL. However, since waterfowl may still contribute to bacteria in the discharge, and to continue to characterize *E. coli* in the discharge, for evaluation at the permit reissuance, monitoring and reporting will be required for *E. coli* in this permit.

Oil & Grease Rationale

Data submitted with the application show that the discharge does not have reasonable potential to cause or contribute to an excursion above the District's water quality criterion of 10.0 mg/L. However, water treatment operations at the facility may involve the use of pumps and other types of pumping equipment that have the potential to introduce oil and grease into the discharge and therefore, monitoring and

³ The application states that there was a meter malfunction due to lack of depth at the edge of the Pool and the -6.2 effluent result was caused by that malfunction. 6.8 NTU was the lowest baseline turbidity measurement.

reporting will be required for oil & grease in this permit.

Temperature Rationale

Data submitted with the application show that the discharge does not have reasonable potential to cause or contribute to an excursion above the District's water quality criteria of 32.2°C and 2.8°C above ambient. However, since the data show that the temperature fluctuates and to provide context for other parameters, monitoring and reporting will be required for temperature in this permit.

Total Residual Chlorine (TRC) Rationale

Total residual chlorine data was not submitted with the application. The discharge may have reasonable potential to cause or contribute to an excursion above the District's water quality criterion of 19 µg/L since the permittee fills the Pool with potable water and may use certain chemicals to spot treat algae blooms. Therefore, an effluent limit of 0.019 mg/L will be required for total residual chlorine in the permit.

Turbidity Rationale

Data submitted with the application show that the turbidity in the discharge approached but did not exceed the District's water quality criteria of 20 NTU above ambient. As previously discussed with DOEE, turbidity is a major parameter of concern due to the possibility of the discharge disturbing sediments at the bottom of the Basin. Per DOEE, the permittee must comply with the District's water quality criterion for turbidity. Therefore, the permittee must monitor turbidity in the Basin and in the Pool and the turbidity must not exceed 20 NTU above ambient.

Barium, Magnesium, Molybdenum, and Strontium Rationale

Data submitted with the application show that the maximum reported effluent concentrations do not exceed the respective influent concentrations for barium and magnesium. Therefore, monitoring will not be required in this permit for barium and magnesium. Data submitted with the application show that the maximum reported effluent concentration is the same as the respective influent concentration for strontium. Although strontium is a naturally occurring, hazardous substance, monitoring will not be required since the Pool is filled with potable water from the District's water system and strontium is listed as present in the District's water system. Monitoring and reporting will be required for molybdenum since the maximum reported effluent concentrations exceed the respective influent concentration.

Nitrogen (Nitrate-Nitrite, Total, Total Kjeldahl) and Phosphorus (Total) Rationale

The Pool's algae issues indicate an excess of nutrients, particularly nitrogen and phosphorus, and the presence of algae may affect the concentration of other parameters in the Pool and the Basin. Since there is no numeric water quality criteria for these nutrients, monitoring and reporting will be required for total nitrogen and total phosphorus to continue to characterize the parameters in the discharge, for evaluation at the permit reissuance.

TMDL

The Lincoln Memorial Reflecting Pool discharges to the Tidal Basin, which eventually mixes with the Washington Ship Channel and ultimately the Potomac River. There are TMDLs for each of the three waterbodies affected by this discharge. Additionally, this discharge occurs within the Chesapeake Bay watershed and therefore affected by the Chesapeake Bay TMDL. The Bay TMDL is addressed separately below. EPA has approved or established Total Maximum Daily Loads (TMDLs) for the following pollutants in the Tidal Basin which are discussed in more detail below:

- *E. coli* (approved December 2004, revised July 2014)
- Total PCBs (approved December 2004)
- pH (approved December 2010)

Tidal Basin and Middle Potomac River TMDL

E. coli

The bacteria TMDL was approved in 2004 and revised in 2013 to include a translation of the bacteria loads from fecal coliform to *E. coli*. This translator allows the bacteria loads to be consistent with the District's water quality standard. There is not a wasteload allocation given to the Reflecting Pool discharge. Data submitted with the Reflecting Pool application show their discharge has elevated levels of *E. coli*. Therefore, monitoring for *E. coli* will continue throughout the permit term to inform future revisions of the TMDL and to ensure that the facility does not contribute to the existing impairment of the Basin

pH

Monitoring requirements for pH are included in this permit renewal to maintain consistency with the District's water quality standard and to ensure the discharge does not contribute to the existing pH impairment in the Tidal Basin.

PCB

There is no wasteload allocation assigned to this facility. Additionally, PCB is not a parameter of concern for the Reflecting Pool, therefore, monitoring for PCBs will not be required in this permit.

Washington Ship Channel TMDLs

E. coli

The bacteria TMDL was approved in 2004 and revised in 2013 to include a translation of the bacteria loads from fecal coliform to *E. coli*. This translator allows the bacteria loads to be consistent with the District's water quality standard. There is not a wasteload allocation given to the Reflecting Pool discharge. Monitoring for *E. coli* will occur throughout the permit term to inform future revisions of the TMDL and to ensure that the facility does not contribute to the existing impairment of the Basin.

pH

Monitoring requirements for pH are included in this permit renewal to maintain consistency with the District's water quality standard and to ensure the discharge does not contribute to the existing pH impairment in the Tidal Basin.

Chesapeake Bay TMDL

TN and TP

At the time the Chesapeake Bay TMDL ("Bay TMDL") was approved, the Reflecting Pool was discharging their pool water to the sanitary system, stormwater system, or the Tidal Basin with EPA approval. Therefore, during TMDL development, the flow from the Reflecting Pool was captured either in the MS4 and or CSO discharge, or captured in the margin of safety. EPA believes this facility is not expected to be significant source of TN and TP. Monitoring for TN and TP is included in the permit to verify this discharge does not contribute to any exceedances to the aggregate Bay TMDL WLA.

Monitoring for these parameters will also inform future TMDL revisions and the District's Phase III WIPs.

Sediment

Section 4.5.2 of the Bay TMDL *Sources of Nitrogen, Phosphorus, and Sediment To The Chesapeake Bay – Industrial Discharge Facilities* states that discharges from industrial facilities represent a *de minimis* source of sediment. As previously discussed in the fact sheet, the TSS level in the Pool should not exceed 25 mg/L. A monthly average limit of 25mg/L of TSS is imposed in the permit based on discussions with DOEE, this limit is consistent with the assumptions of the Bay TMDL for TSS for non-significant dischargers.

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 the Lincoln Memorial Reflecting Pool discharge. The FWS has indicated that there is a total of zero threatened, endangered, or candidate species located at the Lincoln Memorial Reflecting Pool project area as defined using the iPaC tool.

NOTE: Per the requirements under Section 7 of the Endangered Species Act (50 C.F.R. 402; 16 U.S.C. § 1536(c)) and concurrent with public notice of this draft permit, EPA is submitting a Biological Evaluation and Finding of No Effect to the U.S. Fish and Wildlife Service (FWS) and The National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries). Following consultation, the Services may stipulate requirements for the final permit.

NATIONAL HISTORIC PRESERVATION ACT OF 1966

Consultation with the District of Columbia State Historic Preservation Officer (DC SHPO) in accordance with Section 106 of the National Historic Preservation Act and its implementing regulation at 36 C.F.R. Part 800 has resulted in a determination that the activities required by the permit will have no adverse effect on historic properties.

ANTI-BACKSLIDING PROVISIONS

This is a new permit, therefore, backsliding does not apply.

ANTIDEGRADATION STATEMENT

The Tidal Basin, Middle Potomac River, and Washington Ship Channel are Tier 1 protection waters. Title 21 Chapter 1102.1 of the District's Water Quality Standard Antidegradation Policy defines a Tier 1 water as "Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." The proposed permit contains water quality-based and technology-based effluent limits for pollutants as required by the approved District of Columbia Water Quality Standards and approved TMDLs. Based on this information, EPA concludes that the discharges from this facility will not downgrade the water quality of the Tidal Basin.