EPA ENFORCEMENT ACCOUNTS RECEIVABLE CONTROL NUMBER FORM FOR ADMINISTRATIVE ACTIONS

This form was originated by Wanda I. Santiago for Steven Schlang (Name of Case Attorney) 4/2/15 (Date)

in the ORC (RAA) (Office & Mail Code) at 918-1113 (Phone number)

Case Docket Number CAA-01-2015-0040

Site-specific Superfund (SF) Acct. Number _____

✓ This is an original debt ____ This is a modification

Name and address of Person and/or Company/Municipality making the payment:

The City of Groton
295 Meridian Street
Groton, CT 06340

Total Dollar Amount of Receivable $ 7,000 Due Date: 4/31/15

SEP due? Yes ✓ No _____ Date Due _____

Installment Method (if applicable)

INSTALLMENTS OF:

1ST $ _____ on _____

2nd $ _____ on _____

3rd $ _____ on _____

4th $ _____ on _____

5th $ _____ on _____

For RHC Tracking Purposes:

Copy of Check Received by RHC _____ Notice Sent to Finance _____

TO BE FILLED OUT BY LOCAL FINANCIAL MANAGEMENT OFFICE:

IFMS Accounts Receivable Control Number _____

If you have any questions call: _____ _____
in the Financial Management Office Phone Number

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

BY HAND

March 31, 2015

Wanda I. Santiago, Regional Hearing Clerk
U.S. Environmental Protection Agency-Region 1
5 Post Office Square, Suite 100
Mail Code ORA18-1
Boston, MA 02109-3912

Re: In the Matter of The City of Groton, Connecticut
Docket No. CAA-01-2015-0040

Dear Ms. Santiago:

Enclosed are the original and one copy of a Consent Agreement and Final Order for filing in the above-referenced matter.

Thank you for your assistance in this matter.

Sincerely,

Steven Schlang
Enforcement Counsel

Enclosures

cc: Attorney Raymond L. Baribeault, Jr.

In the Matter of: The City of Groton, Connecticut
Docket No. CAA-01-2015-0040

CERTIFICATE OF SERVICE

I hereby certify that I caused the foregoing Consent Agreement and Final Order to be sent to the following person(s), in the manner stated, on the date below:

Original and one copy,
By Hand Delivery:

Wanda I. Santiago
Regional Hearing Clerk
U.S. EPA, Region 1
5 Post Office Square – Suite 100
Mail Code: ORA18-1
Boston, MA 02109-3912

One copy, By Certified Mail,
Return Receipt Requested:

Attorney Raymond L. Baribeault, Jr.
Suisman, Shapiro, Wool, Brennan, Gray & Greenberg, P.C.
2 Union Plaza, Suite 200
P.O. Box 1591
New London, CT 06320

Dated: 5/31/15

Steven Schlang
Senior Enforcement Counsel
U.S. EPA, Region 1
5 Post Office Square – Suite 100
Mail Code: OES04-4
Boston, MA 02109-3912

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1

In the Matter of:	
City of Groton, Connecticut, **Respondent**	**CONSENT AGREEMENT AND FINAL ORDER**
	Docket No. CAA-01-2015-0040
Proceeding under Section 113(a) and (d) of the Clean Air Act, 42 U.S.C. § 7413(a) and (d).	

Complainant, the United States Environmental Protection Agency, Region 1 ("EPA"), alleges that Respondent City of Groton, Connecticut ("Groton" or "Respondent"), has violated Section 112(r)(7), 42 U.S.C. § 7412(r)(7) and its implementing regulations found at 40 C.F.R. Part 68.

EPA and Respondent agree that settlement of this matter is in the public interest and that entry of this Consent Agreement and Final Order ("CAFO") without further litigation is the most appropriate means of resolving this matter. Pursuant to 40 C.F.R. § 22.13(b) of EPA's "Consolidated Rules of Practice Governing the Administrative Assessment of Civil Penalties and the Revocation, Termination or Suspension of Permits" ("Consolidated Rules" or "Part 22"), EPA and Respondent agree to simultaneously commence and settle this action by the issuance of this CAFO.

Therefore, before any hearing, without adjudication of any issue of fact or law, upon the record, and upon consent and agreement of EPA and Respondent, it is hereby ordered and adjudged as follows:

I. STATUTORY AND REGULATORY AUTHORITY

1. Section 112(r) of the Act, 42 U.S.C. § 7412(r), authorizes EPA to promulgate regulations and programs to prevent and minimize the consequences of accidental releases of certain regulated substances. In particular, Section 112(r)(3), 42 U.S.C. § 7412(r)(3), requires EPA to promulgate a list of substances that are known to cause or may reasonably be anticipated to cause death, injury, or serious adverse effects to human health or the environment if accidentally released. Section 112(r)(5), 42 U.S.C. § 7412(r)(5), requires EPA to establish for each such substance a threshold quantity over which an accidental release is known to cause or may reasonably be anticipated to cause death, injury, or serious adverse effects to human health. Section 112(r)(7) of the Act, 42 U.S.C. § 7412(r)(7), requires EPA to promulgate requirements for the prevention, detection, and correction of accidental releases of certain regulated substances, including a requirement that an owner or operator of certain stationary sources prepare and implement a risk management plan ("RMP").

2. Pursuant to Section 112(r) of the Act, 42 U.S.C. § 7412(r), EPA promulgated 40 C.F.R. §§ 68.1-68.220 ("Part 68").

3. Forty C.F.R. § 68.130 lists the substances, and their associated threshold quantities, regulated under Part 68.

4. Under 40 C.F.R. § 68.10, an owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process must comply with the requirements of Part 68 by no later than the latest of the following dates: (a) June 21, 1999; (b) three years after the date on which a regulated substance is first listed under 40 C.F.R. § 68.130; or (c) the date on which a regulated substance is first present above a threshold quantity in a process.

5. Each process in which a regulated substance is present in more than a threshold quantity ("covered process") is subject to one of three risk management programs. Program 1 is the least comprehensive, and Program 3 is the most comprehensive. Pursuant to 40 C.F.R. § 68.10(b), a covered process is subject to Program 1 if, among other things, the distance to a toxic or flammable endpoint for a worst-case release assessment is *less* than the distance to any public receptor. Under 40 C.F.R. § 68.10(d), a covered process is subject to Program 3 if the process does not meet the eligibility requirements for Program 1 and is either in a specified NAICS code or subject to the Occupational Safety and Health Administration ("OSHA") process safety management ("PSM") standard at 29 C.F.R. § 1910.119. Under 40 C.F.R. § 68.10(c), a covered process that meets neither Program 1 nor Program 3 eligibility requirements is subject to Program 2.

6. Forty C.F.R. § 68.12 mandates that the owner or operator of a stationary source subject to the requirements of Part 68 submit an RMP to EPA, as provided in 40 C.F.R. § 68.150. The RMP demonstrates compliance with Part 68 in a summary format. For example, the RMP for a Program 3 process demonstrates compliance with the elements of a Program 3 Risk Management Program, including 40 C.F.R. § Part 68, Subpart A (General Requirements and a Management System to Oversee Implementation of RMP); 40 C.F.R. Part 68, Subpart B (Hazard Assessment to Determine Off-Site Consequences of a Release); 40 C.F.R. Part 68, Subpart D (Program 3 Prevention Program); and 40 C.F.R. Part 68, Subpart E (Emergency Response Program).

7. Additionally, 40 C.F.R. § 68.190(b) requires that the owner or operator of a stationary source must revise and update the RMP submitted to EPA at least once every five years from the date of its initial submission or most recent update. Other aspects of the prevention program must also be periodically updated.

8. Compilation of written process safety information ("PSI") enables owners and operators, as well as employees, to identify and understand the hazards associated with the RMP chemicals used or produced in covered processes prior to conducting a Process Hazard Analysis ("PHA"). 40 C.F.R. § 68.65. The PSI regulations require owners or operators of a stationary source subject to Program 3 to, along with other obligations, collect information pertaining to the hazards of chemicals used. 40 C.F.R. § 68.65(b). In addition owners or operators are required to compile information about the equipment used in covered processes, such as design codes and standards employed, as well as information about safety systems to minimize impacts of process failures. 40 C.F.R. § 68.65 (d)(1). The PSI regulations also require owners or operators to document that equipment used in covered processes complies with recognized and generally-accepted good engineering practices ("RAGAGEP"), which reflect industry best practices for safety and mechanical integrity. 40 C.F.R. § 68.65(d)(2).

9. Based, in part, on the PSI compiled under 40 C.F.R. § 68.65, a Program 3 PHA must identify, evaluate, and control the hazards involved in each of the covered processes. 40 C.F.R. § 68.67(a). Along with other obligations, a Program 3 PHA must address: (1) the hazards of the process, (2) engineering and administrative controls applicable to the hazards, (3) the consequences of failure of those engineering and administrative controls, (4) stationary source siting, and (5) possible safety and health effects of control failure. 40 C.F.R. § 68.67.

10. Forty C.F.R. § 68.69 requires the owner or operator of a covered process to develop and implement written operating procedures to ensure that activities associated with the covered process are conducted safely and consistent with the PSI.

11. Forty C.F.R. § 68.90 requires the owner or operator of a stationary source with regulated substances to have an emergency response plan ("ERP") under § 68.95, unless its employees will not respond to a release and release procedures have been coordinated with the

local fire department. Pursuant to 40 C.F.R. § 68.95, ERPs must contain, among other things, (1) procedures for informing the public and local emergency response agencies about accidental releases; (2) documentation of proper first-aid and emergency medical treatment necessary to treat accidental human exposures to regulated substances; (3) procedures and measures for emergency response after an accidental release of a regulated substance; (4) procedures for use of emergency response equipment and for inspection, testing, and maintenance; (5) training for employees in all relevant procedures; and (6) procedures to review and update the ERP and to ensure employees are informed of changes. The ERP shall be coordinated with the community emergency response plan. 40 C.F.R. § 68.95(c).

12. Owners or operators of a stationary source with a covered process must comply with the requirements of Part 68 by no later than the latest of the following dates: (a) June 21, 1999; (b) three years after the date on which a regulated substance is first listed under 40 C.F.R. § 68.130; or (c) the date on which a regulated substance is first present above the threshold quantity in a process. 40 C.F.R. § 68.10; see also 40 C.F.R. § 68.190(b) (updated RMPs must be submitted to EPA at least once every five years).

13. Section 112(r)(7)(E) makes it unlawful for any person to operate any stationary source subject to Section 112(r) of the CAA, 42 U.S.C. § 7412(r), in violation of the regulations promulgated thereunder. See 42 U.S.C. § 7412(r)(7)(E); see also 40 C.F.R. Part 68.

14. Sections 113(a) and (d) of the CAA, 42 U.S.C. § 7413(a) and (d), as amended by EPA's 2008 Civil Monetary Penalty Inflation Adjustment Rule, 40 C.F.R. Part 19, promulgated in accordance with the Debt Collection Improvement Act of 1996 ("DCIA"), 31 U.S.C. § 3701, provide for the assessment of civil penalties for violations of Section 112(r) of the CAA, 42 U.S.C. § 7412(r), in amounts up to $37,500 per day for violations occurring after January 12, 2009.

15. Sections 113(a) and (d) of the Act, 42 U.S.C. §§ 7413(a) and (d), provide for the assessment of civil administrative penalties for violations of the Act, including violations of Section 112(r) of the Act, 42 U.S.C. § 7412(r). EPA has obtained from the United States Department of Justice a waiver of the twelve-month limitation on EPA's authority to initiate administrative cases.

II. GENERAL ALLEGATIONS

16. Respondent is the current owner and operator of a municipal water purification plant located at 1268 Poquonnock Road, Groton, Connecticut (the "Facility").

17. The City of Groton, Connecticut ("Groton") is a municipality.

18. As a municipality, Groton is a "person" within the meaning of Section 302(e) of the CAA, 42 U.S.C. § 7602(e).

19. At the Facility, Respondent processes, handles, and stores chlorine, which is an extremely hazardous toxic substance listed under 40 C.F.R. § 68.130.

20. Chlorine is a toxic substance that is normally shipped and stored as a liquefied compressed gas. Chlorine is a heavier-than-air gas, is non-flammable, and is a strong oxidizer. Chlorine causes respiratory distress and may burn skin, eyes, and lungs. Effects of inhalation range from headaches, nausea, and lung irritation to severe eye, nose, and respiratory distress. Inhaling high concentrations of chlorine gas can be lethal. The substance is highly reactive and will readily mix with other substances causing further hazards. In the presence of moisture, chlorine becomes highly corrosive.

21. Pursuant to 40 C.F.R. § 68.130, any facility storing more than 2,500 pounds of chlorine gas is subject to the RMP regulations of 40 C.F.R. Part 68.

22. The Facility is a "stationary source", as that term is defined in 40 C.F.R. § 68.3.

23. Respondent is the "owner or operator," as that term is defined by Section 112(a)(9) of the CAA, 42 U.S.C. § 7412(a)(9), of a stationary source.

24. The Facility is a water treatment plant designed to produce potable drinking water for municipal distribution for use by the citizens of Groton, the Town of Groton, the Town of Ledyard, the Village of Noank, and the independent borough of Groton Long Point. Chlorine gas is used in the treatment process to ensure that no levels of bacteria are present that may pose problems to the public health, safety and welfare.

25. On June 20, 1999, Respondent submitted an initial Program 3 RMP for its use, storage, and handling of chlorine at the Facility (the "1999 RMP").

26. On July 12, 2004, and September 1, 2009, Respondent submitted required five-year updated RMPs for its use, storage, and handling of chlorine at the Facility (the "2004 and 2009 RMPs").

27. According to the RMP and the 2004 and 2009 RMPs, the Facility used, stored, or handled up to 16,000 pounds of chlorine at those times, well over the 2,500 pound threshold cited in 40 C.F.R. § 68.130, Table 1.

28. EPA conducted a previously-announced inspection of the Facility on April 17, 2012 (the "Inspection"). Authorized EPA inspectors ("EPA Inspectors") and Respondent's employees and/or officers, were present during the Inspection. An employee of Groton's environment consultant, KFP & Associates, was also present during the Inspection. The Inspection was conducted to determine the Facility's compliance with Sections 302-312 of the Emergency Planning and Community Right-to-Know Act ("EPCRA"), 42 U.S.C. §§ 11002–11022, and Sections 112(r)(7) and 112(r)(1) of the CAA, 42 U.S.C. §§ 7412(r)(7) and 7412(r)(1), the RMP accident prevention program and the General Duty Clause, respectively.

29. At the time of the Inspection, the Facility had eight two-ton cylinders of chlorine

(altogether weighing approximately 16,000 pounds). The Facility contains a chlorine building consisting of a chlorine storage room, which contains liquid chlorine ton cylinders, and a chlorinator room, which mixes the chlorine with finished water. Within the chlorine storage room, two one ton cylinders are on-line and up to six one-ton cylinders may be in reserve. The storage of more than 2,500 pounds of chlorine gas in one room is a "covered process."

30. The endpoint for a worse case release of chlorine at the Facility is greater than the distance to a public receptor.

31. As the owner and operator of a stationary source that has more than the threshold amount of a regulated substance in a covered process, Respondent is subject to the RMP provisions of Part 68.

32. In particular, Respondent's storage and handling of chlorine is subject to the requirements of Program 3, in accordance with the requirements found in 40 C.F.R. § 68.10(c), because the end point for a worst case release is greater than the distance to a public receptor and the process(es) are subject to the OSHA Process Safety Management Standard at 29 C.F.R. § 1910.119.

33. Pursuant to 40 C.F.R. § 68.190(b)(1), Respondent is required to review, update, and resubmit the Facility's RMP no later than September 1, 2014.

III. CAA VIOLATIONS

COUNT 1: Failure to Develop a Management System

34. The allegations in paragraphs 1 through 33 are incorporated by reference as if fully set forth herein.

35. Pursuant to 40 C.F.R. § 68.15, an owner or operator of a stationary source subject to Part 68 must comply with the requirements of 40 C.F.R. Part 68 by developing and/or

maintaining a management system ("Management System") to oversee the implementation of the risk management program elements at the Facility. Pursuant to 40 C.F.R. § 68.15(b), the owner or operator shall assign a qualified person or position that has the overall responsibility for the development, implementation and integration of the risk management program elements. Pursuant to 40 C.F.R. § 68.15(c), when responsibility for implementing individual requirements of this part is assigned to persons other than the person identified under subparagraph (b) above, the names or positions of these people shall be documented and the lines of authority defined through an organization chart of similar document.

36. Respondent's 2009 RMP indicates that Respondent assigned a manager to have responsibility for overall implementation of its RMP program ("RMP manager"). During the Inspection, the RMP manager stated that several other employees were responsible for implementing the RMP Program elements.

37. During the Inspection, Respondent was unable to produce documentation showing that persons other than the RMP manager were responsible for implementing individual requirements of the risk management program, and defining the lines of authority through an organization chart or similar document.

38. Respondent's failure to develop a Management System violated Section 112(r)(7)(E) of the Act, 42 U.S.C. § 7412(r)(7)(E), and 40 C.F.R. § 68.15.

COUNT II: Failure to Maintain an Adequate Off-Site Consequence Analysis

39. The allegations in paragraphs 1 through 38 are incorporated by reference as if fully set forth herein.

40. Pursuant to 40 C.F.R. § 68.25(a)(2)(i), an owner or operator shall analyze and report in the RMP one worst-case scenario that is estimated to create the greatest distance in any

direction to an end-point provided in appendix A of 40 C.F.R. Part 68 resulting from an accidental release of regulated toxic substances from covered processes under worst-case conditions defined in 40 C.F.R. § 68.22. In turn, 40 C.F.R. § 68.22 discusses the off-site consequence analysis parameters that must be used, including, among things, the surface roughness parameter. This parameter describes whether the surrounding topography has many obstacles affecting the spread of a release (urban) or few obstacles (rural).

41. Pursuant to 40 C.F.R. § 68.28(a), an owner or operator shall identify and analyze at least one alternative release scenario for each regulated toxic substance held in a covered process.

42. Pursuant to 40 C.F.R. § 68.39, an owner or operator shall maintain the following records on the offsite consequence analyses: (a) For worst-case scenarios, the records must include a description of the vessel or pipeline and substance selected as worst case, assumptions and parameters used, and the rationale for selection. Assumptions shall include use of any administrative controls and any passive mitigation that were assumed to limit the quantity that could be released. Documentation shall include the anticipated effect of the controls and mitigation on the release quantity and rate; (b) For alternative release scenarios, the records must include a description of the scenarios identified, assumptions and parameters used, and the rationale for the selection of specific scenarios. Assumptions shall include use of any administrative controls and any mitigation that were assumed to limit the quantity that could be released. Documentation shall include the effect of the controls and mitigation on the release quantity and rate.

43. During the inspection, Groton submitted documentation showing that a parameter used in the worst-case and alternative release scenario analyses conducted by Groton did not accurately represent the Facility's actual setting and underestimated the release potential by

identifying the Facility's setting as being urban rather than the correct setting of rural. As a result, the off-site consequence analysis significantly underestimated the impacted population. The analysis, which should have shown a distance of 2.2 miles and a potentially impacted population of 18,454, showed a distance of 1.3 miles and potentially impacted population of 6,675.

44. Respondent's failure to develop an adequate off-site consequent analysis violated Section 112(r)(7)(E) of the Act, 42 U.S.C.§ 7412(r)(7)(E), 40 C.F.R. § 68.22; 40 C.F.R. § 68.25(a)(2)(i); 40 C.F.R. § 68.28(a); and 40 C.F.R. § 68.39(a) and (b).

COUNT III: Failure to Update Process Hazard Analysis

45. The allegations in paragraphs 1 through 44 are incorporated by reference as if fully set forth herein.

46. Pursuant to 40 C.F.R. § 68.67(f), at least every five years after the completion of the initial process hazard analysis ("PHA"), the owner or operator shall update its PHA and have it revalidated by a team meeting the requirements of § 68.67(d), to assure that the PHA is consistent with the current process.

47. Pursuant to 40 C.F.R. § 68.67(c), the PHA must include: (1) the hazards of the process; (2) the identification of any previous incident which had a likely potential for catastrophic consequences; (3) engineering and administrative controls applicable to the hazards and their interrelationship such as appropriate application of detection methodologies to provide early warning of releases; (4) consequences of failure of engineering and administrative controls; (5) stationary source siting; (6) human factors; and (7) a qualitative evaluation of a range of the possible safety and health effects of failure of controls.

48. Pursuant to 40 C.F.R. § 68.67(g), the owner or operator shall retain PHAs and

updates or revalidations for each process covered by § 68.67, as well as the documented resolution of recommendations described in paragraph (e) of § 68.67 for the life of the process.

49. Respondent performed its only process hazard analysis in 1997. The CDX RMP records for the Facility list a PHA completion date of April 1, 1997.

50. During the inspection, Respondent's employees told the EPA Inspectors that Groton had not conducted any PHA's between 1997 and 2012.

51. The updated PHA, conducted in 2012 after notification of the RMP inspection, fails to address several regulatory requirements, including but not limited to: (a) consequences of failure of engineering and administrative controls; (b) stationary source siting; and (c) a range of possible safety and health effects concerning the failure of controls.

52. Although the 2009 CDX RMP records identify a PHA completion date of May 12, 2009, Respondent failed to maintain any documents pertaining to an updated and revalidated PHA on-site and was unable to produce any documents when EPA inspectors requested to review the PHA documents during the Inspection.

53. Respondent's failure to update its PHA at least every five years and to address all of the elements set forth in 40 C.F.R. § 68.67(c) in its 2012 PHA, and to maintain records of such violated Section 112(r)(7)(E) of the CAA, 42 U.S.C. § 7412(r)(7)(E), and 40 C.F.R. §§ 68.67(f), 68.67(c) and 68.67(g).

COUNT IV: <u>Failure to Maintain Complete and Certified Written Operating Procedures</u>

54. The allegations in paragraphs 1 through 53 are incorporated by reference as if fully set forth herein.

55. Pursuant to 40 C.F.R. § 68.69(a), the owner or operator shall develop and implement written operating procedures that provide clear instructions for safely conducting

activities involved in each covered process consistent with the process safety information, and shall address, among other requirements, safety and health considerations. Specifically, the written operating procedures shall include: (1) properties of, and hazards presented by the chemicals used in the process; (2) precautions necessary to prevent exposure, including engineering controls, administrative controls and personal protective equipment; (3) control measures to be taken if physical contact or airborne exposure occurs; and (4) safety systems and their functions.

56. Pursuant to 40 C.F.R. § 68.69(c), the operating procedures shall be reviewed as often as necessary to assure that they reflect current operating practice, including changes that result from changes in process chemicals, technology, and equipment, and changes to stationary sources. The owner or operator shall certify annually that these operating procedures are current and accurate.

57. At the time of the Inspection, Respondent's written operating procedures did not include the required health and safety information associated with chlorine gas. Groton's written operating procedures, dated June 1, 2011, includes Personal Protection Equipment ("PPE") information that references Chlorine Institute Pamphlet #65, *Personal Protection Equipment for Chlorine-Alkali Chemicals* (Edition 5, February 2008). However, the PPE specified in Groton's written operating procedures does not conform with those in the Chlorine Institute Pamphlet #65. In addition, Groton's operating procedures were not certified.

58. Respondent's failure to address safety and health considerations in its operating procedures violated Section 112(r)(7)(E) of the CAA, 42 U.S.C. § 7412(r)(7)(E) and 40 C.F.R. § 68.69(a). Respondent's failure to certify its operating procedures annually violated Section 112(r)(7)(E) of the CAA, 42 U.S.C. § 7412(r)(7)(E), and 40 C.F.R. § 68.69(c).

COUNT V: Failure to Document Training and Maintain Proper Training Records

59. The allegations in paragraphs 1 through 58 are incorporated by reference as if fully set forth herein.

60. Pursuant to 40 C.F.R. § 68.71(c), the owner or operator shall ascertain that each employee involved in operating a process has received and understood the training required, and shall prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training.

61. At the time of the Inspection, one of Respondent's representatives told EPA inspectors that there were 10 plant operators within the water department and that a total of 32 water department employees work at this Facility.

62. Respondent's Chief Plant Officer for the Facility told EPA Inspectors that he conducted on-the-job refresher training for operators of the chlorine process but was unable to produce documentation for this training. The Facility had one sign-in-sheet titled "Subject: Chlorine Handling Procedures" that was dated August 18, 2011. Eight persons signed the training record. Other than this sheet, there were no training records; nor were there any other documentation of training that demonstrate how Respondent verified that employees understood the "on-the-job" training or the training associated with the August 18, 2011 training. Respondent allegedly also provided a refresher training in April 2012, after it received notification of EPA's inspection. Respondent, however, failed to retain records demonstrating that refresher training had been provided at least every three years. The Facility failed to prepare and maintain complete records which should have included: the identity of the employee; the date of training; and the means used to verify that the employee understood the training in order to assure that the employee would understand and adhere to the current operating procedures of the process.

63. Respondent's failure to maintain adequate training documentation violated Section 112(r)(7)(E) of the CAA, 42 U.S.C. § 7412(r)(7)(E), and 40 C.F.R. § 68.71(c).

COUNT VI: Failure to Implement an Adequate Mechanical Training Program

64. The allegations in paragraphs 1 through 63 are incorporated by reference as if fully set forth herein.

65. Pursuant to 40 C.F.R. § 68.73(d): (1) inspections and tests shall be performed on process equipment. Inspections and testing shall follow recognized and generally accepted good engineering practices; (2) The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations and good engineering practices, and more frequently if determined to be necessary by prior operating experience; (3) The owner or operator shall document each inspection and test that has been performed on process equipment; and (4) The documentation shall identify the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other identifier on the equipment on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test.

66. At the time of the Inspection, Respondent had a mechanical integrity program in place. However, Respondent failed to formally calibrate or maintain the detectors. During the Inspection, an employee of Respondent, told EPA Inspectors that the chlorine detectors were checked quarterly by testing with solutions of vinegar or bleach. These informal tests, however, do not constitute professional calibration or maintenance meeting accepted industry standards and good engineering practices. See Chlorine Institute Pamphlet #73, *Atmospheric Monitoring Equipment for Chlorine*, June 2003).

67. Respondent's failure to adequately implement an adequate program to maintain

the ongoing integrity of process equipment violated Section 112(r)(7)(E) of the CAA, 42 U.S.C. § 7412(r)(7)(E), and 40 C.F.R. § 68.73(d).

COUNT VII: Failure to Conduct Compliance Audits

68. The allegations in paragraphs 1 through 67 are incorporated by reference as if fully set forth herein.

69. Pursuant to 40 C.F.R. § 68.79, the owner or operator is required to conduct compliance audits at least every three years to verify that its procedures and practices developed under 40 C.F.R. Part 68, Subpart D are adequate and being followed. In addition, the owner or operator is required to document such audits, document an appropriate response to each of the findings of the compliance audit, document that deficiencies have been corrected, and maintain documentation of the two most recent compliance audit reports.

70. During the Inspection, a manager at the Facility told EPA Inspectors that Respondent had not conducted required compliance audits. The most recent CDX RMP records for the Facility identify a compliance audit date of June 30, 2009 and a compliance audit change completion date of June 23, 2009. However, Respondent had no records to document this audit.

71. Respondent's failure to conduct compliance audits at least every three years to verify that its procedures and practices developed under 40 C.F.R. Part 68, Subpart D are adequate and being followed and to document such audits violated Section 112(r)(7)(E) of the CAA, 42 U.S.C. § 7412(r)(7)(E), and 40 C.F.R. § 68.79.

COUNT VIII: Failure to Implement an Adequate Emergency Response Plan

72. The allegations in paragraphs 1 through 71 are incorporated by reference as if fully set forth herein.

73. Pursuant to 40 C.F.R. § 68.90(b), the owner or operator of a stationary source whose employees will not respond to accidental releases of regulated substances need not comply with 40 C.F.R. § 68.95 provided that they meet the following: (1) for stationary sources with any regulated toxic substance held in a process above the threshold quantity, the stationary source is included in the community emergency response plan developed under 42 U.S.C. § 11003 and (3) appropriate mechanisms are in place to notify emergency responders when there is a need for a response.

74. Groton does not respond to chemical releases. At the time of the Inspection, EPA Inspectors reviewed several documents submitted by Respondent that were characterized as emergency plans by Respondent. The plans were out of date and did not provide site-specific and detailed emergency instructions to be followed in the event of a release of chlorine gas.

75. One of the EPA Inspectors called the local fire department and was told by the captain at the station that he was unaware of any interaction between the fire station and Respondent with regard to emergency preparedness. During a subsequent discussion with the EPA inspector, the town fire marshal also stated that there was no emergency preparedness communication taking place with Respondent and that the fire marshal was not familiar with any emergency plans regarding the Facility. Accordingly, Respondent was required to have an emergency response plan that complies with 40 C.F.R. § 68.95.

76. Respondent's failure to implement an adequate emergency response plan for the Facility and coordinate response actions with emergency responders violated Section 112(r)(7)(E) of the CAA, 42 U.S.C. § 7412(r)(7)(E), 40 C.F.R. § 68.90(b), and 40 C.F.R. § 68.95.

IV. TERMS OF SETTLEMENT

77. Respondent certifies that it has corrected the alleged violations cited in this CAFO and will operate the Facility in compliance with Section 112(r) of the CAA and the regulations promulgated thereunder at 40 C.F.R. Part 68.

78. Respondent agrees that EPA has jurisdiction over the subject matter alleged in this CAFO and hereby waives any defenses it might have as to jurisdiction and venue.

79. Respondent acknowledges that it has been informed of its right to request a hearing in this proceeding and hereby waives its right to a judicial or administrative hearing or appeal on any issue of law or fact set forth in this CAFO.

80. Without admitting or denying the facts and violations alleged in this CAFO, Respondent consents to the terms and issuance of this CAFO and agrees to the payment of the civil penalty set forth in paragraph 97 and to the performance of the Supplemental Environmental Project set forth below.

Supplemental Environmental Project

81. As a Supplemental Environmental Project ("SEP"), Respondent shall eliminate the use of chlorine gas at Respondent's Facility ("Chlorine Elimination SEP") and use liquid sodium hypochlorite, a less dangerous chemical, as a substitute for the chlorine gas. The SEP is further described in Appendix A and B, which appendices are herein incorporated by reference and are enforceable under this CAFO. The parties agree that this Chlorine Elimination SEP is intended to secure significant public health benefits by protecting workers, emergency responders, and the community from the risk of chlorine gas releases.

82. **Satisfactory Completion of SEP**: Respondent shall satisfactorily complete the SEP according to the requirements set forth in Appendix A and the schedule set forth in Appendix B. EPA may, in its sole discretion, extend the SEP deadlines for good cause shown by

Respondent in writing. The SEP is projected to cost approximately $268,200 and will also involve additional ongoing operational costs. Some of the key elements required for satisfactory completion of the Chlorine Elimination SEP include the following:

a. As further described in Appendix A, conformance to standards and guidelines for construction and operation of public water systems to, among other things, ensure proper construction of the new sodium hypochlorite disinfectant system and minimize the amount of perchlorate contained in the sodium hypochlorite;

b. Review and approval of project documents by the Connecticut Department of Public Health prior to bringing the sodium hypochlorite system on line;

c. Demolition and removal of chlorine-related equipment;

d. Installation of new sodium hypochlorite tanks, pumps, piping, instrumentation and controls;

e. Modifications of facility necessary to support the installation of the new equipment (e.g., HVAC system, support structures);

f. Construction and operation of a temporary sodium hypochlorite feed system during construction;

g. Operational safeguards to minimize sodium hypochlorite decomposition;

h. Submission of semi-annual progress reports on July 1 and January 31 until SEP is completed, as set out in paragraph 83 below;

i. Completion of the SEP, including interim deadlines, in accordance with the deadlines set out in Appendix B. The projected date for the SEP system becoming operational is August 1, 2015. The projected date for construction completion and SEP project closeout is December 31, 2015.

83. **Semi-annual progress reports**: The semi-annual progress reports referenced in

paragraph 82(h) above shall be submitted by electronic mail to Jim Gaffey, gaffey.jim@epa.gov, and Steven Schlang, schlang.steven@epa.gov. They shall provide a brief description of the work completed to date on the SEP. If Respondent anticipates any difficulties meeting future deadlines, the semi-annual progress reports shall state the reasons for such difficulties and describe steps that Respondents has taken to minimize delays.

SEP Completion Report

84. After completion of the Chlorine Elimination SEP, Respondent shall send an electronic mail message to Jim Gaffey, gaffey.jim@epa.gov, and Steven Schlang, schlang.steven@epa.gov, to confirm that chlorine gas has been eliminated from the Facility and that liquid sodium hypochlorite is being used in all former chlorine-based operations. Respondent shall also submit a written SEP Completion Report **within 30 days** of completing the SEP. The SEP Completion Report shall contain the following information:

a. A detailed description of the SEP as implemented;

b. A description of any implementation problems encountered and the solutions thereto;

c. Itemized costs, documented by copies of invoices, purchase orders, receipts, canceled checks, or wire transfer records that specifically identify and itemize the individual costs associated with the SEP. Where the SEP Completion Report includes costs not eligible for SEP credit, those costs must be clearly identified as such;

d. Certification that the SEP has been fully completed;

e. A description of the environmental and public health benefits resulting from the implementation of the SEP (with quantification of the benefits and pollutant reductions, if feasible);

f. A statement that no tax returns filed or to be filed by Respondent will contain deductions or depreciations for any expense associated with the SEP; and

g. The following statement, signed by Respondent's officer, under penalty of law, attesting that the information contained in the SEP Completion Report is true, accurate, and not misleading:

> *I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.*

Respondent shall submit the SEP Completion Report by first class mail or any other commercial delivery service, to:

Steven Schlang
Senior Enforcement Counsel (Mail Code OES 04-4)
U.S. Environmental Protection Agency, Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912;

and

Jim Gaffey
Chemical Engineer (Mail Code OES 05-1)
U.S. Environmental Protection Agency, Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912.

85. Respondent shall maintain, for a period of three (3) years from the date of submission of the SEP Completion Report, legible copies of all research, data, and other information upon which the Respondent relied to write the SEP Completion Report and shall provide such documentation within fourteen (14) business days of a request from EPA.

86. Respondent agrees that failure to submit the SEP Completion Report shall be deemed a violation of this CAFO, and Respondent shall become liable for stipulated penalties

pursuant to paragraph 94 below.

87. After receipt of the SEP Completion Report described in paragraph 84 above, EPA will notify Respondent in writing: (i) identifying any deficiencies in the SEP Completion Report itself and granting Respondent an additional thirty (30) days to correct any deficiencies; or (ii) indicating that the project has been completed satisfactorily; or (iii) determining that the project has not been completed satisfactorily and seeking stipulated penalties in accordance with paragraph 89 herein.

88. If EPA elects to exercise options (i) or (iii) in paragraph 87 above, Respondent may object in writing to the notice of deficiency given pursuant to this paragraph within ten (10) business days of receipt of such notice, except that this right to object shall not be available if EPA found that the project was not completed satisfactorily because Respondent failed to implement or abandoned the project. EPA and Respondent shall have an additional thirty (30) days from the receipt by EPA of Respondent's objection to reach agreement on changes necessary to the SEP or SEP Completion Report. If agreement cannot be reached on any such issue within this thirty (30) day period as may be extended by the written agreement of both EPA and Respondent, EPA shall provide a written statement of its decision on adequacy of the completion of the SEP to Respondent. Respondent agrees to comply with any requirements imposed by EPA that are not inconsistent with this CAFO as a result of any failure to comply with the terms of this CAFO. In the event that the SEP is not completed as contemplated herein, as determined by EPA, stipulated penalties shall be due and payable by Respondent in accordance with paragraph 89 herein.

Stipulated Penalties for SEP Obligations

89. In the event that Respondent fails to comply with any of the terms or provisions

of this CAFO relating to the performance of the SEP, Respondent shall be liable for stipulated penalties according to the provisions set forth below:

a. For failure to meet interim deadlines in Appendix B, submit required semi-annual progress reports, and/or provide a SEP Completion Report, Respondent shall pay $500 per day for the first thirty (30) days of violation; $750 per day for the next sixty days of violation; and $1,000 per day for each day of violation thereafter until the deadline is achieved or the report is submitted;

b. For failure to satisfactorily complete the SEP as described in the CAFO and Appendix A (including, for example, abandoning the SEP), Respondent shall pay $750 per day for the first thirty (30) days of violation; $1,000 per day for the next sixty days of violation; and $1,500 per day for each day of violation thereafter, but the total stipulated penalty in this subsection shall not exceed $106,000

90. The determination of whether the SEP has been satisfactorily completed shall be in the sole discretion of EPA.

91. Stipulated penalties as set forth in paragraph 89 above shall begin to accrue on the day after performance is due and shall continue to accrue through the final day of the completion of the activity.

92. Respondent shall pay stipulated penalties not more than fifteen (15) days after receipt of written demand by EPA for such penalties. The method of payment shall be in accordance with the provisions of paragraph 98(b) and (c). Interest and late charges shall be paid as stated in paragraph 99 below.

93. Payment of stipulated penalties shall be in addition to any other relief available

under federal law. EPA may, in its sole discretion, decide not to seek stipulated penalties or to waive any portion of the stipulated penalties that accrue pursuant to this CAFO.

94. **Collection of Unpaid Stipulated Penalties for SEP:** Pursuant to 31 U.S.C. § 3717, EPA is entitled to assess interest and penalties on debts owed to the United States and a charge to cover the cost of processing and handling a delinquent claim. In the event that a stipulated penalty relating to the performance of SEPs pursuant to paragraphs 81-84, above, is not paid when due, the penalty shall be payable, plus accrued interest, without demand. Interest shall be payable at the rate of the United States Treasury tax and loan rate in accordance with 31 C.F.R. § 901.9(b)(2) and shall accrue from the original date on which the penalty was due to the date of payment. In addition, a penalty charge of six percent per year will be assessed on any portion of the debt which remains delinquent more than ninety (90) days after payment is due. Should assessment of the penalty charge on the debt be required, it will be assessed as of the first day payment is due under 31 C.F.R. § 901.9(d). In any such collection action, the validity, amount, and appropriateness of the penalty shall not be subject to review.

95. Respondent hereby certifies the truth and accuracy of each of the following:

a. As of the date of executing this CAFO, Respondent is not required to perform or develop the Chlorine Elimination SEP by any federal, state, or local law or regulation. Nor is Respondent required to perform or develop the SEP under any grant or agreement with any governmental or private entity, as injunctive relief in this or any other case, or in compliance with state or local requirements.

b. Respondent is not party to any open federal financial assistance transaction that is funding or could be used to fund the same activity as the

Chlorine Elimination SEP. To the best of Respondent's knowledge and belief after reasonable inquiry, there is no such open federal financial transaction that is funding or could be used to fund the same activity as the SEP, nor has the same activity been described in an unsuccessful federal financial assistance transaction proposal submitted to EPA within two years of the date of this settlement (unless the project was barred from funding as statutorily ineligible). For the purposes of this certification, the term "open federal financial assistance transaction" refers to a grant, cooperative agreement loan, federally-guaranteed loan guarantee, or other mechanism for providing federal financial assistance whose performance period has not yet expired.

c. The SEP is not a project that Respondent was intending to construct, perform, or implement other than in settlement of the claims resolved in this CAFO;

d. Respondent has not received and will not receive credit for the SEP in any other enforcement action; and

e. Respondent has not received and will not receive any reimbursement for any portion of the SEP from any other person.

Respondent agrees that any public statement, oral or written, in print, film, or other media, made by Respondent making reference to the SEP shall state that this project was undertaken in connection with the settlement of an enforcement action taken by the U.S. Environmental Protection Agency for violations of the Clean Air Act.

Civil Penalty Payment

96. Respondent consents to the issuance of this CAFO hereinafter recited and consent

for purposes of settlement to the payment of the civil penalty cited in paragraph 97 below.

97. Pursuant to Section 113(e) of the CAA, 42 U.S.C. § 7413(e), and taking into account the relevant statutory penalty criteria, the facts alleged in the Complaint and any such other circumstances as justice may require, EPA has determined that it is fair and proper to assess a civil penalty of $7,000 for the violations alleged in this matter.

98. Respondent agrees to pay a civil penalty in the amount of $7,000 in the manner described below:

a. Payment shall be in a single payment of $7,000, due no later than 30 calendar days from the date of the Final Order. If the due date for the payment falls on a weekend or federal holiday, then the due date is the next business day. The date the payment is made is considered to be the date processed by U.S. Bank, as described below. Payment must be received by 11:00 a.m. Eastern Standard Time to be considered as received that day.

b. The payment shall be made by remitting a check or making an electronic payment, as described below. The check or other payment shall designate the name and docket number of this case, be in the amount stated in part "a," above, and be payable to "Treasurer, United States of America." The payment shall be remitted as follows:

If remitted by regular U.S. mail:

U.S. Environmental Protection Agency / Fines and Penalties
Cincinnati Finance Center
P.O. Box 979077
St. Louis, Missouri 63197-9000

If remitted by any overnight commercial carrier:

U.S. Bank
1005 Convention Plaza
Mail Station SL-MO-C2GL
St. Louis, Missouri 63101

If remitted by wire transfer: Any wire transfer must be sent directly to the Federal Reserve Bank in New York City using the following information:

Federal Reserve Bank of New York
ABA = 021030004
Account = 68010727
SWIFT address = FRNYUS33
33 Liberty Street
New York, New York 10045
Field Tag 4200 of the Fedwire message should read "D 68010727 Environmental Protection Agency"

If remitted on-line with a debit card, credit card, or bank account transfer: No user name, password, or account number is necessary for this option. On-line payment can be accessed via WWW.PAY.GOV, entering 1.1 in the form search box on the left side of the screen to access the EPA's Miscellaneous Payment Form, opening the form, following the directions on the screen and, after selecting "submit data," entering the relevant debit card, credit card, or bank account information.

c. At the time of payment, a copy of the check (or notification of other type of payment), with the name and docket number of this case, shall also be sent to:

Wanda Santiago, Regional Hearing Clerk
U.S. Environmental Protection Agency, Region 1
Mail Code ORA18-1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

and to:

Steven Schlang, Senior Enforcement Counsel
U.S. Environmental Protection Agency, Region 1
Mail Code OES04-4
5 Post Office Square, Suite 100
Boston, MA 02109-3912

99. Pursuant to 31 U.S.C. § 3717, EPA is entitled to assess interest and penalties on debts owed to the United States and a charge to cover the cost of processing and handling a delinquent claim. Pursuant to Section 113(d)(5) of the CAA, 42 U.S.C. § 7413(d)(5), if Respondent fails to pay any of the CAA penalty amount described in Paragraph 82, plus interest thereon, it will be subject to an action to compel payment, plus interest, enforcement expenses, and a nonpayment penalty. Interest will be assessed on the penalty if it is not paid by the due dates established herein. In that event, interest will accrue from the effective date of the CAFO, at the "underpayment rate" established pursuant to 26 U.S.C § 6621(a)(2). In the event that the penalty is not paid when due, an additional charge will be assessed to cover the United States' enforcement expenses, including attorneys' fees and collection costs. A quarterly nonpayment penalty will be assessed for each quarter during which the failure to pay the penalty persists. Such nonpayment penalty shall be 10 percent of the aggregate amount of Respondent's outstanding penalties and nonpayment penalties hereunder accrued as of the beginning of such quarter.

100. The provisions of this CAFO shall be binding upon Respondent and Respondent's officers, directors, agents, servants, employees, and successors or assigns.

101. Respondent shall bear its own costs and attorneys' fees in this proceeding and specifically waives any right to recover such costs pursuant to the Equal Access to Justice Act, 5 U.S.C. § 504, or other applicable laws.

102. This CAFO constitutes a settlement by EPA of all claims for civil penalties pursuant to Section 113 of the CAA for the violations specifically alleged in this CAFO. Compliance with this CAFO shall not be a defense to any other actions subsequently commenced pursuant to federal laws and regulations administered by EPA, and it is the responsibility of Respondent to comply with such laws and regulations. This CAFO in no way relieves

Respondent or its employees of any criminal liability. Nothing in this CAFO shall be construed to limit the authority of the United States to undertake any action against Respondent in response to conditions which may present an imminent and substantial endangerment to the public.

103. Nothing in this CAFO shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions if Respondent is in violation of this CAFO or continues to be in violation of the statutes and regulations upon which the allegations in this CAFO are based, or for Respondent's violation of any other applicable provision of federal, state or local law.

104. The undersigned representative of Respondent certifies that he or she is fully authorized by Respondent to enter into the terms and conditions of this CAFO and to execute and legally bind Respondent to it.

105. In accordance with 40 C.F.R. § 22.31(b), the effective date is the date on which this CAFO is filed with the Regional Hearing Clerk.

FOR RESPONDENT, CITY OF GROTON

Marian Galbraith Date: 3/26/15

Marian K. Galbraith
Mayor, City of Groton

FOR COMPLAINANT, United States Environmental Protection Agency:

Susan Studlien

Date: 03/31/15

Susan Studlien
Director
Office of Environmental Stewardship
U.S. EPA, Region 1

VII. FINAL ORDER

The foregoing Consent Agreement is hereby approved and incorporated by reference into this Final Order. Respondent is hereby ordered to comply with the terms of the above Consent Agreement, which will be effective on the date it is filed with the Regional Hearing Clerk.

Date: 3/31/15

LeAnn Jensen
Acting Regional Judicial Officer
U.S. EPA, Region 1

APPENDIX A

GROTON UTILITIES

At Your Service

January 12, 2015

Susan Studlien, Director
Office of Environmental Stewardship
U.S. Environmental Protection Agency, Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: In the Matter of City of Groton, Connecticut
Docket Number: CAA-01-2014-0047
Supplemental Environmental Project
Scope of Work – Groton Utilities Water Treatment Plant

Dear Ms. Studlien:

Groton Utilities (GU) a public utility owned by the City of Groton Connecticut assisted by its engineering consultant Fay, Spofford and Thorndike (FST) has prepared this letter to document the proposed Scope of Work (SOW) for the Supplemental Environmental Project (SEP) currently being negotiated as part of the Consent Agreement and Final Order (CAFO) in response to the above referenced complaint. The above-referenced complaint was issued pursuant to the General Duty Clause under the Clean Air Act (CAA), 42 U.S.C § 7412(r)(7), specifically the Risk Management Plan elements in Title 40 Code of Federal Regulations (CFR) Part 68. GU is subject to the RMP elements because it uses and stores up to 14,000 pounds of chlorine at its water treatment plant (WTP) for the sole purpose of disinfection of drinking water. The threshold limit for chlorine is 2,500 pounds. This letter is a follow-up to the letter dated September 5, 2014 by Suisman/Shapiro Attorneys-at-Law and provides details regarding the proposed SOW.

As part of the proposed settlement and CAFO, GU is proposing to convert the disinfection process at the WTP from the storage and use of chlorine gas to the storage and use of sodium hypochlorite. This conversion will result in the elimination of chlorine gas at the facility. The use of sodium hypochlorite for the disinfection of drinking water is common in the drinking water industry. Many public water suppliers have made the switch from chlorine gas to sodium hypochlorite, in recent years as technology has advanced.

5 Morrison Street
Groton, Connecticut 06340
T 860-446-4000 F 860-446-4098

The SOW as proposed has been developed to meet the requirements of a SEP as outlined in the *EPA Supplemental Environmental Projects Policy*, dated May 1, 1998 and the design standards outlined in the State of Connecticut Department of Public Health (CTDPH), Drinking Water Section – *Liquid Chemical Feed System Design and Installation Guidelines,* dated May 8, 2008 (Guidelines). If this SOW is approved as a SEP, GU will construct the proposed modifications that have been designed and approved by the CTDPH. It should be noted that the proposed conversion to sodium hypochlorite at GU's WTP will reduce the overall risk to operator safety and public health and the environment by eliminating the storage and handling of the toxic regulated substance.

The proposed SOW includes:

- Construction of a temporary sodium hypochlorite feed system including a bulk storage tank within a constructed containment area, metering pump and appurtenances. The temporary feed system will be located adjacent to the existing chlorine gas system.
- Demolition and removal of the existing chlorine gas feed system, chain hoist, cylinder storage cradles, chlorine gas scrubber and all associated electrical and instrumentation components.
- Installation of new sodium hypochlorite feed system including bulk storage tanks, day tanks, chemical transfer pumps, chemical metering pumps and the associated discharge piping, and instrumentation and controls within the area that housed the chlorine gas system as well as alarms for safety.
- Building/architectural modifications to support the installation of the new tanks, metering and transfer pumps, and appurtenances.
- Water Treatment Plant Standard Operating Procedures, will be modified accordingly.

The schematic design of the proposed modifications is based on past GU WTP chlorine usage data, FST' experience in design of similar sodium hypochlorite feed systems at other water treatment plants, and the requirements of the CTDPH Guidelines. A Draft Technical Design Memorandum dated April 11, 2013 was submitted to the CTDPH for review and approval. A Final Memo incorporating comments from the CTDPH and GU was completed on August 6, 2013 and is attached to this letter. Major components of the proposed system include:

Temporary Sodium Hypochlorite Feed System

- (1) - 2,550 gallon vertical high density polyethylene bulk storage tank to provide approximately 15 days storage at the anticipated average dose and current maximum daily flow of 8 million gallons per day (MGD) per the CTDPH Guidelines.
- (1) - Chemical Metering Pump to be incorporated into the Plant SCADA system for automatic flow pacing meeting all the requirements of the CT DPH Guidelines.

- Chemical piping to the existing chlorine solution line for post filtration injection.
- Construction of chemical containment structure.

Permanent Sodium Hypochlorite Feed System

- (3) – 2,550 gallon vertical high density polyethylene bulk storage tanks to provide 40 days storage at the anticipated future maximum day flow (12 MGD) and 60 days at the current maximum daily flow (8 MGD) per the CTDPH Guidelines. (One tank will be relocated and reused from the temporary feed system.)
- (2) - 155 gallon high density polyethylene day tank to provide approximately 40 hours storage at anticipated average daily chemical usage rates per CTDPH.
- (2) - Chemical Transfer Pumps with manual control and automatic high level shut-off, and incorporated into the WTP SCADA system
- (4) - Chemical Metering Pumps to be incorporated into the Plant SCADA system for automatic flow pacing and provided with interlock at a minimum flow rate (or high lift pump status or post finished water storage tank residual).
- Chemical piping to the points of chemical addition.
- Construction of a chemical containment structure.

The following table presents the Opinion of Probable Cost for the conversion from chlorine gas to sodium hypochlorite at the WTP.

Groton Utilities
SEP Estimated Project Costs

Process Tanks and Pumps	$ 108,000
Chemical Piping, Valves and Appurtenances	$ 75,200
Electrical	$ 29,000
Instrumentation	$ 19,800
Facility Modifications	$ 36,200
Total	***$ 268,200***

Groton Utilities and the City of Groton appreciates the opportunity to present this proposed Scope of Work for a SEP at GU's water treatment plant and looks forward to your favorable review. If you have any questions or require any additional information, please do not hesitate to contact me at 860-446-4071.

GROTON UTILITIES

Richard M. Stevens
Manager, Water Division and PAF

APPENDIX B

EPA SEP

Groton Utilities Water Division

Sodium Hypochlorite Disinfection Conversion

Schedule of Deliverables

	DATE	MILESTONES
•	May 31, 2015	Construction / Installation (3) 2,500 Gallon Supply Tanks
•	June 30, 2015	Construction/Installation Piping / Metering Pumps
•	June 30, 2015	Electrical / SCADA Installation
•	June 30, 2015	Appurtent Work (Concrete / Safety)
•	July 31, 2015	Hydro-Test System
•	July 31, 2015	Inspection by CTDPH
•	August 1, 2015	Operational Sodium Hypochlorite System
•	October 31, 2015	Demolition Existing Chlorine System