

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5**

In the Matter of:)	EPA-5-11-113(a)-MI-01
)	
City of Detroit)	Proceeding Under Sections 114 and 303
Detroit Water and)	of the Clean Air Act, 42 U.S.C. §§ 7414 and
Sewerage Department)	7603
)	
Detroit, Michigan)	
)	
)	
)	

Administrative Consent Order

1. The Regional Administrator, U.S. Environmental Protection Agency, Region 5, is issuing this Order to the City of Detroit, Michigan, under Sections 114 and 303 of the Clean Air Act (Act), 42 U.S.C. §§ 7414 and 7603. The Regional Administrator for Region 5 has been delegated the authority to issue these orders.

Statutory Authority

2. Section 303 of the Act, 42 U.S.C. § 7603, provides that, upon receipt of evidence that a pollution source or combination of sources is presenting an imminent and substantial endangerment to public health or welfare, or the environment, EPA may bring suit to immediately restrain any person causing or contributing to such pollution to stop the emission of air pollutants causing or contributing to the pollution or to take such other action as may be necessary. If it is not practicable to assure prompt protection of public health or welfare or the environment by commencement of a civil action, EPA may issue such orders as may be necessary to protect public health or welfare or the environment, after consulting with appropriate State and local authorities and attempting to confirm the accuracy of the information on which the action proposed to be taken is based.

3. Section 114(a)(1) of the Act, 42 U.S.C. § 7414, authorizes EPA to require any person who owns or operates any emission source to establish and maintain records, to sample emissions and to provide such other information as the Administrator may reasonably require for the purpose of carrying out any provision of the Act.

Findings of Fact

4. The Detroit Water and Sewerage Department (DWSD) is a department of the City of Detroit (the City).

5. DWSD operates pollution sources at the Detroit Wastewater Treatment Plant at 9300 West Jefferson, Detroit, Wayne County, Michigan (the Plant). These include the Detroit River Outfall (DRO-2) tunnel access shaft located on the south side of the Plant.

6. The DRO-2 tunnel access shaft is a vertical shaft that connects to a large horizontal underground tunnel located approximately 300 feet below grade. The City began construction on the tunnel for the purpose of creating a second outfall for the discharge of treated wastewater to the Detroit River. The tunnel, which extends over 2,000 feet toward the Detroit River, was never completed due to groundwater infiltration. The groundwater that infiltrated into the tunnel contains levels of dissolved H₂S. Artesian pressure on the groundwater forced the groundwater up the tunnel's access shaft. An extension ("collar") was placed on the shaft to contain the groundwater within the shaft. Recently, however, an increase in artesian pressure caused the groundwater to flow over the top of the collar.

7. EPA has included H₂S in its list of “regulated substances” under Section 112(r)(3) of the Act, 42 U.S.C. § 7412(r)(3). Such substances, in the case of an accidental release (as defined in Section 112(r)(2) of the Act, 42 U.S.C. § 7412(r)(2)), are known to cause or may reasonably be anticipated to cause death, injury, or serious adverse effects to human health or the environment.

8. On September 20, 2011, EPA measured ambient H₂S concentrations in excess of 2,300 parts per billion by volume (ppbv) in the vicinity of the DRO-2 tunnel access shaft.

9. On October 5, 2011, EPA measured ambient H₂S concentrations in excess of 12,100 ppbv in the vicinity of the DRO-2 tunnel access shaft.

10. EPA has consulted with the Agency for Toxic Substances and Disease Registry (ATSDR), and provided it with the H₂S data resulting from EPA’s September 20, 2011 and October 5, 2011 monitoring in the vicinity of the DRO-2 tunnel access shaft.

11. According to the Toxicological Profile for H₂S published by ATSDR, exposure to low concentrations of H₂S may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Brief exposure to high concentrations of H₂S (greater than 500 parts per million (ppm)) can cause a loss of consciousness and possibly death. In many individuals, there may be some permanent or long-term effects such as headaches, poor attention span, poor memory, and poor motor function. Deaths due to breathing in large amounts of H₂S have been reported in a variety of different work settings, including sewers, animal processing plants, waste dumps, sludge plants, oil and gas well drilling sites, and tanks and cesspools.

12. After review of the H₂S data described in paragraphs 8 and 9, above, ATSDR has advised EPA that the levels of H₂S emissions recorded during EPA's September 20, 2011 and October 5, 2011 monitoring in the vicinity of the DRO-2 tunnel access shaft constitute a public health hazard for even relatively short periods of exposure.

13. The DRO-2 tunnel access shaft is causing or contributing to the concentrations of H₂S measured in the vicinity of the Plant and described in paragraphs 8 and 9, above, either alone or in combination with H₂S from other sources.

14. On October 11, 2011, EPA consulted with the Michigan Department of Environmental Quality (MDEQ) about the threat posed by the H₂S emissions from the DRO-2 tunnel access shaft. MDEQ supports the issuance of this Order.

15. It is not practicable to assure prompt protection of public health or welfare or the environment in Detroit, Michigan by commencement of a civil action in the appropriate United States district court.

Conclusions of Law and Finding of Imminent and Substantial Endangerment

16. The City is a "person," as that term is defined under Section 302 of the Act, 42 U.S.C. § 7602.

17. H₂S is an "air pollutant," as that term is defined under Section 302 of the Act, 42 U.S.C. § 7602.

18. The Plant, including the DRO-2 tunnel access shaft, is a "pollution source" within the meaning of Section 303 of the Act, 42 U.S.C. § 7603.

19. Emissions of H₂S occurring from the City's DRO-2 tunnel access shaft present an imminent and substantial endangerment to the public health or welfare, or the environment, within the meaning of Section 303 of the Act, 42 U.S.C. § 7603. As such, the Order below is necessary to protect public health or welfare, or the environment.

Order

20. The Regional Administrator for Region 5 hereby orders that the City, its agents, employees, and all persons in active concert or participation with them to refrain from causing or contributing to levels of pollution that create an imminent and substantial endangerment near the DRO-2 tunnel access shaft in accordance with the actions listed below.

H₂S Emission Control Program

21. The City shall control the atmospheric emissions of H₂S from the DRO-2 tunnel access shaft in accordance with the measures and schedule described below.

22. At all times, the City shall undertake all reasonable measures to minimize emissions from the DRO-2 tunnel access shaft to the maximum extent possible.

23. Upon the effective date of this Order, the City shall implement the following measures:

- a. Extension of the DRO-2 tunnel access shaft collar to an additional height of no less than two and one half feet. This height is based on the City's engineering judgment as to the appropriate level necessary to ensure that groundwater will not be released from the opening of the shaft; and

- b. Covering the exposed above-ground opening of the extended DRO-2 tunnel access shaft with a tightly secured impermeable cover designed to prevent the agitation of groundwater inside the shaft by outside elements and the release of H₂S to the ambient atmosphere. The cover shall be made of impermeable plastic fabric. The cover shall be secured to the shaft using brace tensioned straps designed to prevent the cover from moving.

24. Within 24 hours after the collar extension for the DRO-2 tunnel access shaft has been implemented in accordance with paragraph 23(a) and (b), above, the City shall visually inspect the DRO-2 shaft for any releases of groundwater from the shaft. If the City observes the release of groundwater from the DRO-2 tunnel access shaft, the City shall immediately implement the measures described in paragraph 25, below.

25. If the City observes the release of groundwater from the DRO-2 tunnel access shaft, the City shall immediately pump the groundwater from the shaft to the Plant on a short-term basis until a "pump and treat system" is installed. The pump and treat system shall include: pumping the groundwater from the shaft to a reaction tank; mixing the groundwater with hydrogen peroxide in the reaction tank; sending the groundwater to a settling tank; and then directing the groundwater to an MDEQ-approved discharge point. The City shall implement the pump and treat system as soon as reasonably possible, but no later than five days after it first observes a release of groundwater from the DRO-2 tunnel access shaft. Thereafter, the pump and treat system shall be the exclusive method of pumping groundwater from the shaft. The City shall maintain the cover on top of the shaft, described in paragraph 23(b), above, in place during all actions required by this paragraph.

26. Upon the effective date of this Order, the City shall implement a health and safety plan to ensure the protection of the health and safety of the City's employees and contractors during performance of on-site work under this Order ("health and safety plan"). This plan shall comply with applicable Occupational Safety and Health Administration (OSHA) regulations found at 29 C.F.R. Part 1910.

27. Upon completion of each activity that is required under paragraph 23(a) and (b), and, if necessary, paragraph 25, above, the City shall submit a "completion report" to EPA. The report shall include a summary of each activity completed, and the date of completion for each activity.

Monitoring and Reporting

28. Within 24 hours after the City has implemented all measures required by paragraph 23, above, the City shall, using an EPA-approved portable H₂S monitoring device capable of monitoring H₂S levels of 20 ppb and higher, monitor H₂S emissions at the DRO-2 tunnel access shaft. The H₂S measurements shall be taken along the circumference of the DRO-2 tunnel access shaft, at a height of approximately five feet above grade, 20 feet from the exterior wall of the shaft or at the property line of the plant, whichever is less.

29. The City shall conduct the H₂S monitoring of the DRO-2 tunnel access shaft, described in paragraph 28, above, once per week following the issuance of this Order.

30. The City shall conduct visual inspections of the DRO-2 tunnel access shaft, identified in paragraph 24, above, on a daily basis following the issuance of this Order.

31. The City shall submit to EPA a report that includes the following:

- a. A detailed description of the locations monitored for H₂S at the DRO-2 tunnel access shaft along with the monitoring results, in ppbv, including wind speed and wind direction;
- b. The results of the daily visual inspections of the DRO-2 shaft; and
- c. A detailed description of any pumping activities required under paragraph 25, above.

32. The City shall submit to EPA the monitoring report required in paragraph 31, above, on a weekly basis, beginning one week after this Order is issued.

33. EPA will review the effectiveness of the City's controls, and may require additional actions.

34. The City must send all reports and other documents required by this Order to:

Attention: Compliance Tracker (AE-17J)
Air Enforcement and Compliance Assurance Branch
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

General Provisions

35. The City agrees to the terms of this Order.

36. This Order does not affect the City's responsibility to comply with other federal, state, and local laws.

37. This Order does not restrict EPA's authority to enforce the Michigan State Implementation Plan under Section 110 of the Act, 42 U.S.C. § 7410, or any other section of the Act.

38. Nothing in this Order limits the EPA's authority to seek appropriate relief, including penalties, under Section 113 of the Act, 42 U.S.C. § 7413, for the City's violations of the Act.

39. Failure to comply with this Order may subject the City to penalties of up to \$37,500 per day of noncompliance under Section 113 of the Act, 42 U.S.C. § 7413, and 40 C.F.R. Part 19.

40. The terms of this Order are binding on the City, its assignees and successors, and any persons acting on behalf of the City. The City must give notice of this Order to any successors in interest prior to transferring ownership and must simultaneously verify to EPA, at the above address, that it has given the notice.

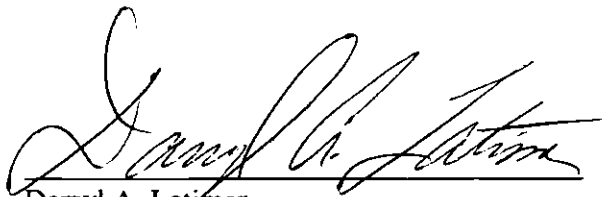
41. This Order is not subject to the Paperwork Reduction Act, 44 U.S.C. § 3501 *et seq.*, because it seeks collection of information by an agency from specific individuals or entities as part of an administrative action or investigation. To aid in our electronic recordkeeping efforts, please furnish an electronic copy on CD or thumb drive. If not possible, provide your response to this Order without staples; paper clips and binder clips, however, are acceptable.

42. EPA may use any information submitted under this Order in an administrative, civil judicial, or criminal action.


43. The provisions of this Order shall be effective for a period of not more than 60 days, unless the United States files a civil action in the appropriate United States district court to immediately restrain the City to stop the emission of air pollutants causing or contributing to such pollution or take such other actions as may be necessary. If the United States brings such an action, this Order shall remain in effect for an additional 14 days or for such longer period as may be authorized by the court in which such action is brought.

44. This Order is effective on the date of signature by the Regional Administrator of EPA, Region 5.

12/1/2011
Date


Darryl A. Latimer
Deputy Director
Detroit Water and Sewerage Department

12-9-11
Date


Susan Hedman
Regional Administrator
U.S. Environmental Protection Agency
Region 5

RECEIVED
U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 5
DECEMBER 12 2011

CERTIFICATE OF MAILING


I, Tracy Jamison, certify that I sent the executed Administrative Consent Order,
EPA Order No. EPA-5-11-113(a)-MI-01, by Certified Mail, Return Receipt Requested, to:

Samuel A. Smalley
Assistant Director – Wastewater Operations
Detroit Water and Sewerage Department
9300 West Jefferson, Suite 103
Detroit, Michigan 48209

I also certify that I sent a copy of the executed Administrative Consent Order, EPA Order
No. EPA-5-11-113(a)-MI-01, by First Class Mail to:

Thomas Hess
Enforcement Unit Chief
Michigan Department of Environmental Quality
Air Quality Division
P.O. Box 30260
Lansing, Michigan 48909

on the 12th day of December 2011.


Tracy Jamison,
Office Automation Assistant,
AECAS, PAS

CERTIFIED MAIL RECEIPT NUMBER: 7009 1680 0000 7673 8750