



**SUBMITTED ELECTRONICALLY**

December 4, 2018

RE: October 22, 2018 Notice of Proposed Amendment to TPDES Permit Number WQ0010287001

To the Texas Commission on Environmental Quality:

Bayou City Waterkeeper, located in Houston, Texas, submits these comments in response to the Commission's October 22, 2018 "Notice of Public Meeting for TPDES Permit for Municipal Wastewater Major Amendment Permit no. WQ0010287001."

**I. Bayou City Waterkeeper's Stake in Local Wastewater Treatment and Contact Information**

For 17 years, Bayou City Waterkeeper has worked in the greater Houston area for the benefit of the Lower Galveston Bay Watershed and focuses on water quality, wetlands protection, and resilience. To promote water quality across the Lower Galveston Bay watershed, Bayou City Waterkeeper focuses on regional and local compliance with the Clean Water Act and Texas' Pollution Discharge Elimination System (TPDES) permitting program. To that end, Bayou City Waterkeeper monitors local water quality and seeks to prevent any actions which could negatively affect water quality across the Lower Galveston Bay watershed.

Bayou City Waterkeeper's members and affiliates use Berry Bayou and other connected waters within the Lower Galveston Bay watershed, including Sims Bayou, the San Jacinto River Basin, and the Lower Galveston Bay, for fishing, bird-watching, and recreation. Bayou City Waterkeeper submits this comment letter because its members are concerned that the City of South Houston's proposed amendment will dramatically harm water quality in Berry Bayou and already-impaired downstream waters within the Lower Galveston Bay watershed, and also negatively affect ecological and public health in the area.

Additional communications relating to this comment letter or TPDES permit no. WQ0010287001 may be directed to:

Kristen Schlemmer, Legal Director  
Bayou City Waterkeeper  
**kristen@bayoucitywaterkeeper.org – Preferred method of communication**  
2010 N Loop West #275  
Houston TX 77018  
281.901.0182

## **II. The Commission Must Ensure that the Permit Amendment Comports with the Clean Water Act's Letter and Spirit.**

Section 301 of the Clean Water Act (CWA) requires permits issued under the National Pollutant Discharge Elimination System (NPDES) program to include effluent limitations that are as stringent as necessary to meet water quality standards. In Texas, the Texas Commission on Environmental Quality oversees the NPDES program through the TPDES program and must issue TPDES permits that set strict limits on a range of pollutants, including mercury.

Under the Clean Water Act and EPA regulations, each permit must include, as necessary, requirements in addition to or more stringent than technology-based effluent limitations established under section 301 of the Clean Water Act in order to achieve water quality standards. 40 C.F.R. § 122.44(d)(l). The regulations require limitations to control all pollutants that the NPDES program director determines are or may be discharged at a level that "will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard," including both narrative and numeric criteria. 40 C.F.R. § 122.44(d)(l)(i). If the program director determines that a discharge has the reasonable potential to cause or contribute to such an excursion, the permit must contain water quality-based effluent limitations for the pollutant. 40 C.F.R. § 122.44(d)(l)(iii). Thus, a prospective permittee may need to measure various pollutants in its effluent at two stages: first, at the permit application stage so that the program director can determine whether "reasonable potential" exists and establish appropriate permit limits; and second, where a permit limit has been established, to meet the monitoring requirements within the permit.

Although the City of South Houston has reported zero mercury in the effluent from its wastewater treatment facility, the Commission's tests have revealed otherwise; for example, a sample from December 2014 showed the presence of mercury in amounts that were seventeen times the relevant sampling limit. The Commission therefore is under an obligation to include a mercury limit in the City of South Houston's permit.

Importantly, omitting a limit on mercury would not mean the City could discharge mercury without limitation; rather, omitting the limit would effectively remove safeguards on the disposal of mercury and potentially create a bigger problem, in need of a bigger solution, down the line and potentially subject the facility to litigation under the Clean Water Act.

## **III. The Commission Must Study the Uses of Berry Bayou and Connected Downstream Waters, Reevaluate its Tier 1 Review, Conduct a Tier 2 Review, and Reject or Modify the Proposed Amendment to Account for These Uses.**

In considering the City of South Houston's proposed amendment to its wastewater permit, the Commission treats Berry Bayou as having limited aquatic use and has classified the segment of Sims Bayou where Berry Bayou discharges for navigation and industrial water supply. This ignores the actual uses of these waters. In taking this overly narrow approach, the Commission concluded through a Tier 1 antidegradation review that existing water quality uses will not be impaired by this permit action and concluded only that numerical and narrative criteria to protect existing uses will be maintained. The Commission must reevaluate its Tier 1 review in light of fishing, bird-watching, and recreational uses in the affected waters and conduct a Tier 2 review, and reject or modify the proposed amendment to

reflect these uses. Further, the Commission must conduct this multi-tiered level of review to account for the already-impaired status of area waters.

**A. The Commission Must Account for Fishing, Bird-Watching, and Other Recreational Uses in the Waters That the Amendment Will Affect.**

The Commission’s evaluation of affected waters’ uses must extend to Sims Bayou and beyond because the normal tidal influence on Sims Bayou extends upstream just west of Telephone Road. Any mercury in the effluent discharged at the City of South Houston’s wastewater treatment facility thus will be carried with the tide—and could be carried farther during times of now-regular flooding.

In evaluating the proposed permit amendment, the Commission must account for the fact that area residents, including Bayou City Waterkeeper’s members and affiliates, use Berry Bayou and downstream waterways for a range of recreational purposes, including fishing, bird-watching, and kayaking or canoeing. Further, the Commission must consider potential effects on public parks. Public parks adjacent to Sims Bayou downstream from Berry Bayou and within the tidal influence include Milby Park, Glenbrook Park, Reveille Park, and R.C. Stuart Park. Charlton Park is adjacent to one of the old Sims Bayou meanders and is within the tidal zone.

The Commission must not approve any amendment to the City of South Houston’s permits without properly studying the uses of Berry Bayou and downstream waters and must modify any amendments to account for these uses.

**B. The Commission Must Consider the Full Range of Fishing and Recreational Uses in Light of the Commission’s Previous Determination that Berry Creek and Downstream Waters Are “Impaired” Under the Clean Water Act.**

Although the Commission notes that a relevant segment of Berry Bayou and downstream waters are listed as “impaired” under the Clean Water Act, the Commission dismisses any impact that the proposed amendment will have on water quality. The Commission emphasizes that the City of South Houston’s facility will not contribute additional dioxin or PCB to edible tissue, increase bacteria or toxicity, or affect the Houston Ship Channel’s ability to meet water quality criteria for dissolved nickel.

This emphasis misses an obvious point: how the potential contribution of additional mercury, without limitation, to area waters will affect the overall health of Berry Bayou and downstream waters, particularly in light of their already-impaired status. At a minimum, to account for this analytical shortcoming, the Commission must:

- analyze how the proposed amendment will affect overall quantities of mercury within Berry Bayou and downstream waters or may manifest in edible tissue—that is, fish and shellfish consumed by area fishermen—particularly given the high bacteria load in area waters, which will facilitate the creation of highly toxic methylmercury, and the fact that PCB and dioxin already are present in edible tissue;
- explain how adding mercury, a highly toxic pollutant with proven public health impacts, will have any benefit for the public at large; and
- explain how allowing mercury disposal at the City of South Houston’s facility will fulfill the Clean Water Act’s purposes.

**IV. The Commission Must Consider and Account for Upstream Facilities Participating in the EPA's National Pretreatment Program.**

Commercial and industrial businesses upstream of the City of South Houston's wastewater treatment facility participate in the EPA's National Pretreatment Program. At least three of these facilities, Houston Plating Co., Byerly Metals, Inc., and Pan Glo, Inc. are in the business of metal plating, which can result in mercury waste as a component in manufacturing equipment, an ingredient in chemicals or laboratory chemicals, or a contaminant in raw materials.

In considering the City of South Houston's amendment request, the Commission must:

- consider how removing the City of South Houston's limit on mercury disposal could undermine the goals of the EPA's National Pretreatment Program by reducing area participants' incentives to properly treat effluent, and
- filter these considerations through the compliance history of these businesses.

**A. Amending the City of South Houston's Permit Cannot Undermine the EPA's National Pretreatment Program.**

To meet the Clean Water Act's broader goals, the EPA's National Pretreatment Program requires nondomestic wastewater dischargers to comply with pretreatment standards. One relevant objective of the program is to prevent the introduction of pollutants into a publicly owned treatment works (like the City of South Houston's wastewater treatment facility), which will pass through the treatment works or otherwise be incompatible with it. By reducing or eliminating waste from private dischargers, the Program aims to reduce the amount of toxic pollutants that a publicly owned treatment works must treat, providing benefits to both public facilities and industrial users.

As a general matter, the National Pretreatment Program sets discharge standards and requirements that apply to sources of nondomestic wastewater discharged to a publicly owned treatment works. But the Program recognizes that local limits on effluent discharge are needed to address the specific needs and concerns of a publicly owned treatment works and its receiving waters. Most of the general prohibited discharge standards specified at 40 C.F.R. Part 403.5 therefore do not impose specific limitations on pollutants. As a result, a publicly owned treatment works must evaluate its facility's capabilities and establish local limits to protect it from receiving wastes that pass through or interfere with operations.

By removing all limits on mercury disposal, the City of South Houston will undermine the National Pretreatment Program's goals because it will fall short of its duty to make sure that entities participating in the pretreatment program are not disposing of mercury in quantities that do not fulfill the Clean Water Act's purposes. The Commission must reevaluate the proposed amendment in light of the National Pretreatment Program's goals and requirements.

**B. The Commission Also Must Consider the Compliance History of Nearby Businesses in the EPA's National Pretreatment Program.**

On November 3, 2016, Houston Plating Co.'s South Houston facility entered a consent agreement with the EPA to address its repeated violations of the Resource Conservation and Recovery Act based on the company's failure to provide proper notification and failure to comply with applicable

hazardous waste generator requirements. The compliance of this and other nearby facilities which discharge effluent that may pass through the City of South Houston's facility directly affects the City's ability to meet its own TPDES permit requirements and broader obligations under the Clean Water Act.

The Commission should require the City of South Houston to establish appropriate controls that protect it from receiving wastes that pass through or interfere with operations or otherwise prevent the City from meeting its obligations under the Clean Water Act. Removing limits on mercury discharge altogether would not amount to an appropriate control.

**V. In Evaluating the Permit Amendment, the Commission Must Study and Account for the Negative Effects of Allowing Mercury Disposal into Local Waterways, Which Dramatically Outweigh Any Potential Benefits.**

**A. The Commission Must Consider the Effects of Mercury on Human Health.**

Exposure to methylmercury most commonly occurs when people eat kinds of fish and shellfish that have high levels of methylmercury in their tissues. Almost all people have at least small amounts of methylmercury in their bodies, reflecting the widespread presence of methylmercury in the environment. U.S. Centers for Disease Control and Prevention data show that most people have blood mercury levels below levels associated with possible health effects. Methylmercury, however, is a powerful neurotoxin, and people exposed to high levels may experience adverse health effects. Possible symptoms of methylmercury poisoning may include loss of peripheral vision, "pins and needles" feelings, usually in the hands, feet, and around the mouth, lack of coordination of movements, impairment of speech, hearing, walking, and muscle weakness.

Exposure to inorganic mercury may result in damage to the gastrointestinal tract, the nervous system, and kidneys. Both inorganic and organic mercury are absorbed through the gastrointestinal tract and affect other systems. Symptoms of high exposures to inorganic mercury include skin rashes and dermatitis, mood swings, memory loss, mental disturbances, muscle weakness, and kidney damage.

The 2010 US Census and American Community Survey shows that approximately 170,000 people live within three miles of the City of South Houston's wastewater treatment facility. Many more live along and use the waters downstream of Berry Bayou. Given the negative effects mercury exposure may have on these individuals, the Commission must reevaluate the proposed permit amendment to assess whether retaining a limit would better protect these populations.

**B. The Commission Must Consider the Effects of Mercury on Infants, Who Are Especially Vulnerable to the Effects of Mercury.**

Infants in the womb especially are vulnerable to the effects of mercury in the environment. Infants in the womb may be exposed to methylmercury when their mothers eat fish and shellfish that contain methylmercury. This exposure can adversely affect unborn infants' growing brains and nervous systems.

Infants' developing systems may be more vulnerable to methylmercury than the brains and nervous systems of adults are. To illustrate, in past outbreaks of methylmercury poisoning, mothers with no symptoms of nervous system damage gave birth to infants with severe disabilities. This strongly

suggested that the nervous system of a developing infant may be more vulnerable to methylmercury exposures than an adult nervous system.

Further, mothers who are exposed to methylmercury and breast-feed may also expose their infant children through their milk.

Children exposed to methylmercury while they are in the womb or as infants may fact developmental deficits to their cognitive thinking, memory, attention, language, fine motor skills, and visual spatial skills.

The 2010 US Census and American Community Survey shows that approximately 10% of residents living within a 3-mile radius of the City of South Houston's wastewater treatment facility are under the age of five years old. Given the irreversible negative effects mercury may have on infants and small children, the Commission must reevaluate the proposed amendment and assess whether imposing some limit would better protect this vulnerable population.

### **C. The Commission Must Consider the Effects of Mercury on Local Avian and Other Animal Life.**

Birds and mammals that eat fish and shellfish may be exposed to greater amounts of methylmercury than other animals in water ecosystems. Predators that eat these birds and mammals are also at risk. Methylmercury has been found in high concentrations in raptors that eat largely fish-based diets, like osprey. At high levels of exposure, methylmercury's harmful effects on these animals include death, reduced reproduction, slower growth and development, and abnormal behavior.

On the Texas Gulf Coast, our avian populations, with their fish and shellfish-based diets, are especially vulnerable to mercury toxicity. Downstream of Berry Bayou, a variety of birds, including osprey, have been observed fishing in Sims Bayou. The Commission must reevaluate the City's proposed amendment to account for potential effects to local avian life and other wildlife.

### **D. The Commission Must Consider the Effects of Mercury on Local Aquatic Life.**

Even in small concentrations, mercury is absorbed, typically as methylmercury, by algae at the start of the food chain. Fish and other organisms higher in the food chain then eat the mercury-contaminated algae. Fish efficiently absorb methylmercury, but excrete it very slowly. Methylmercury is not soluble and therefore not excreted. Instead, it accumulates, primarily in the viscera, although also in the muscle tissue. This results in the bioaccumulation of mercury, in a buildup in the adipose tissue of successive trophic levels: zooplankton, small nekton, larger fish, and so on. The older that such fish become, the more mercury they may have absorbed. Anything that eats these fish, including humans, other mammals, and avian life, then absorbs the methylmercury and suffers its effects.

Given these effects, the Commission must reevaluate the proposed amendment and assess whether imposing some limit would better protect fish, avian, and mammal populations.

**E. In Light of these Grave Potential Harms to Human Populations and Mammalian, Avian, and Aquatic Life, the Commission Has Identified No Compelling Benefit, as it Must, to Warrant Removing Limits on Mercury Disposal into Area Waters.**

The only rationale the Commission seems to offer for the permit amendment is that the City of South Houston facility has, with some notable exceptions, complied with existing mercury requirements. But an imperfect record of compliance with mercury disposal limits does not offer a sound rationale for disposing of the requirement altogether. If anything, it shows that more stringent requirements are needed to maximize compliance.

Even a perfect compliance would not support removing the limit on mercury disposal altogether. Rather, compliance with mercury limits would suggest that the existing limitation on mercury disposal either is achieving the desired result of compliance or should be made even more stringent to further incentivize the reduction of mercury disposal.

In light of the potential harms to human, mammalian, avian, and aquatic health, the Commission has no compelling reason to approve the City of South Houston's requested amendment. Before approving the amendment or any modifications to the proposed amendment, the Commission first must articulate an adequate basis for any changes that accounts for these impacts in light of the overarching mission of the Clean Water Act.

**VI. Before Considering Any Amendment Removing Limits on Mercury Disposal, the Commission Must Test and Study Potentially Affected Waters to Determine the Current Amount of Mercury Toxicity, Particularly Given the City of South Houston's Past Inadequate Testing.**

In evaluating the City of South Houston's proposed permit amendment, the Commission noted that the "last two years data for total mercury from the applicant is below [the minimum analytical level]. Also, reported analytical data does not exceed 70% of the calculated daily average water quality-based effluent limitations for aquatic life protection...."

The Commission fails to note, however, that though the City of South Houston has relied on its past compliance history to justify its request for the proposed amendment, during a four-year period of testing, the City's methodology used to detect mercury was not sensitive enough to determine if the facility was in compliance with the mercury levels allowed in its permit. During that time of incorrect testing, the City of South Houston determined that there was zero mercury in the effluent from the wastewater treatment facility. Once the City of South Houston corrected its testing procedure, the levels tested above zero. The Commission, however, tested a sample during December 2014, with the result seventeen times the relevant sampling limit.

Relying on the City of South Houston's past data does not offer an adequate basis for removing all limits on mercury disposal, particularly given the Commission's own sampling that revealed data inconsistent with that provided by the City. The Commission must test, or require the City to test, effluent over a fixed time period using appropriately sensitive testing methodology to determine correct baselines and whether a reasonable potential for mercury disposal exists and reassess the City's requested amendment accordingly.

**VII. If the Commission Removes All Limits on the City of South Houston’s Disposal of Mercury, It Must Require Rigorous Testing to Prevent Any Impacts to Local Water Quality, Human Health, and Aquatic Health.**

Removing the limits on mercury disposal cannot amount to a free pass to dispose of mercury in amounts that do not comport with the Clean Water Act’s requirements. The Commission therefore must continue to require the City to monitor its effluent discharges to confirm that the facility is not discharging mercury. Further, to ensure that future testing properly identifies mercury levels in effluent, the Commission must require the City’s facility to use a laboratory test method that is sensitive enough to detect mercury at its minimum analytical level of 0.000005 mg/L.

**VIII. If the Commission Allows Mercury Disposal, it Must Require Rigorous Monitoring for the Life of the Permit to Prevent Any Impacts to Local Water Quality, Human Health, and Aquatic Health and Reassess the Permit Amendment as Appropriate.**

Even if the Commission removes the mercury limits from the City of South Houston’s wastewater treatment permit, it must continue to require the City to test its effluent discharges for mercury-containing compounds. At a minimum, monitoring must involve sampling described above, testing of fish and shellfish, and testing of humans using area waters for recreation and fishing. If monitoring reveals that water quality has been affected by mercury disposal, the Commission must reassess the permit amendment and impose strict controls on mercury disposal.

Sincerely,



Kristen Schlemmer

Legal Director

Bayou City Waterkeeper