

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

City of Pittsburgh	:	
301 City-County Building	:	
414 Grant Street	:	
Pittsburgh Pennsylvania 15219	:	
And	:	Violations of the Safe Drinking
	:	Water Act and the Rules and
	:	Regulations Promulgated
Pittsburgh Water and Sewer Authority	:	Pursuant Thereto
Penn Liberty Plaza 1	:	
1200 Penn Avenue	:	
Pittsburgh, PA 15222	:	

ADMINISTRATIVE ORDER

NOW, this 25th day of October 2017, the Commonwealth of Pennsylvania, Department of Environmental Protection (“Department”), issues this Administrative Order after it has found and determined the following:

FINDINGS

A. The Department is the agency with the duty and authority to administer and enforce the Pennsylvania Safe Drinking Water Act, Act of May 1, 1984, P.L. 206, *as amended*, 35 P.S. §§ 721.1-721.17 (“Safe Drinking Water Act”); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. § 510-17 (“Administrative Code”); and the rules and regulations promulgated thereunder (“Regulations”).

B. The City of Pittsburgh (“City”) is a municipality with a business address of 301 City-County Building, 414 Grant Street, Pittsburgh Pennsylvania 15219. The City is a “person” as that term is defined in Section 3 of the Safe Drinking Water Act, 35 P.S. § 721.3, and Section 109.1 of the Regulations, 25 Pa. Code § 109.1; a “supplier of water” as that term is defined in

Section 3 of the Safe Drinking Water Act, 35 P.S. § 721.3; and a “public water supplier” as that term is defined in Section 109.1 of the Regulations, 25 Pa. Code § 109.1.

C. Pittsburgh Sewer and Water Authority (“PWSA”) is a municipal authority with a business address of Penn Liberty Plaza 1, 1200 Penn Avenue, Pittsburgh Pennsylvania 15222. PWSA is a “person” as that term is defined in Section 3 of the Safe Drinking Water Act, 35 P.S. § 721.3, and Section 109.1 of the Regulations, 25 Pa. Code § 109.1; a “supplier of water” as that term is defined in Section 3 of the Safe Drinking Water Act, 35 P.S. § 721.3; and a “public water supplier” as that term is defined in Section 109.1 of the Regulations, 25 Pa. Code § 109.1.

D. PWSA leases, operates, and is the permittee of a “public water system” and, more specifically, a “community water system,” as those terms are defined in Section 3 of the Safe Drinking Water Act, 35 P. S. § 721.3, and Section 109.1 of the Regulations, 25 Pa. Code § 109.1. PWSA’s public water system consists of water sources, storage facilities, treatment facilities, and a distribution system (“System”). PWSA provides drinking water through the System to approximately 520,000 people in the Pittsburgh, Pennsylvania area, including approximately 250,000 residential customers. PWSA operates the System pursuant to multiple public water supply permits issued by the Department, and has been assigned Public Water System Identification Number 5020038. The City owns the System and leases it to PWSA.

E. Section 109.4(3) of the Regulations, 25 Pa. Code § 109.4(3), requires that public water suppliers shall provide and effectively operate and maintain public water system facilities.

F. Section 109.4(4) of the Regulations, 25 Pa. Code § 109.4(4), requires that public water suppliers shall take whatever investigative or corrective action is necessary to assure that safe and potable water is continuously supplied to the users of the public water system.

G. Section 109.202(c)(1)(ii) of the Regulations, 25 Pa. Code § 109.202(c)(1)(ii), requires that the combined total effect of disinfection processes utilized in a filtration plant shall achieve at least 90% inactivation of Giardia cysts and 99.9% inactivation of viruses, as determined by CTs and measurement methods established by the Environmental Protection Agency (“EPA”).

H. On January 31, 2017, the Department issued a Field Order requiring PWSA to issue a Boil Water Advisory to all customers served by the Highland Membrane Filtration Plant. The Department had discovered that the combined total effect of disinfection processes utilized at the Highland Membrane Filtration Plant failed to achieve at least 90% inactivation of Giardia cysts and 99.9% inactivation of viruses, as determined by CTs and measurement methods established by the EPA, in violation of 25 Pa. Code § 109.202(c)(1)(ii) and 25 Pa. Code § 109.4(3). In response to the January 31, 2017 Field Order, PWSA took the Highland Membrane Filtration Plant out of service.

I. As of the date of this Administrative Order, PWSA’s Highland Membrane Filtration Plant remains out-of-service, and PWSA has not submitted a complete and technically sufficient permit application to modify the Highland Membrane Filtration Plant, in order to achieve at least 90% inactivation of Giardia cysts and 99.9% inactivation of viruses, as determined by CTs and measurement methods established by the EPA as required by 25 Pa. Code § 109.4(4).

J. On August 28, 2017, the Department issued a Field Order requiring PWSA to issue a Boil Water Advisory for all customers served by the Lanpher Reservoir after learning that the integrity of the Lanpher Reservoir floating cover system had been compromised, allowing potential pathways of contamination into the finished water. PWSA failed to effectively operate

and maintain the Lanpher Reservoir floating cover system in violation of 25 Pa. Code § 109.4(3), and failed to take the investigative or corrective actions necessary to assure that safe and potable water was continuously supplied to the users of the System, in violation of 25 Pa. Code § 109.4(4). As a result of the August 28, 2017 Field Order, PWSA took the Lanpher Reservoir out of service.

K. PWSA, as operator, and the City, as owner, have failed to effectively operate and maintain the public water system facilities of the System, in violation of 25 Pa. Code § 109.4(3), and have failed to take the investigative or corrective actions necessary to assure that safe and potable water is continuously supplied to the users of the System, in violation of 25 Pa. Code § 109.4(4).

ORDER

NOW therefore, pursuant to its authority under Sections 5 and 12 of the Safe Drinking Water Act, 35 P.S. §§ 721.5 and 721.12, and Section 1917-A of the Administrative Code, 71 P.S. § 510-17, the Department hereby Orders that:

PWSA and the City shall ensure that the System has the necessary treatment, resiliency, and reliability to maintain adequate quality, quantity, and pressure to assure that safe and potable water is continuously supplied to the users. PWSA shall undertake and complete the following tasks by the deadlines set forth below in order to resume operation of the Highland 1 Reservoir, restore the Lanpher Reservoir to service, address reliability deficiencies at the Bruecken Pump Station, and establish a schedule for other capital improvements to the System:

1. **Highland 1 Reservoir and Membrane Filtration Plant.** PWSA shall perform the actions necessary to resume operation and use of the Highland 1 Reservoir by one of the methods listed in subparagraph a. or b., below:

a. By completing the activities set forth in subparagraphs i. through viii., below, PWSA shall reinstate operation of the Highland Membrane Filtration Plant to provide a continuous supply of safe and potable water to the users, for such time as may be necessary until PWSA has provided an alternative means to do so:

i. On or before November 30, 2017, submit a complete and technically sufficient application to amend Permit No. 0298509 to provide the following:

(a) Replacement of in-line membrane strainers;

(b) Replacement of membrane filtration modules;

(c) Addition of an ultraviolet (UV) disinfection unit capable of inactivation of both Giardia and viruses with UV treatment, in conjunction with the existing chlorination system, that complies with the US EPA Ultraviolet Disinfection Guidance Manual and is validated via an EPA approved 3rd party; and

(d) Identification of all modifications to the plant recommended to PWSA by the manufacturer of the membrane filters, Pall Corporation.

ii. Within 60 days of the date the Department issues an amended construction permit, replace all in-line membrane filtration strainers according to manufacturer standards.

iii. Within 60 days of the date the Department issues an amended construction permit, replace a minimum of 4 membrane racks.

iv. Within 60 days of the date the Department issues an amended construction permit, submit a schedule to replace the remaining membrane racks.

v. On or before November 30, 2017, provide to the Department documentation that the Kinney strainers are functioning according to manufacturer standards.

vi. Within 90 days of the date the Department issues an amended construction permit, install the UV disinfection unit as approved.

vii. Notify the Department at least 48 hours prior to start-up of the Highland Membrane Filtration Plant and request a pre-operational site visit by the Department to verify that PWSA has:

- (a) Completed the modifications recommended by Pall Corporation;
- (b) Retained the services of adequately trained and properly certified operators to operate the membrane and UV facilities; and
- (c) Complied with all conditions of the amended construction permit issued by the Department.

viii. Following start-up of the Highland Membrane Filtration Plant, PWSA shall submit to the Department each day by 9 a.m. all information contained in the Monthly Daily Integrity Pressure Decay Testing Report form and shall continue to provide daily reports until directed otherwise in writing by the Department.

b. On or before November 30, 2017, PWSA shall submit a complete application for a minor permit amendment to cover the Highland 1 reservoir. Within 150 days of the date the Department issues an amended construction permit, cover the Highland 1 reservoir in accordance with the terms and conditions of the permit, and provide adequate security with a physical barrier.

2. **Lanpher Reservoir.** PWSA shall complete all actions necessary to restore the Lanpher Reservoir to service in accordance with the following schedule:

a. On or before November 15, 2017, PWSA shall complete repairs to the cover of the Lanpher Reservoir East Cell and return the East Cell to service.

b. On or before November 30, 2017, PWSA shall submit a complete permit application for an amended construction permit to replace the cover and liner on both cells of the Lanpher Reservoir.

c. Within 150 days of the date the Department issues an amended construction permit, PWSA shall replace the West Cell cover and liner, and apply for an operation permit for the West Cell. PWSA shall return the West Cell to service immediately upon issuance of an operation permit by the Department.

d. Within 150 days of returning the West Cell to service, PWSA shall replace the East Cell cover and liner, and apply for an operation permit for the East Cell. PWSA shall return the East Cell to service immediately upon issuance of an operation permit by the Department.

3. **Bruecken Pump Station.** PWSA shall complete the actions necessary to ensure reliability of the Bruecken Pump Station in accordance with the following schedule:

a. On or before November 30, 2017, PWSA shall submit a complete application for an amended construction permit to install a backup variable speed pump at the Bruecken Pump Station.

b. Within 60 days of the date the Department issues an amended construction permit, PWSA shall obtain the backup pump and submit to the Department a standard operating procedure (SOP) describing the circumstances and specific mechanism as to how it will be brought into service if needed.

c. On or before December 31, 2017, PWSA shall provide emergency backup power for the Bruecken Pump Station and shall submit to the Department the details of the backup power system and a copy of the SOP that will be added to PWSA's Emergency Response Plan for use of the backup power system.

4. **Pressure Sensors.** PWSA shall complete the actions necessary to assure that water at adequate pressure is continuously supplied to the users in accordance with the following schedule:

a. On or before November 30, 2017, PWSA shall identify critical low pressure points in each of the System's pressure zones and provide those locations to the

Department for its approval, in the form of a System drawing identifying both the pressure zones and the critical low pressure points.

b. Within 30 days of the Department's approval of PWSA's submission, PWSA shall install pressure sensors at each of these locations capable of reporting pressure data to PWSA in real time. PWSA will maintain adequate records of pressure sensor data with data points recorded no less frequently than once every 15 minutes. These readings shall be used by PWSA to make any necessary System changes or repairs as soon as possible to assure adequate pressures are maintained.

c. PWSA must notify the Department within one hour if any of the following occur:

- i. If any pressure data indicates a loss of positive pressure.
- ii. If any two consecutive 15-minute readings are below 20 PSI.

5. **Capital Improvement Projects**. On or before November 30, 2017, PWSA shall provide a detailed schedule for completion of the longer term projects set forth in PWSA's "Capital Improvement Projects from the 2017 to 2021 Capital Improvement Program" presented by PWSA to the Department on October 18, 2017, attached as Exhibit A. The schedule shall include dates for design, permitting, procurement, construction, start-up and final in-service date for each individual project.

6. **Qualified Personnel**. PWSA and the City shall ensure that adequately and appropriately qualified staff and/or consultants are employed to perform the tasks required under this Administrative Order.

7. **Funding**. The City shall ensure that PWSA has funds available to complete all of the tasks required under this Administrative Order.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa. C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717-787-3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's Rules of Practice and Procedure may be obtained from the Board. The appeal form and the Board's Rules of Practice and Procedure are also available in Braille or on audiotape from the Secretary to the Board at 717-787-3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD. IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717-787-3483) FOR MORE INFORMATION.

FOR THE COMMONWEALTH OF
PENNSYLVANIA, DEPARTMENT OF
ENVIRONMENTAL PROTECTION:



Alan J. Eichler
Program Manager
Safe Drinking Water Program

EXHIBIT A

2017-2021 Capital Projects Defined Projects*

Project Name	Project Budget	Start Date
Aspinwall WTP Electrical & Backup Power Improvements	\$ 26,320,000	Mar-17
Aspinwall WTP Pretreatment & Clarification Improvements	\$ 28,371,000	Mar-17
Clearwell Emergency Response Project	\$ 27,630,000	Mar-17
Highland Reservoir Pump Station and Rising Main	\$ 31,690,000	Mar-17
Maryland Avenue Green Infrastructure	\$ 6,495,000	Mar-17
Ft. Duquesne Bridge Water Main Improvements	\$ 770,000	Mar-17
31 st Ward Sewer Improvements	\$ 13,520,00	Mar-17
Highland MFP Critical Process Improvements	\$ 985,000	Mar-17
Highland MFP Filtration Module Replacement	\$ 2,950,000	Apr-17
Highland MFP Transformer and UPS Replacement	\$ 90,000	Apr-17
Lawn and Ophelia Green Infrastructure	\$ 845,000	Aug-17

* Note: Annual reoccurring projects NOT included (i.e. lead, valve, hydrant, catch basin, relays, CIPP, etc.)



2017-2021 Capital Projects Defined Projects*

Project Name	Project Budget	Start Date
MFP FRP Chemical Tank Inspections & Repairs/Replacement	\$ 165,000	Aug-17
Smallman Street Infrastructure Improvements	\$ 12,700,000	Sept-17
Lanpher Reservoir Improvements	\$ 16,830,000	Sept-17
Corrosion Control Chemical Storage & Feed Systems	\$ 3,960,000	Oct-17
Aspinwall Pump Station Improvements	\$ 29,460,000	Nov-17
2018 Small Water Main Replacement Project	\$ 10,520,000	Nov-17
2018 Sewers Under Structures	\$ 6,580,000	Nov-17
Maytide Storm and Sanitary Sewer System Improvements	\$ 2,660,000	Nov-17
Woods Run Stream Inflow - Mairdale Avenue	\$ 1,920,000	Nov-17
Wightman Park Green Infrastructure Project	\$ 1,525,000	Nov-17
Aspinwall Pump Station to Lanpher Reservoir Rising Main	\$ 48,684,000	Feb-18
Bruecken Pump Station Improvements	\$25,080,000	Feb-18
Herron Hill Reservoir Improvements	\$ 4,000,000	Feb-18

* Note: Annual reoccurring projects NOT included (i.e. lead, valve, hydrant, catch basin, relays, CIPP, etc.)



2017-2021 Capital Projects Defined Projects*

Project Name	Project Budget	Start Date
Chlorine Booster Station Improvements	\$ 6,175,000	Feb-18
Panther Hollow/Four Mile Run Green Infrastructure	\$ 40,500,00	Feb-18
District Water and Pressure Meters	\$ 2,795,000	Feb-18
Garfield Tank Improvements	\$ 3,970,000	Feb-18
Lincoln Tank Improvements	\$ 4,105,000	Feb-18
Washout Disconnection Program	\$ 12,750,000	Mar-18
Heth's Run Green Infrastructure	\$ 10,960,000	Mar-18

* Note: Annual reoccurring projects NOT included (i.e. lead, valve, hydrant, catch basin, relays, CIPP, etc.)