

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2

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IN THE MATTER OF THE :
GOWANUS CANAL SUPERFUND SITE :
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Brooklyn Union Gas Co. d/b/a National Grid New York : INDEX NO.
City of New York : CERCLA-02-2020-2003
Consolidated Edison Co. of New York, Inc. :
Hess Corp. : ADMINISTRATIVE ORDER
Honeywell International Inc. : FOR REMEDIAL ACTION
The Brooklyn Improvement Co., :
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 :
Respondents, :
 :
 :
Proceeding under Section 106 of the :
Comprehensive Environmental Response, :
Compensation, and Liability Act, as amended, :
42 U.S.C. § 9606. :
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I. JURISDICTION AND GENERAL PROVISIONS

1. This administrative order (“Order”) is issued to the above-captioned Respondents by the United States Environmental Protection Agency, Region 2 (“EPA”) and requires Respondents to undertake the Remedial Action (“RA”) to implement a portion of the dredging and capping remedy selected in EPA’s September 27, 2013 Record of Decision (“ROD”) for the Gowanus Canal Superfund Site (“Site”), Brooklyn, New York. For purposes of the planning and implementation of the ROD, EPA divided the Gowanus Canal (“Canal”) into three Remediation Target Areas (“RTAs”). RTA 1 extends from Butler Street to 3rd Street. This Order requires implementation of the RA for RTA 1 and the procurement of a staging area for future RTA 2 dredging and capping work. Implementation of the balance of the RA will be the subject of one or more future enforcement documents.

2. This Order is issued to Respondents by EPA pursuant to the authority vested in the President of the United States under Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (“CERCLA”), 42 U.S.C. § 9606(a), and delegated to the Administrator of EPA on January 23, 1987, by Executive Order No. 12580, 52 Federal Register 2926 (January 29, 1987), and was further delegated to the EPA Regional Administrators by EPA Delegation Nos. 14-14-A and 14-14-B, dated May 11, 1994, and to the EPA Region 2 Director of the Emergency and Remedial Response Division by Regional Delegation R-1200, dated January 19, 2017. Effective April 28, 2019, the Emergency and Remedial Response Division has been renamed the Superfund and Emergency Management Division. All delegations to the Director of the Emergency and Remedial Response Division were conferred upon the Director of the Superfund and Emergency Management Division in a memorandum by the EPA Regional Administrator dated March 27, 2019.

3. EPA has notified the New York State Department of Environmental Conservation (“NYSDEC”) of this Order pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

II. PARTIES BOUND

4. This Order applies to and is binding upon Respondents and their successors and assigns. Any change in ownership or control of the Site or change in corporate or partnership status of a Respondent, including, but not limited to, any transfer of assets or real or personal property, shall not alter Respondents’ responsibilities under this Order. Respondents are jointly and severally responsible for carrying out all Work required by this Order. Compliance or noncompliance by any Respondent with any provision of this Order shall not excuse or justify noncompliance by any other Respondent. No Respondent shall interfere in any way with performance of the Work in accordance with this Order by any other Respondent. In the event of the insolvency or other failure of any Respondent to implement the requirements of this Order, the remaining Respondents shall complete all such requirements.

5. Until EPA notifies Respondents under Paragraph 101 that the Work has been completed, Respondents shall provide a copy of this Order to any successors before a controlling interest in such Respondents' assets or property rights are transferred to any successor.

III. DEFINITIONS

6. Unless otherwise expressly provided herein, terms used in this Order that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or its implementing regulations. Whenever terms listed below are used in this Order or in the appendices attached hereto, or incorporated by reference into this Order, the following definitions shall apply:

- a. "Bulkhead Removal Order" shall mean the Administrative Order, Index Number CERCLA-02-2019-2010, issued by EPA on April 11, 2019 to 28 parties requiring, among other things, the performance of bulkhead and bridge structural support construction and access dredging in RTA 1 at the Site.
- b. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601-9675.
- c. "Day" shall mean a calendar day. In computing any period under this Order, where the last day would fall on a Saturday, Sunday, or federal or State holiday, the period shall run until the close of business of the next working day.
- d. "Effective Date" means the date specified in Paragraph 102.
- e. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.
- f. "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, and codified at 40 C.F.R. Part 300, including any amendments thereto.
- g. "Order" shall mean this Unilateral Administrative Order and all appendices attached hereto. In the event of conflict between this Order and any appendix, this Order shall control.
- h. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral.
- i. "Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to the Site signed on September 27, 2013 by the Director of the Emergency

Remedial Response Division, EPA Region 2, including all attachments thereto, attached as Appendix A.

- j. “Remedial Design” or “RD” shall mean those activities being undertaken by Respondents, among others, pursuant to two RD administrative orders issued by EPA in 2014, Index Numbers CERCLA-02-2014-2001 and CERCLA-02-2014-2019.
- k. “Respondents” shall mean:
 - 1. Brooklyn Union Gas Co. d/b/a National Grid New York
 - 2. City of New York
 - 3. Consolidated Edison Co. of New York, Inc.
 - 4. Hess Corp.
 - 5. Honeywell International Inc.
 - 6. The Brooklyn Improvement Co.
- l. “Site” shall mean the Gowanus Canal Superfund Site, an approximately 100-foot wide, 1.8-mile-long canal located in the New York City borough of Brooklyn, Kings County, New York, and also includes any areas which are sources of contamination to the Gowanus Canal (“Canal”), including any areas where contamination has migrated from the Canal, and/or suitable areas in very close proximity to the contamination which are necessary for implementation of the Work.
- m. “United States” shall mean the United States of America.
- n. “Waste Material” shall mean i) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); ii) any “pollutant or contaminant” under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and iii) any “solid waste” under Section 1004(27) of the Solid Waste Disposal Act, as amended, 42 U.S.C. § 6903(27).
- o. “Work” shall mean all activities Respondents are required to perform under this Order, except those required by Paragraph 72 (Record Retention).

IV. FINDINGS OF FACT AND CONCLUSIONS OF LAW

7. The Gowanus Canal (“Canal”) is a brackish, tidal arm of the New York–New Jersey Harbor Estuary, extending for approximately 1.8 miles through Brooklyn, New York. The approximately 100–foot–wide Canal runs southwest from Butler Street to Gowanus Bay and Upper New York Bay. The adjacent waterfront is primarily commercial and industrial, currently

including concrete plants, warehouses, and parking lots, and the Site is near several residential neighborhoods.

8. In 1849, State legislation authorized construction of the Canal by the City of Brooklyn to open the area to barge traffic, flush away sewage, receive storm water and fill the adjacent lowlands for development. Pursuant to the 1849 legislation, the City of New York (“City”), successor in interest to the City of Brooklyn, has been the owner and operator of the Canal since its construction. The Canal bottomlands are owned by the City.

9. The Canal was constructed by bulkheading and dredging a tidal creek and wetland. Additional fill was utilized to raise the grade of the surrounding land. The authorizing legislation and the initial Canal design had recognized the likelihood that the Canal would be stagnant, creating pollution problems. To prevent this, various flushing solutions were contemplated. However, none were implemented as part of its initial construction.

10. After completion of construction in the 1860s, the Canal quickly became one of the nation’s busiest industrial waterways, home to heavy industry including manufactured gas plants (“MGPs”), coal yards, cement makers, soap makers, tanneries, paint and ink factories, machine shops, chemical and asphalt plants, oil refineries and shipyards.

11. A tunnel was constructed by the City (the “Flushing Tunnel”) and began operating in 1911 in an effort to address the Canal’s pollution problems. Designed to improve circulation and flush pollutants from the Canal, the Flushing Tunnel consists of a one mile long, 12-foot diameter tunnel stretching from New York Bay near Governors Island to the head of the Canal. Originally using a large ship propeller-type pump system, the Flushing Tunnel could pump water in either direction. The Flushing Tunnel was operated by the City with mixed results until the mid-1960s when it fell into disrepair. The Flushing Tunnel was re-started in 1999 after a partial rehabilitation, before being shut down in 2010 due to equipment problems. Following a full-scale rehabilitation by the City, the Flushing Tunnel began operating again in 2014.

12. Hazardous substances, pollutants and contaminants have entered the Canal via several transport pathways or mechanisms, including spillage during product shipping and handling, direct disposal or discharge, contaminated groundwater discharge, surface water runoff, storm water discharge (including combined sewer overflow (“CSO”)) and contaminated soil erosion. Because of decades of direct and indirect discharges of hazardous substances generated by industrial and other activity, the Canal became a repository for untreated industrial wastes, raw sewage, and runoff, causing it to become one of New York’s most polluted waterways.

13. Several lateral extensions of the Canal, known as “turning basins,” were constructed as part of the Canal. Portions of several turning basins have been filled over time, covering unremediated areas of contamination which are hydraulically connected to the Canal.

14. The contaminated former 1st Street turning basin was originally utilized to deliver coal via barges to an adjacent electric generating station (the “Power House”) originally built to provide power to the former Brooklyn Rapid Transit Authority (“BRT”) subway system. The Power House began operations in 1904. During operations, it consumed large quantities of coal, fed from coal piles which surrounded the building and were located adjacent to the Canal. The 1st Street turning basin was filled in between 1954 and 1966 after the Power House became obsolete and was removed from service.

15. Much of the heavy industrial activity along the Canal has ceased, although many upland areas adjacent to the Canal remained zoned as manufacturing districts. Land uses along and near certain portions of the Canal are in the process of transitioning from heavy industrial to light industrial, commercial, and residential uses. The Canal is currently used by some for recreational purposes such as boating, diving, and catching fish for consumption. The Canal and New York City harbor are subject to New York State fishing advisories.

16. The Site was placed on the National Priorities List pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, on March 2, 2010.

17. In April 2010, EPA entered into administrative consent orders with the City and The Brooklyn Union Gas Co. d/b/a National Grid New York (“National Grid”) to perform work in support of EPA’s remedial investigation/feasibility study (“RI/FS”) at the Site. An RI report was completed in January 2011 and an FS report was completed in December 2011. An FS addendum report was completed in December 2012.

18. Sampling results from the RI/FS document the presence of a wide range of hazardous substances in the groundwater, soil, and Canal sediments at the Site. These include polycyclic aromatic hydrocarbons (“PAHs”), polychlorinated biphenyls (“PCBs”), pesticides (such as methoxychlor and DDT), metals (such as barium, cadmium, copper, lead, mercury, nickel and silver), as well as volatile organic compounds (“VOCs”) (such as benzene, toluene, ethylbenzene, and xylene). The contamination in the sediments extends the entire length of the Canal. The contamination is present in both the sediment that has accumulated above the native sediments (referred to as “soft sediments”) and in the native sediment. Some of the hazardous substances are present at high levels. The soft sediment layer ranges in thickness from approximately 1 foot to greater than 20 feet, with an average thickness of about 10 feet. For example, total PAH concentrations in surface sediment (defined as the top 6 inches of the soft sediments, where potential exposure is more likely to occur) range up to 8,001,000 micrograms per kilogram ($\mu\text{g}/\text{kg}$). PCBs in surface sediment were detected up to 3,400 $\mu\text{g}/\text{kg}$. In the subsurface (*i.e.*, deeper than 6 inches), total PAH concentrations in the soft sediment ranged up to 45,000,000 $\mu\text{g}/\text{kg}$. Total PAH concentrations in the native sediment were detected up to 47,500,000 $\mu\text{g}/\text{kg}$. In the subsurface, total PCB concentrations in the soft sediment were detected up to 50,700 $\mu\text{g}/\text{kg}$. In the native sediments, total PCBs were detected up to 2,610 $\mu\text{g}/\text{kg}$.

19. Based on the results of the RI/FS, it has been concluded that chemical contamination in the Canal sediments present an unacceptable ecological and human health risk, primarily due to exposure to PAHs, PCBs and metals (barium, cadmium, copper, lead, mercury, nickel and silver).

20. PCBs and PAHs have been demonstrated to cause a variety of adverse health effects. PCBs have been shown to cause cancer in test animals. PCBs have also been shown to cause a number of serious non-cancer health effects in animals, including effects on the immune system, reproductive system, nervous system, endocrine system and other health effects. Studies in humans provide supportive evidence for potential carcinogenic and non-carcinogenic effects of PCBs. The toxicity of PAHs can vary from being nontoxic to extremely toxic. EPA has classified seven PAH compounds as probable human carcinogens, all of which are found at the Site: benz[a]anthracene; benzo[a]pyrene; benzo[b]fluoranthene; benzo[k]fluoranthene; chrysene; dibenz(a,h)anthracene; and indeno(1,2,3-cd)pyrene. PAHs known for their carcinogenic, mutagenic, and teratogenic properties, and found at the Site, include: benz[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, benzo[ghi]perylene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene. High prenatal exposure to PAHs is associated with lower IQ and childhood asthma.

21. EPA's ecological risk assessment for the Site determined that PAHs, PCBs and metals in the sediment are toxic to benthic organisms. PAHs were detected in sediment at the highest concentrations relative to their ecological screening benchmarks and represent the greatest Site-related risk to the benthic community. PCBs and seven metals (barium, cadmium, copper, lead, mercury, nickel and silver) were also detected at concentrations above their ecological screening benchmarks and at concentrations significantly higher than those detected in reference area sediments and also represent a potential Site-related risk to the benthic community. PAHs were found to be a potential risk to aquatic herbivores (represented by the black duck) and mercury was found to be a potential risk to avian omnivores (represented by the heron).

22. On September 27, 2013, EPA issued a ROD for the Site that selected the following response actions: 1) Dredging of the entire column of hazardous substance-contaminated soft sediments which have accumulated above the native sediments in the upper and mid-reaches of the Canal; 2) in-situ stabilization ("ISS") of those native sediments in select areas in the upper and mid-reaches of the Canal contaminated with high levels of nonaqueous phase liquid ("NAPL"); 3) construction of a multilayered cap in the upper and mid-reaches of the Canal to isolate and prevent the migration of PAHs and residual NAPL from native sediments; 4) dredging of the entire soft sediment column in the lower reach of the Canal; 5) construction of a multilayer cap to isolate and prevent the migration of PAHs from native sediments in the lower reach of the Canal; 6) off-Site treatment of the NAPL-impacted sediments dredged from the upper and mid-reaches of the Canal with thermal desorption, followed by beneficial reuse off-Site (*e.g.*, landfill daily cover) if possible; 7) off-Site stabilization of the less contaminated sediments dredged from the lower reach of the Canal and the sediments in the other reaches not

impacted by NAPL, followed by beneficial reuse off-Site; 8) excavation and restoration of approximately 475 feet of the filled-in former 1st Street turning basin; 9) excavation and restoration of the portion of the 5th Street turning basin beginning underneath the 3rd Avenue bridge and extending approximately 25 feet to the east and the installation of a barrier or interception system at the eastern boundary of the excavation; 10) implementation of institutional controls incorporating the existing fish consumption advisories (modified, as needed), as well as other controls to protect the integrity of the cap; 11) periodic maintenance of the cap and long-term monitoring to insure that the remedy continues to function effectively; and 12) CSOs controls to significantly reduce overall contaminated solid discharges to the Canal, which include a) construction of two retention tanks to retain discharges from outfalls RH-034 and OH-007; and b) implementation of appropriate engineering controls to ensure that hazardous substances and solids from separated stormwater, including from future upland development projects, are not discharged to the Canal.

23. On March 21, 2014, EPA issued an administrative order for remedial design (“RD”), Index Number CERCLA-02-2014-2001 (the “Dredging RD UAO”), to 31 parties requiring the performance of various pre-RD investigations and analyses, the preparation of biddable plans and specifications for the implementation of the remedy selected in EPA’s September 27, 2013 ROD for the Site, other than the CSO controls, and the cleanup and restoration of the former 1st Street turning basin.

24. On May 28, 2014, EPA issued an administrative order for RD, Index Number CERCLA-02-2014-2019 (the “City RD UAO”), to the City requiring the preparation of the RD of the two CSO retention tanks and of the cleanup and restoration of the City-owned former 1st Street turning basin, as well as the City’s coordination and participation in the Dredging RD UAO.

25. Pursuant to the City RD UAO, the City performed the RD for the cleanup and restoration of the former 1st Street turning basin. Sampling conducted within the former 1st Street turning basin by the City as part of the RD confirmed the presence of a range of hazardous substances, including naphthalene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, metals and PCBs. The PCBs appear to have been released from the adjacent Powerhouse. The 100% RD for the 1st Street turning basin cleanup and restoration was approved by EPA on June 12, 2019.

26. On April 11, 2019, EPA issued an administrative order requiring a removal action, Index Number CERCLA-02-2019-2010 (the “Bulkhead Removal UAO”), to 28 parties requiring, among other things, the performance of bulkhead and bridge structural support construction and access dredging at the Site in preparation for the RTA 1 dredging and capping. The Bulkhead Removal Order and several additional administrative orders issued by EPA provide for the construction of bulkhead structural support necessary to conduct the RTA 1 dredging and capping.

27. The structural support options available to reinforce bulkhead and bridges at the Canal are limited. Typical reinforcement measures involve installation of new, deeper sheet piling along the existing structure's face, resulting in incremental encroachment on the Canal. NYSDEC seeks to limit and mitigate such encroachment when approving such repairs and upgrades along the Canal. In an effort to mitigate such encroachment, EPA's ROD requires the creation of a wetlands mitigation area for offsetting such encroachment when it cannot be accomplished at the parcel where the structural support is constructed. Such a wetlands mitigation area will be primarily achieved by means of the excavation and restoration of the contaminated, filled-in former 1st Street turning basin.

28. The work required by the Dredging RD UAO, the Bulkhead Removal UAO, and dredging and capping-related requirements of the City RD UAO, is currently being conducted by a group of potentially responsible parties ("PRPs") ("Performing PRPs"). Geosyntec Consultants, Inc. is the EPA-approved primary consultant for the Performing PRPs. The Performing PRPs have retained Jay Cashman, Inc., together with other sub-contractors, to perform certain RD, removal and pre-RA work.

29. On September 30, 2019, the Performing PRPs submitted to EPA the draft 90% design for the RTA 1 dredging and capping. This Order is being issued in advance of EPA's final approval of the 100% design for the RTA 1 dredging and capping to facilitate the technical, legal, contracting, and procurement transition from RD to RA.

30. RD work for the RTA 2 and 3 dredging and capping RA is currently being conducted. EPA intends to complete the oversight, review and approval of the RTA 2 and 3 dredging and capping design so that the remediation of the rest of the Canal can continue seamlessly following the RTA 1 dredging and capping work. In order to ensure that the dredging and capping can continue in a such a manner, this Order requires the Respondents to obtain such staging area(s), by access agreement, lease or acquisition, as are necessary to conduct the dredging and capping for RTA 1 and RTA 2 in a continuous manner.

31. The Operation and Maintenance ("O&M") of the RTA 1 dredging and capping, including the establishment of Institutional Controls ("ICs") is not included in this Order. EPA currently anticipates that such O&M and ICs will be addressed as part of the completed RD and implemented through a later enforcement instrument.

32. The New York City Department of Environmental Protection ("NYCDEP") manages the Flushing Tunnel and Gowanus Pump Station facilities located at Bond and Butler Streets in RTA 1. These facilities are critical infrastructure for the City. To implement the RTA 1 dredging and capping required by this Order at the Flushing Tunnel/Gowanus Pump Station property, EPA has concluded that it may be necessary to temporarily suspend operation of the Flushing Tunnel for a short period, or periods, of time. Consistent with the provisions of this Order and the RTA 1 dredging and capping design, when approved by EPA, EPA will oversee the implementation of

such Work so as to minimize impacts to current water quality in the Canal. Similarly, EPA has concluded that it may be necessary to take steps to modify the operation of the RH-034 outfall during implementation of the Work required by this Order.

33. The New York City Department of Transportation (“NYCDOT”) manages the six bridges that cross the Canal, all of which will be required to operate in a timely and coordinated manner to implement the Work required by this Order.

34. The Site includes a “facility” within the meaning of Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

35. The contamination found at the Site, as identified in these Findings of Fact above, includes hazardous substances as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

36. The conditions described in these Findings of Fact above constitute an actual or threatened “release” of a hazardous substance from a facility as defined by Section 101(22) of CERCLA, 42 U.S.C. § 9601(22). Such releases include, but are not limited to, PAHs, PCBs, pesticides, metals, and volatile organic compounds that were discharged into the soil, surface water, groundwater and sediments at the Site.

37. Respondent City of New York is a municipal corporation chartered by the State of New York and is a “person” within the meaning of Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

38. Each of the other Respondents is a corporation and is a “person” within the meaning of Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

39. Each Respondent is a liable party with respect to the Site within the meaning of Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

V. DETERMINATIONS

40. Based on the Findings of Fact and Conclusions of Law set forth above, as well as the administrative record, the actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. §9606(a).

41. Solely for purposes of Section 113(j) of CERCLA, 42 U.S.C. § 9613(j), the remedy set forth in the ROD and the Work to be performed by Respondents shall constitute a response action taken or ordered by the President for which judicial review shall be limited to the administrative record.

42. Based upon the Findings of Fact and Conclusions of Law set forth above, as well as the administrative record, the actions required by this Order are necessary to protect the public health or welfare or the environment.

VI. ORDER

43. Based on the Findings of Fact, Conclusions of Law, and Determinations set forth above, and the administrative record, Respondents are hereby ordered to comply with this Order and any modifications to this Order, including, but not limited to, all appendices and all documents incorporated by reference into this Order.

VII. DESIGNATED EPA PROJECT MANAGER AND RESPONDENTS' PROJECT COORDINATOR

44. Respondents have previously designated and EPA has previously approved Respondents' Project Coordinator pursuant to the Dredging RD UAO. Respondents' approved Project Coordinator for the Work under this Order is:

David Himmelheber
Geosyntec Consultants, Inc.
7 Graphics Drive, Suite 106
Ewing, New Jersey 08628
609-493-9012
dhimmelheber@geosyntec.com

The Project Coordinator shall be responsible, on behalf of Respondents, for the implementation of the Work being performed under this Order. The Project Coordinator shall be knowledgeable about all matters relating to the Work being performed under this Order. To the extent possible, the Project Coordinator shall be present on-Site or readily available for EPA to contact during all working days. Notice by EPA in writing to the Project Coordinator shall be deemed notice to Respondents for all matters relating to the Work under this Order and shall be effective upon receipt. Respondents shall retain a Project Coordinator until EPA issues a Termination and Satisfaction in accordance with Paragraph 101.

45. If Respondents change their Project Coordinator, Respondents shall submit the name, address, qualifications, email address and telephone number of the new Project Coordinator to the EPA Remedial Project Manager ("RPM") specified in Paragraph 51, below. The new Project Coordinator shall not be an attorney engaged in the practice of law. He or she shall have the technical expertise sufficient to adequately oversee all aspects of the Work contemplated by this Order.

46. Selection of a new Project Coordinator shall be subject to approval by EPA in writing. If EPA disapproves a proposed Project Coordinator, Respondents shall propose a different person and notify EPA of that person's name, address, telephone number and qualifications within seven (7) days following EPA's disapproval. Respondents may change their Project Coordinator if EPA has received written notice at least ten (10) days prior to the desired change. The initial notification may be made orally, but shall be promptly followed by a written notice. All changes of the Project Coordinator shall be subject to EPA approval.

47. Respondents have previously retained, and EPA has previously approved of, Geosyntec Consultants, Inc. as their Supervising Contractor pursuant to the Dredging RD UAO, and this contractor shall serve as Supervising Contractor for the Work hereunder. Respondents shall notify EPA of the name and qualifications of any change to the Supervising Contractor under this Order, as well as any other contractor or subcontractor proposed to perform Work under this Order, at least ten (10) days prior to commencement of Work by the proposed Supervising Contractor.

48. All activities required of Respondents under the terms of this Order shall be performed only by well-qualified persons possessing all necessary permits, licenses, and other authorizations required by federal, state, and/or local governments consistent with Section 121 of CERCLA, 42 U.S.C. § 9621, and all Work conducted pursuant to this Order shall be performed in accordance with prevailing professional standards. All plans and specifications shall be prepared under the supervision of, and signed/certified by, a licensed New York professional engineer.

49. EPA retains the right to disapprove any or all of the contractors and/or subcontractors proposed by Respondents to conduct the Work. Within ten (10) days of the Effective Date, Respondents shall notify EPA of the name and qualifications of all contractors and subcontractor proposed to perform Work under this Order. If EPA disapproves in writing any of Respondents' proposed contractors or subcontractors, Respondents shall propose a different contractor within seven (7) days of receipt of EPA's disapproval.

50. Respondents shall provide a copy of this Order to each contractor, subcontractor, laboratory, or consultant approved and retained to perform any Work under this Order, within five (5) days after the Effective Date or on the date such services are retained, whichever date occurs later. Respondents shall also provide a copy of this Order to each person representing Respondents with respect to the Site or the Work and shall condition all contracts and subcontracts entered into hereunder upon performance of the Work in conformity with the terms of this Order and in compliance with all applicable laws and regulations. Notwithstanding the terms of any contract, Respondents are responsible for compliance with this Order and for ensuring that its contractors, subcontractors and agents comply with this Order, and perform any Work in accordance with this Order.

51. EPA has designated Christos Tsiamis of the New York Remediation Branch, Superfund and Emergency Management Division, EPA Region 2, as its RPM for the Site. Except as otherwise provided in this Order, Respondents shall direct all submissions required by this Order to the RPM via e-mail at tsiamis.christos@epa.gov and by regular mail, at U.S. EPA, Region 2, 290 Broadway, 19th Floor, New York, NY 10007. EPA will notify Respondent's Project Coordinator if EPA designates a different RPM for the Order.

52. EPA's RPM shall have the authority lawfully vested in an RPM by the NCP. In addition, EPA's RPM shall have the authority, consistent with the NCP, to halt any Work required by this Order and to take any necessary response action when the RPM determines that conditions at the Site may present an immediate endangerment to public health, welfare or the environment. The absence of the RPM from the area under study pursuant to this Order shall not be cause for the stoppage or delay of Work.

VIII. WORK TO BE PERFORMED

53. Respondents shall perform all actions necessary to complete the Work set forth below:

a. Respondents shall implement the RTA 1 dredging and capping in accordance with the RTA 1 100% design within the time frames set forth in the EPA-approved work schedule set forth therein.

b. For purposes of implementing the RTA 1 dredging and capping Work, the City shall ensure that NYCDOT complies with all opening, closing and use restrictions for the City-owned and operated bridges as may be determined by EPA to be needed for the Work such that there is no delay in the scheduled implementation of such Work.

c. For purposes of implementing the RTA 1 dredging and capping Work, the City shall ensure that NYCDEP temporarily suspends operation of the Flushing Tunnel for such period, or periods, of time as may be determined by EPA to be needed for the Work in the vicinity of NYCDEP's Flushing Tunnel/Gowanus Pump Station property at Bond and Butler Streets. The City shall also ensure that NYCDEP promptly facilitates the implementation of any measures as may be required for the Work in the vicinity of the RH-034 CSO outfall or other potentially affected City infrastructure.

d. With respect to implementation of the RTA 1 dredging and capping Work as set forth above, the City shall ensure that NYCDEP and NYCDOT provide such construction support resources as are necessary and appropriate for protection of the affected critical infrastructure and to ensure the proper and prompt completion of such Work.

e. Respondents shall implement the EPA-approved 100% design for the cleanup and restoration of the former 1st Street turning basin, attached hereto as Appendix B. Within sixty (60) days of the Effective Date of this Order, Respondents shall submit to EPA, for review and approval, a proposed schedule for implementing the Work required by this subparagraph.

f. In preparation for RTA 1 and 2 dredging and capping Work, Respondents shall, with EPA approval and oversight, obtain such staging areas, by access agreement, lease or acquisition, as are necessary to conduct the dredging and capping for RTA 1 and RTA 2 in a continuous manner.

g. Respondents to this Order shall coordinate and cooperate with respondents to any administrative orders issued by EPA for the construction of any bulkheads in RTA 1 which are necessary for implementation of the Work and the ROD.

54. Health and Safety Plan. Respondents shall submit for EPA review and comment a Health and Safety Plan (“HASP”) that ensures the protection of on-Site workers and the public during the performance of on-Site Work under this Order. This HASP shall be prepared in accordance with “OSWER Integrated Health and Safety Program Operating Practices for OSWER Field Activities,” Pub. 9285.0-OIC (Nov. 2002), available on the National Service Center for Environmental Publications database at <https://www.epa.gov/nscep>, and “EPA’s Emergency Responder Health and Safety Manual,” OSWER Directive 9285.3-12 (July 2005 and updates), available at https://www.epaossc.org/_HealthSafetyManual/manual-index.htm. In addition, the HASP shall comply with all currently applicable Occupational Safety and Health Administration (“OSHA”) regulations found at 29 C.F.R. Part 1910. If EPA determines that it is appropriate, the HASP shall also include contingency planning. Respondents shall incorporate all changes to the HASP recommended by EPA and shall implement the HASP during the pendency of the Work. If any of the Work performed by Respondents pursuant to this Order requires alteration of the HASP, Respondents shall submit to EPA for review such amendments to the HASP prior to the performance of such Work.

55. Quality Assurance, Sampling, and Data Analysis. Respondents shall use Quality Assurance/Quality Control (“QA/QC”) and other technical activities and chain of custody procedures for all samples consistent with “EPA Requirements for Quality Assurance Project Plans (QA/R5)” (EPA/240/B-01/003, March 2001, reissued May 2006), “Guidance for Quality Assurance Project Plans (QA/G-5)” (EPA/240/R-02/009, December 2002), and subsequent amendments to such guidelines. Amendments to such guidelines shall apply only to procedures conducted after such notification.

Prior to the commencement of any data collection or other monitoring under this Order, Respondents shall submit to EPA for approval a Quality Assurance Project Plan (“QAPP”) that is consistent with EPA-approved plans, the NCP, the Uniform Federal Policy for Implementing

Quality Systems (“UFP-QS”), EPA-505-F-03-001, March 2005; Uniform Federal Policy for Quality Assurance Project Plans (“UFP-QAPP”), Parts 1, 2, and 3, EPA-505-B-04-900A, B, and C, March 2005 and March 2012 or newer, and other guidance documents referenced in the aforementioned guidance documents as well as <http://www2.epa.gov/fedfac/assuring-quality-federal-cleanups>. Respondents shall ensure that EPA personnel and EPA’s authorized representatives are allowed access at reasonable times to all laboratories utilized by Respondents in implementing this Order. In addition, Respondents shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the QAPP for quality assurance, quality control, and technical activities that will satisfy the stated performance criteria as specified in the QAPP and that sampling and field activities are conducted in accordance with “EPA QA Field Activities Procedure” (<https://www.epa.gov/irmpoli8/epa-qa-field-activities-procedures>). Respondents shall ensure that the laboratories it utilizes for the analysis of samples taken pursuant to this Order meet the competency requirements set forth in EPA’s “Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environmental Measurement Data under Agency-Funded Acquisitions” (<http://www.epa.gov/fem/pdfs/fem-lab-competency-policy.pdf>) and that the laboratories perform all analyses according to accepted EPA methods. Accepted EPA methods consist of, but are not limited to, methods that are documented in the EPA’s Contract Laboratory Program (<http://www.epa.gov/superfund/programs/clp/>), SW 846 “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (<http://www.epa.gov/epawaste/hazard/testmethods/sw846/online/index.htm>), “Standard Methods for the Examination of Water and Wastewater” (<http://www.standardmethods.org/>), 40 C.F.R. Part 136, “Air Toxics - Monitoring Methods” (<http://www.epa.gov/ttnamti1/airtox.html>),” and any amendments made thereto during the course of the implementation of this Order. However, upon approval by EPA, Respondents may use other appropriate analytical method(s), as long as (a) QA/QC criteria are contained in the method(s) and the method(s) are included in the QAPP, (b) the analytical method(s) are at least as stringent as the methods listed above, and (c) the method(s) have been approved for use by a nationally recognized organization responsible for verification and publication of analytical methods, *e.g.*, EPA, American Society for Testing and Materials, National Institute for Occupational Safety and Health, OSHA, etc. Respondents shall ensure that all laboratories it uses for the analysis of samples taken pursuant to this Order have a documented Quality System that complies with ANSI/ASQC E-4-2004, “Quality Systems for Environmental Data and Technology Programs: Requirements with Guidance for Use” (American National Standard, 2004, and “EPA Requirements for Quality Management Plans (QA/R-2)” (EPA/240/B-01/002, March 2001, reissued May 2006), or equivalent documentation as determined by EPA. EPA may consider Environmental Response Laboratory Network laboratories, laboratories accredited under the National Environmental Laboratory Accreditation Program, or laboratories that meet International Standardization Organization (ISO 17025) standards or other nationally recognized programs (<http://www.epa.gov/fem/accredit.htm>) as meeting the Quality System requirements. Respondents shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Order are conducted in accordance with the procedures set forth in the QAPP approved by EPA.

Upon request, Respondents shall provide split or duplicate samples to EPA or its authorized representatives. Respondents shall notify EPA not less than seven (7) days in advance of any sample collection activity unless shorter notice is agreed to by EPA. In addition, EPA has the right to collect any additional samples that EPA deems necessary. Upon request, EPA will provide to Respondents split or duplicate samples of any samples it collects as part of EPA's oversight of Respondents' implementation of the Work.

Respondents shall submit to EPA the results of all sampling and/or tests or other data obtained or generated by or on behalf of Respondents with respect to the implementation of this Order.

56. Respondents shall assure that field personnel used by Respondents are properly trained in the use of field equipment and in chain-of-custody procedures.

57. Respondents shall conduct all Work under this Order in compliance with CERCLA, the NCP, and all applicable EPA guidances, policies, and procedures, including, without limitation, EPA Region 2's "Clean and Green Policy" which may be found at:
<https://www.epa.gov/greenercleanups/epa-region-2-clean-and-green-policy>

58. Off-Site Shipments

a. Respondents may ship hazardous substances, pollutants, and contaminants from the Site to an off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents will be deemed to be in compliance with CERCLA § 121(d)(3) and 40 C.F.R. § 300.440 regarding a shipment if Respondents obtain a prior determination from EPA that the proposed receiving facility for such shipment is acceptable under the criteria of 40 C.F.R. § 300.440(b).

b. Respondents may ship Waste Material from the Site to an out-of-state waste management facility only if, prior to any shipment, they provide written notice to the appropriate state environmental official in the receiving facility's state and to the OSC. This notice requirement will not apply to any off-Site shipments when the total quantity of all such shipments will not exceed ten cubic yards. The written notice must include the following information, if available: 1) the name and location of the receiving facility; 2) the type and quantity of Waste Material to be shipped; 3) the schedule for the shipment; and 4) the method of transportation. Respondents shall also notify the state environmental official referenced above and the OSC of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Respondents shall provide the notice after the award of the contract for the response action and before the Waste Material is shipped.

c. Respondents may ship Investigation Derived Waste ("IDW") from the Site to an

off-Site facility only if they comply with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), 40 C.F.R. § 300.440, EPA's "Guide to Management of Investigation Derived Waste," OSWER 9345.3-03FS (Jan. 1992), and any IDW-specific requirements contained in the 100% design. Wastes shipped off-Site to a laboratory for characterization, and RCRA hazardous wastes that meet the requirements for an exemption from RCRA under 40 C.F.R. § 261.4(e) shipped off-Site for treatability studies, are not subject to 40 C.F.R. § 300.440.

59. As appropriate during the course of implementation of the actions required of Respondents pursuant to this Order, Respondents or their consultants or contractors, acting through the Project Coordinator, may confer with EPA concerning the required actions. Based upon new circumstances or new information not in the possession of EPA on the Effective Date of this Order, the Project Coordinator may request, in writing, EPA approval of modification(s) to the EPA-approved plans. Only modifications approved by EPA in writing shall be deemed effective. Upon approval by EPA, such modifications shall be deemed incorporated in this Order and shall be implemented by Respondents.

XI. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS

60. If EPA disapproves or otherwise requires any modifications to any plan, report or other item required to be submitted to EPA for approval pursuant to this Order, Respondents shall have fourteen (14) days from the receipt of notice of such disapproval or the required modifications to correct any deficiencies and resubmit the plan, report, or other written document to EPA for approval, unless a shorter or longer period is specified in the notice. Any notice of disapproval will include an explanation of why the plan, report, or other item is being disapproved. Respondents shall address each of the comments and resubmit the plan, report, or other item with the required changes within the time stated above. At such time as EPA determines that the plan, report, or other item is acceptable, EPA will transmit to Respondents a written statement to that effect.

61. If any plan, report, or other item required to be submitted to EPA for approval pursuant to this Order is disapproved by EPA, even after being resubmitted following Respondents' receipt of EPA's comments on the initial submittal, Respondents shall be deemed to be out of compliance with this Order. If any resubmitted plan, report, or other item, or portion thereof, is disapproved by EPA, EPA may again direct Respondents to make the necessary modifications thereto, and/or EPA may amend or develop the item(s) and recover the costs of doing so from Respondents. Respondents shall implement any such item(s) as amended or developed by EPA.

62. EPA shall be the final arbiter in any dispute regarding the sufficiency or acceptability of all documents submitted and all activities performed pursuant to this Order. EPA may modify those documents and/or perform or require the performance of additional work unilaterally.

63. All plans, reports and other submittals required to be submitted to EPA pursuant to this Order, upon approval by EPA, shall be deemed to be incorporated in and an enforceable part of this Order.

X. SUBMISSION OF PLANS AND REPORTING REQUIREMENTS

64. Reporting.

Commencing on the thirtieth (30th) day after the Effective Date, unless there is field work at the Site, Respondents shall provide monthly, or as otherwise requested by EPA, progress reports. Whenever, during the implementation of this Order, Respondents are engaged in active field work, Respondents shall provide, via email to EPA's Project Coordinator, at least one (1) week advance notice of all field activities. During active field work, Respondents shall provide EPA with written progress reports, including photo documentation, every seven (7) days beginning from the date of commencement of field work. After active field work has been completed, Respondents shall resume monthly written progress reports, commencing thirty (30) days after the submission of the last weekly written progress report. All progress reports shall fully describe all actions and activities undertaken pursuant to this Order. Such progress reports shall, among other things: a) describe the actions taken toward achieving compliance with this Order during the previous week; b) include all results of sampling and tests and all other data received by Respondents after the most recent progress report submitted to EPA; c) describe all actions which are scheduled for the next week; d) provide other information relating to the progress of Work as is customary in the industry and e) include information regarding percentage of completion, all delays encountered or anticipated that may affect the future schedule for completion of the Work required hereunder, and a description of all efforts made to mitigate those delays or anticipated delays.

b. Respondents shall submit copies of all plans, reports or other submissions required by this Order or any approved work plan as set forth below. Any electronic submissions must be in a format that is compatible with EPA software and in database files and sizes to be specified by EPA. All deliverables shall be submitted to the following:

2 copies:
(1 bound,
1 electronic)

Remedial Project Manager - Gowanus Canal Site
Superfund and Emergency Management Division
U.S. Environmental Protection Agency, Region 2
290 Broadway, 19th Floor
New York, New York 10007-1866
tsiamis.christos@epa.gov

1 copy:
(via email
or electronic)

Chief, New York/Caribbean Superfund Branch
Office of Regional Counsel
United States Environmental Protection Agency, Region 2

290 Broadway, 17th Floor
New York, New York 10007-1866
Attn: Gowanus Canal Superfund Site Attorney
carr.brian@epa.gov

1 copy each:
(via email)

N.Y.S. Department of Environmental Conservation
patrick.foster@dec.ny.gov
aaron.fischer@dec.ny.gov
gerard.burke@dec.ny.gov
heidi.dudek@dec.ny.gov

XI. OVERSIGHT

65. During the implementation of the requirements of this Order, Respondents and their contractor(s) and subcontractors shall be available for such conferences with EPA and inspections by EPA or its authorized representatives as EPA may determine are necessary to adequately oversee the Work being carried out or to be carried out by Respondents, including inspections at the Site and at laboratories where analytical work is being done hereunder.

66. Respondents and their employees, agents, contractor(s), and consultant(s) shall cooperate with EPA in its efforts to oversee Respondents' implementation of this Order.

XII. COMMUNITY RELATIONS

67. Respondents shall cooperate with EPA in providing information relating to the Work required hereunder to the public. As requested by EPA, Respondents shall participate in the preparation of all appropriate information disseminated to the public; participate in public meetings that may be held or sponsored by EPA to explain activities at or concerning the Property; and provide a suitable location for public meetings, as needed.

XIII. SITE ACCESS AND ACCESS TO INFORMATION

68. EPA, NYSDEC and their designated representatives, including, but not limited to, employees, agents, contractor(s) and consultant(s) thereof, shall be permitted to observe the Work carried out pursuant to this Order. Respondents shall at all times permit EPA, NYSDEC and their designated representatives full access to and freedom of movement at the Site and any other premises where Work under this Order is to be performed for purposes of inspecting or observing Respondents' progress in implementing the requirements of this Order, verifying the information submitted to EPA by Respondents, conducting investigations relating to contamination at the Site or for any other purpose EPA determines to be reasonably related to EPA oversight of the implementation of this Order.

69. In the event that action under this Order is to be performed in areas owned by or in possession of a person other than Respondents, Respondents shall use best efforts to obtain access agreements from such persons within thirty (30) days of the Effective Date of this Order for purposes of implementing the requirements of this Order. Such agreements shall provide access not only for Respondents, but also for EPA and its designated representatives or agents, as well as NYSDEC and its designated representatives or agents. Such agreements shall specify that Respondents are not EPA's representative with respect to liability associated with Site activities. If such access agreements are not obtained by Respondents within the time period specified herein, Respondents shall immediately notify EPA of the failure to obtain access and shall include in that notification a summary of the steps Respondents have taken to attempt to obtain access. For purposes of this Paragraph, "best efforts" include the payment of reasonable sums of money in consideration of access. EPA may use its legal authorities to obtain access for Respondents, may perform those response actions with EPA contractors at the property in question or may terminate the Order if Respondents cannot obtain access agreements. If EPA performs those tasks or activities with EPA contractors and does not terminate the Order, Respondents shall perform all other activities not requiring access to that property. Respondents shall integrate the results of any such tasks undertaken by EPA into its reports and deliverables.

70. Upon request, Respondents shall provide EPA with access to all records and documentation related to the conditions at the Site, hazardous substances found at or released from the Site, and the actions conducted pursuant to this Order except for those items, if any, subject to the attorney-client or work product privilege. All data, information and records created, maintained, or received by Respondents or their contractor(s) or consultant(s) in connection with implementation of the Work under this Order, including, but not limited to, contractual documents, invoices, receipts, work orders and disposal records shall, without delay, be made available to EPA upon request, subject to the same privileges specified above in this Paragraph. EPA shall be permitted to copy all such documents. Respondents shall submit to EPA upon receipt the results of all sampling or tests and all other technical data generated by Respondents or their contractor(s), or on Respondents' behalf, in connection with the implementation of this Order.

71. Notwithstanding any other provision of this Order, EPA hereby retains all its information gathering, access, and inspection authority under CERCLA, the Resource Conservation and Recovery Act and any other applicable statutes or regulations.

XIV. RECORD RETENTION

72. During the pendency of this Order and for a minimum of 10 years after EPA provides Notice of Termination and Satisfaction pursuant to Paragraph 101, each Respondent shall preserve and retain all non-identical copies of Records (including Records in electronic form) now in its possession or control or that come into its possession or control that relate in any

manner to liability under CERCLA with respect to the Site. Each Respondent must also retain, and instruct its contractors and agents to preserve, for the same period of time specified above, all non-identical copies of the last draft or final version of any Records (including Records in electronic form) now in its possession or control or that come into its possession or control that relate in any manner to the performance of the Work, provided, however, that each Respondent (and its contractor and agents) must retain, in addition, copies of all data generated during performance of the Work and not contained in the aforementioned Records to be retained. Each of the above record retention requirements shall apply regardless of any corporate retention policy to the contrary.

73. At the end of the ten (10)-year period referred to in Paragraph 72, Respondents shall notify EPA at least thirty (30) days before any such document or information is destroyed that such documents and information are available for inspection. Upon request, Respondents shall provide EPA with the originals or copies of such documents and information.

74. All documents submitted by Respondents to EPA during the implementation of this Order shall be available to the public unless claimed as privileged or confidential pursuant to applicable law. In addition, EPA may release all such documents to NYSDEC, and NYSDEC may make those documents available to the public unless Respondents conform to applicable New York State law and regulations regarding confidentiality. Respondents shall not assert a claim of privilege or confidentiality regarding any monitoring or hydrogeologic data, any information specified under Section 104(e)(7)(F) of CERCLA, or any other chemical, scientific or engineering data relating to the Work performed hereunder.

XV. COMPLIANCE WITH OTHER LAWS

75. Respondents shall undertake all action that this Order requires in accordance with the requirements of all applicable local, state, and federal laws and regulations, unless an exemption from such requirements is specifically provided by law or in this Order. The activities conducted pursuant to this Order, if approved by EPA, shall be considered consistent with the NCP.

76. As provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and the NCP, no permit shall be required for any portion of the Work conducted entirely on-Site, including temporary modifications to the operation of the Flushing Tunnel and RH-034 outfall. Where any portion of the Work requires a federal or state permit or approval, Respondents shall submit timely applications and take all other actions necessary to obtain and to comply with all such permits or approvals.

77. This Order is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

XVI. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

78. Upon the occurrence of any event during performance of the Work required hereunder which, pursuant to Section 103 of CERCLA, 42 U.S.C. §9603, requires reporting to the National Response Center (telephone number 800-424-8802), Respondents shall immediately orally notify the Chief of the Response and Prevention Branch of the Superfund and Emergency Management Division of EPA, Region 2, at 732-321-6656 of the incident or Site conditions. Respondents shall also submit a written report to EPA within seven (7) days after the onset of such an event, setting forth the events that occurred and the measures taken or to be taken, if any, to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. The reporting requirements of this Paragraph are in addition to, not in lieu of, reporting under CERCLA Section 103, 42 U.S.C. §9603, and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. §11004.

79. In the event of any action or occurrence during Respondents' performance of the requirements of this Order that causes or threatens to cause a release of a hazardous substance or which may present an immediate threat to public health, welfare or the environment, or cause potential or actual adverse impacts to upland structures, Respondents shall immediately take all appropriate action to prevent, abate or minimize the threat and shall immediately notify EPA as provided in the preceding paragraph. Respondents shall take such action in accordance with applicable provisions of this Order. In the event that EPA determines that a) the activities performed pursuant to this Order, b) significant changes in conditions at the Site or c) emergency circumstances occurring at the Site pose a threat to human health or the environment, EPA may direct Respondents to stop further implementation of any actions pursuant to this Order or to take other and further actions reasonably necessary to abate the threat.

80. Nothing in the preceding paragraph shall be deemed to limit any authority of the United States to take, direct, or order all appropriate action to protect human health and the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances on, at, or from the Site.

XVII. MODIFICATIONS

81. No informal advice, guidance, suggestion or comment by EPA regarding reports, plans, specifications, schedules or any other writing submitted by Respondents shall relieve Respondents of their obligation to obtain such formal approval as may be required by this Order and to comply with all requirements of this Order.

XVIII. DELAY IN PERFORMANCE

82. Any delay in performance of the Work under this Order that, in EPA's judgment, is not properly justified by Respondents under the terms of the paragraph below, shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondents' obligations to perform all obligations fully under the terms and conditions of this Order.

83. Respondents shall notify EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone to EPA's Project Coordinator as soon as Respondents know that a delay might occur. Respondents shall adopt all reasonable measures to avoid or minimize any such delay. Within two (2) days after notifying EPA by telephone, Respondents shall provide written notification fully describing the nature of the delay, any justification for the delay, any reason why Respondents should not be held strictly accountable for failing to comply with any relevant requirements of this Order, the measures planned and taken to minimize the delay, and a schedule for implementing the measures that have been or will be taken to mitigate the effect of the delay. Increased cost or expense associated with the implementation of the activities called for in this Order is not a justification for any delay in performance.

XIX. ENFORCEMENT/WORK TAKEOVER AND RESERVATION OF RIGHTS

84. Any willful violation of, or failure or refusal to comply with any provision of this Order may subject Respondents to civil penalties up to the maximum amount authorized by law. CERCLA § 106(b)(1), 42 U.S.C. § 9606(b)(1). As of the date of issuance of this Order, the statutory maximum amount is fifty-eight thousand three hundred twenty-eight dollars (\$58,328) per violation per day. This maximum amount may increase in the future, as EPA amends its civil penalty amounts through rulemaking pursuant to the 1990 Federal Civil Penalties Inflation Adjustment Act (Public Law 101-410, codified at 28 U.S.C. § 2461), as amended by the 2015 Federal Civil Penalties Inflation Adjustment Act Improvement Act (Section 701 of Public Law 114-74)). The maximum amount to be applied to this violation may be set as the most recent maximum amount set forth in 40 CFR Section 19.4 as of the date that the U.S. District Court assesses any such penalty. In the event of such willful violation, or failure or refusal to comply, EPA may unilaterally carry out the actions required by this Order, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606. Nothing herein shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law. EPA reserves

the right to bring an action against Respondents under Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of any response costs incurred by the United States related to this Order or the Site. In addition, nothing in this Order shall limit EPA's authority under Section XXI (Financial Assurance). Respondents may also be subject to punitive damages at least equal to but not more than three times the amount of any cost incurred by the United States as a result of such failure to comply, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3).

XX. OTHER CLAIMS

85. By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents or Respondents' employees, agents, contractors, or consultants in carrying out any action or activity pursuant to this Order. The United States or EPA shall not be held out as or deemed a party to any contract entered into by Respondents or their directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Order.

86. Nothing in this Order constitutes or shall be construed as a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Order for any liability that Respondents or other persons may have under CERCLA, other statutes, or the common law, including but not limited to any claims of the United States for injunctive relief, costs, damages, and interest under Sections 106(a) and 107 of CERCLA, 42 U.S.C. §§ 9606(a) and 9607. Nothing herein shall constitute a finding that any Respondent is the only responsible party with respect to the release and threatened release of hazardous substances at and from the Site.

87. Nothing in this Order shall affect any right, claim, interest, defense, or cause of action of any party hereto with respect to third parties.

88. Nothing in this Order shall be construed to constitute preauthorization under Section 111(a)(2) of CERCLA, 42 U.S.C. §9611(a)(2), and 40 CFR § 300.700(d).

XXI. FINANCIAL ASSURANCE

89. In order to ensure completion of the Work, Respondents shall secure financial assurance, initially in the amount of \$125,000,000 ("Estimated Cost of the Work"). The financial assurance must be one or more of the mechanisms listed below, in a form substantially identical to the relevant sample documents available from EPA or under the "Financial Assurance - Orders" category on the Cleanup Enforcement Model Language and Sample Documents Database at <https://cfpub.epa.gov/compliance/models/>, and satisfactory to EPA. Respondents may use multiple mechanisms if they are limited to trust funds, surety bonds guaranteeing payment, and/or letters of credit.

a. A trust fund: 1) established to ensure that funds will be available as and when needed for performance of the Work; 2) administered by a trustee that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency; and 3) governed by an agreement that requires the trustee to make payments from the fund only when the Director of the Superfund and Emergency Management Divisions advises the trustee in writing that: i) payments are necessary to fulfill the affected Respondents' obligations under the Order; or ii) funds held in trust are in excess of the funds that are necessary to complete the performance of Work in accordance with this Order;

b. A surety bond, issued by a surety company among those listed as acceptable sureties on federal bonds as set forth in Circular 570 of the U.S. Department of the Treasury, guaranteeing payment or performance in accordance with Paragraph 95 (Access to Financial Assurance);

c. An irrevocable letter of credit, issued by an entity that has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency, guaranteeing payment in accordance with Paragraph 95 (Access to Financial Assurance);

d. A demonstration by a Respondent that it meets the relevant financial test criteria of Paragraph 92; or

e. A guarantee to fund or perform the Work executed by a company 1) that is a direct or indirect parent company of a Respondent or has a "substantial business relationship" (as defined in 40 C.F.R. § 264.141(h)) with a Respondent; and 2) can demonstrate to EPA's satisfaction that it meets the financial test criteria of Paragraph 92.

90. **Standby Trust.** If Respondents seek to establish financial assurance by using a surety bond, a letter of credit, or a corporate guarantee, Respondents shall at the same time establish and thereafter maintain a standby trust fund, which must meet the requirements specified in Paragraph 89.a., and into which payments from the other financial assurance mechanism can be deposited if the financial assurance provider is directed to do so by EPA pursuant to Paragraph 95 (Access to Financial Assurance). An originally signed duplicate of the standby trust agreement must be submitted, with the other financial mechanism, to EPA in accordance with Paragraph 91. Until the standby trust fund is funded pursuant to Paragraph 95 (Access to Financial Assurance), neither payments into the standby trust fund nor annual valuations are required.

91. Within thirty (30) days after the Effective Date, Respondents shall submit to EPA proposed financial assurance mechanisms in draft form in accordance with Paragraph 89 for EPA's review. Within sixty (60) days after the Effective Date, or 30 days after EPA's approval of the form and substance of Respondents' financial assurance, whichever is later, Respondents shall secure all executed and/or otherwise finalized mechanisms or other documents consistent

with the EPA-approved form of financial assurance and shall submit such mechanisms and documents to the EPA contacts set forth in Paragraph 64.b. and to:

Chief, Resource Management/Cost Recovery Section
Program Support Branch
Superfund and Emergency Management Division
U.S. Environmental Protection Agency, Region 2
290 Broadway, 18th Floor
New York, New York 10007-1866
keating.robert@epa.gov.

92. Respondents seeking to provide financial assurance by means of a demonstration or guarantee under Paragraph 89.d. or Paragraph 89.e. must, within sixty (60) days after the Effective Date:

- a. Demonstrate that:
 - (1) the affected Respondent or guarantor has:
 - i. Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5;
 - ii. Net working capital and tangible net worth each at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee;
 - iii. Tangible net worth of at least \$10 million; and
 - iv. Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; or
 - (2) The affected Respondent or guarantor has:
 - i. A current rating for its senior unsecured debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's;

- v. Tangible net worth at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee;
- vi. Tangible net worth of at least \$10 million; and
- vii. Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the Estimated Cost of the Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and

b. Submit to EPA for the affected Respondent or guarantor: 1) a copy of an independent certified public accountant's report of the entity's financial statements for the latest completed fiscal year, which must not express an adverse opinion or disclaimer of opinion; and 2) a letter from its chief financial officer and a report from an independent certified public accountant substantially identical to the sample letter and reports available from EPA or under the "Financial Assurance – Orders" subject list category on the Cleanup Enforcement Model Language and Sample Documents Database at <https://cfpub.epa.gov/compliance/models/>.

93. Respondents shall diligently monitor the adequacy of the financial assurance. If any Respondent becomes aware of any information indicating that the financial assurance provided under this Section is inadequate or otherwise no longer satisfies the requirements of this Section, such Respondent shall notify EPA of such information within 30 days. If EPA determines that the financial assurance provided under this Section is inadequate or otherwise no longer satisfies the requirements of this Section, EPA will notify the affected Respondent of such determination. Respondents shall, within 30 days after notifying EPA or receiving notice from EPA under this Paragraph, secure and submit to EPA for approval a proposal for a revised or alternative financial assurance mechanism that satisfies the requirements of this Section. Respondents shall follow the procedures of Paragraph 96 (Modification of Amount, Form, or Terms of Financial Assurance) in seeking approval of, and submitting documentation for, the revised or alternative financial assurance mechanism. Respondents' inability to secure financial assurance in accordance with this Section does not excuse performance of any other obligation under this Order.

94. Respondents providing financial assurance by means of a demonstration or guarantee under Paragraph 89.d. or Paragraph 89.e. must also:

- a. Annually resubmit the documents described in Paragraph 92.b. within 90 days after the close of the affected Respondent's or guarantor's fiscal year;
- b. Notify EPA within 30 days after the affected Respondent or guarantor determines that it no longer satisfies the relevant financial test criteria and requirements set forth in this Section; and
- c. Provide to EPA, within 30 days of EPA's request, reports of the financial condition of the affected Respondent or guarantor in addition to those specified in Paragraph 92.b.; EPA may make such a request at any time based on a belief that the affected Respondent or guarantor may no longer meet the financial test requirements of this Section.

95. Access to Financial Assurance

a. If EPA determines that Respondents 1) have ceased implementation of any portion of the Work, 2) are seriously or repeatedly deficient or late in their performance of the Work, or 3) are implementing the Work in a manner that may cause an endangerment to human health or the environment, EPA may issue a written notice ("Performance Failure Notice") to both Respondents and the financial assurance provider regarding the affected Respondents' failure to perform. Any Performance Failure Notice issued by EPA will specify the grounds upon which such notice was issued and will provide Respondents a period of 10 days within which to remedy the circumstances giving rise to EPA's issuance of such notice. If, after expiration of the 10-day period specified in this Paragraph, Respondents have not remedied to EPA's satisfaction the circumstances giving rise to EPA's issuance of the relevant Performance Failure Notice, then, in accordance with any applicable financial assurance mechanism, EPA may at any time thereafter direct the financial assurance provider to immediately: i) deposit any funds assured pursuant to this Section into the standby trust fund; or ii) arrange for performance of the Work in accordance with this Order.

b. If EPA is notified by the provider of a financial assurance mechanism that it intends to cancel the mechanism, and the affected Respondent fails to provide an alternative financial assurance mechanism in accordance with this Section at least 30 days prior to the cancellation date, EPA may, prior to cancellation, direct the financial assurance provider to deposit any funds guaranteed under such mechanism into the standby trust fund for use consistent with this Section.

96. Modification of Amount, Form, or Terms of Financial Assurance. Respondents may submit, on any anniversary of the Effective Date or following Respondents' request for, and EPA's approval of, another date, a request to reduce the amount, or change the form or terms, of the financial assurance mechanism. Any such request must be submitted to the EPA individual(s) referenced in Paragraph 91, and must include an estimate of the cost of the remaining Work, an explanation of the bases for the cost calculation, a description of the

proposed changes, if any, to the form or terms of the financial assurance, and any newly proposed financial assurance documentation in accordance with the requirements of Paragraphs 89 and 90 (Standby Trust). EPA will notify Respondents of its decision to approve or disapprove a requested reduction or change. Respondents may reduce the amount or change the form or terms of the financial assurance only in accordance with EPA's approval. Within 30 days after receipt of EPA's approval of the requested modifications pursuant to this Paragraph, Respondents shall submit to the EPA individual(s) referenced in Paragraph 91 all executed and/or otherwise finalized documentation relating to the amended, reduced, or alternative financial assurance mechanism. Upon EPA's approval, the Estimated Cost of the Work shall be deemed to be the estimate of the cost of the remaining Work in the approved proposal.

97. **Release, Cancellation, or Discontinuation of Financial Assurance.** Respondents may release, cancel, or discontinue any financial assurance provided under this Section only: a) after receipt of documentation issued by EPA certifying completion of the Work; or b) in accordance with EPA's written approval of such release, cancellation, or discontinuation.

XXI. INSURANCE

98. At least fourteen (14) days prior to commencing any on-site Work under this Order, Respondents shall secure, and shall maintain for the duration the Work being performed pursuant to this Order, commercial general liability insurance with limits of liability of \$1 million per occurrence, automobile liability insurance with limits of liability of \$1 million per accident, and umbrella liability insurance with limits of liability of \$5 million in excess of the required commercial general liability and automobile liability limits, naming EPA as an additional insured with respect to all liability arising out of the activities performed by or on behalf of Respondents pursuant to this Order. Within the same period, Respondents shall provide EPA with certificates of such insurance and, if requested, a copy of each insurance policy. Respondents shall submit such certificates and, if requested, copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Work being performed pursuant to Order, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondents in furtherance of this Order. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondents need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXIII. INTEGRATION/APPENDICES

99. In the event of a conflict between any provision of this Order and the provisions of any document attached to this Order or submitted or approved pursuant to this Order, the provisions of this Order shall control.

100. The following documents are attached to and incorporated into this Order:

Appendix A is the ROD (electronic)

Appendix B is the EPA-approved 100% RD for the 1st Street turning basin (electronic)

XXIV. TERMINATION AND SATISFACTION

101. Upon a determination by EPA that the Work required pursuant to this Order has been fully carried out in accordance with this Order, EPA will so notify Respondents in writing.

XXV. OPPORTUNITY TO CONFER, EFFECTIVE DATE

102. This Order shall be effective fourteen (14) days after receipt by Respondents, unless a conference is timely requested pursuant to Paragraph 103 below. If such a conference is timely requested, this Order shall become effective seven (7) days following the date the conference is held, unless the Effective Date is modified by EPA. All times for performance of ordered activities shall be calculated from this Effective Date.

103. Respondents may, within thirteen (13) days after receipt of this Order, request a conference with EPA to discuss this Order. If requested, the conference shall occur within fourteen (14) days of Respondents' request for a conference. The conference may be held in person or by telephone or videoconference.

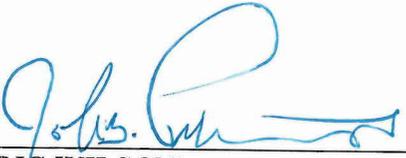
104. If a conference is held, Respondents may present any information, arguments, or comments regarding this Order. This conference is not an evidentiary hearing, and does not constitute a proceeding to challenge this Order. It does not give Respondents a right to seek review of this Order or to seek resolution of potential liability, and no official stenographic record of the conference will be made. At any conference held pursuant to Respondents' request, Respondents may appear in person or by an attorney or other representative.

105. A request for a conference must be made by telephone to Brian Carr, Assistant Regional Counsel, Office of Regional Counsel, EPA Region 2, telephone (212) 637-3170, followed by written confirmation emailed that day to Mr. Carr at carr.brian@epa.gov.

XXVI. NOTICE OF INTENT TO COMPLY

106. Each Respondent shall provide, not later than seven (7) days after the Effective Date, written notice to EPA stating whether it will comply with the terms of this Order. If a Respondent does not unequivocally commit to perform the work required by this Order, it shall be deemed to have violated this Order and to have failed or refused to comply with this Order. Each Respondent's written notice shall describe, using facts that exist on or prior to the Effective Date, any "sufficient cause" defenses asserted by Respondent under Sections 106(b) and 107(c)(3) of CERCLA. Each Respondent's written notice shall be sent to Brian Carr, Assistant Regional Counsel, Office of Regional Counsel, EPA Region 2, 290 Broadway, 17th floor, New York, New York 10007-1866, or by email to carr.brian@epa.gov. The absence of a response by EPA to the notice required by this Paragraph shall not be deemed to be an acceptance of a Respondent's assertions.

By:



ERIC WILSON
Acting Director
Superfund and Emergency Management Division
U.S. Environmental Protection Agency
Region 2

January 28, 2020
Date

For