

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

_____)	
Conservation Law Foundation, Inc.,)	
)	Case No. _____
Plaintiff,)	
)	COMPLAINT FOR
)	DECLARATORY AND INJUNCTIVE
)	RELIEF AND CIVIL PENALTIES
v.)	
)	
ExxonMobil Corporation,)	
ExxonMobil Oil Corporation, and)	
ExxonMobil Pipeline Company,)	
)	
Defendants.)	
_____)	

Plaintiff Conservation Law Foundation, Inc. (“CLF”), by and through its counsel, hereby alleges:

INTRODUCTION

1. This is a civil suit brought under the citizen suit enforcement provisions of the Solid Waste Disposal Act, 42 U.S.C. § 6901, *et seq.* (“Resource Conservation and Recovery Act” or “RCRA”), and the Federal Water Pollution Control Act, 33 U.S.C. § 1251, *et seq.* (“Clean Water Act” or “CWA”). Plaintiff seeks declaratory and injunctive relief, civil penalties, and other relief the Court deems proper to remedy Defendants ExxonMobil Corporation, ExxonMobil Oil Corporation, and ExxonMobil Pipeline Company’s (hereinafter, collectively, “ExxonMobil”) violations of federal law, which include: (1) that ExxonMobil has contributed and is contributing to past and present handling, storage, treatment, transportation, or disposal of solid and

hazardous wastes which may present an imminent and substantial endangerment to health or the environment in violation of RCRA; (2) ExxonMobil's past and ongoing failures to comply with its National Pollutant Discharge Elimination System ("NPDES") permit and the Clean Water Act.

JURISDICTION AND VENUE

2. Plaintiff brings this civil suit under the citizen suit enforcement provisions of Section 7002 of the Resource Conservation and Recovery Act, 42 U.S.C. § 6972, and Section 505 of the Clean Water Act, 33 U.S.C. § 1365. This Court has subject matter jurisdiction over the parties and this action pursuant to those statutes and 28 U.S.C. § 1331 (providing district courts with original jurisdiction over an action arising under the Constitution and laws of the United States).

3. Venue is proper in the U.S. District Court for the District of Massachusetts pursuant to Section 7002(a) of RCRA, 42 U.S.C. § 6972(a), and Section 505(c)(1) of the CWA, 33 U.S.C. § 1365(c)(1), because the source of the violations is located within this judicial district.

4. On May 17, 2016, Plaintiff notified Defendants of its intention to file suit for violations of the Clean Water Act, in compliance with the statutory notice requirements set forth in 33 U.S.C. § 1365(a)(1), and the corresponding regulations at 40 C.F.R. § 135.2. Letter to R. Tillerson, President, ExxonMobil Corp., from Z. Griefen, Env'tl. Enf't Litigator, CLF (May 17, 2016). In that May 17, 2016 notice letter, Plaintiff also notified Defendants of its intention to file suit for violations of RCRA, in compliance with the statutory notice requirements set forth in 42 U.S.C. § 6972(b)(2)(A), and the corresponding regulations at 40 C.F.R. Part 254. *Id.* A true and accurate copy of Plaintiff's May 17, 2016 notice letter is appended hereto as Exhibit A.

5. On July 8, 2016, Plaintiff provided Defendants with an “Amended Notice of Violations and Intent to File Suit under the Resource Conservation and Recovery Act and Clean Water Act.” In that July 8, 2016 amended notice letter, Plaintiff notified Defendants that “[t]his letter supersedes and replaces that portion of the Notice of Intent issued by CLF on May 17, 2016 regarding the Clean Water Act violations at the Everett Terminal. This letter does not amend or alter those allegations associated with the Resource Conservation and Recovery Act (‘RCRA’) claims contained in the May 17, 2016 Notice of Intent and that portion of the Notice of Intent is included herein only for reference.” Letter to R. Tillerson, President, ExxonMobil Corp., from Z. Griefen, Env’tl. Enf’t Litigator, CLF, (July 8, 2016), at 2. A true and accurate copy of Plaintiff’s July 8, 2016 amended notice letter is appended hereto as Exhibit B.

6. More than 60 days have elapsed since Plaintiff served the July 8, 2016 amended notice letter on Defendants, during which time neither the EPA nor the Commonwealth of Massachusetts has commenced and diligently prosecuted a court action to redress the Clean Water Act violations alleged in this complaint. 33 U.S.C. § 1365(b)(1)(B).

7. More than 90 days have elapsed since Plaintiff served the May 17, 2016 notice letter on Defendants, during which time neither the EPA nor the Commonwealth of Massachusetts has commenced and diligently prosecuted a court action to redress the RCRA violations alleged in this complaint. 42 U.S.C. § 6972(b).

PARTIES

8. Plaintiff CLF is a nonprofit, member-supported organization dedicated to protecting New England’s environment. It is incorporated under the laws of Massachusetts with its principal place of business at 62 Summer Street, Boston, MA, 02110. CLF has over 4,000 members, including more than 1,600 members in Massachusetts. CLF has long worked to protect the

health of New England's waterways, including addressing the significant water quality impacts of industrial and stormwater pollution. CLF members use and enjoy New England's waterways for recreational and aesthetic purposes, including but not limited to boating, swimming, fishing, hunting, and sightseeing. These waters of the United States include the waterways harmed and threatened by ExxonMobil's violations of federal environmental laws and regulations.

9. CLF and its members are concerned about and have an interest in preventing ExxonMobil's pollutant discharges from the Everett Terminal in part because these discharges contain toxic pollutants that are known to be harmful to humans and aquatic life and to persist in the environment. These discharges of toxic pollutants result from ExxonMobil's failure to operate its pollutant treatment system in a manner that complies with its NPDES Permit, meaning that much of this pollution would be avoidable if ExxonMobil operated its pollutant treatment system as required by the Permit. CLF and its members are concerned that these toxic pollutant discharges, which frequently exceed the limits in ExxonMobil's NPDES permit, harm the ecosystems and human use and enjoyment of the Island End and Mystic Rivers.

10. CLF and its members are also concerned about, and have an interest in eliminating the risk from, the toxic pollutants from the Everett Terminal that will wash into the Island End and Mystic Rivers, as well as into and nearby communities, when the Terminal is flooded by a severe storm and/or sea level rise, consistent with the following map:



Census 2010 Municipalities Labels

Legend for Hurricane Surge Inundation Zones

- Category 1
- Category 2
- Category 3
- Category 4

Hurricane Surge Inundation Zones

2013-2014 Color Orthos (USGS)

http://maps.massgis.state.ma.us/map_ol/oliver.php.

11. Because ExxonMobil has not taken climate change impacts into account in its stormwater pollution prevention plan (“SWPPP”), spill prevention, control and countermeasures plan (“SPCC”) and facility response plan (“FRP”), CLF and its members are placed directly in harm’s way and have no reasonable assurance that they will be protected from pollutants released and discharged from the Everett Terminal.

12. Defendant ExxonMobil Corporation is a multinational oil and gas corporation incorporated in New Jersey and headquartered in Irving, Texas. It is the largest direct

descendant of John D. Rockefeller's Standard Oil Company and was formed on November 30, 1999 by the merger of Exxon (originally the Standard Oil Company of New Jersey) and Mobil (originally the Standard Oil Company of New York).

13. Defendant ExxonMobil Pipeline Company is a Delaware corporation headquartered in Houston, Texas. ExxonMobil Pipeline Company, an indirectly wholly-owned subsidiary of ExxonMobil Corporation, operates oil pipelines and provides the management and employees for the operation of oil pipelines and oil terminals for ExxonMobil Corporation and its subsidiaries and affiliates.

14. ExxonMobil Pipeline currently provides the management and employees for operation of the Everett Terminal.

15. Defendant ExxonMobil Oil Corporation is a New York corporation headquartered in Irving, Texas. ExxonMobil Oil Corporation, a subsidiary of ExxonMobil Corporation, refines, markets, and transports petroleum and gas products.

16. ExxonMobil Oil Corporation operates the Everett Terminal and holds the National Pollutant Discharge Elimination System permit for the Terminal.

17. Upon information and belief, ExxonMobil¹ is the world's fifth largest company by revenue and the third largest publicly traded company by market capitalization. ExxonMobil was ranked ninth globally on the Forbes Global 2000 list in 2016 and was the second most profitable company in the Fortune 500 in 2016.

¹ For ease of reference herein, "ExxonMobil" will be used herein to refer to ExxonMobil Corporation, ExxonMobil Oil Corporation, ExxonMobil Pipeline Company, and their predecessors collectively.

18. ExxonMobil is a large producer of oil and gas, producing, upon information and belief, approximately 3.9 million BOE (barrels of oil equivalent) every day. ExxonMobil's reserves exceed, upon information and belief, 25 billion BOE. With 37 oil refineries in 21 countries constituting a combined daily refining capacity of 6.3 million barrels, ExxonMobil is the largest oil refiner in the world.

STATUTORY AND REGULATORY BACKGROUND

Resource Conservation and Recovery Act

19. RCRA's citizen suit provision, 42 U.S.C. § 6972, provides in relevant part:

[A]ny person may commence a civil action on his own behalf--
(1)(A) against any person . . . who is alleged to be in violation of any permit, standard, regulation, condition, requirement, prohibition, or order which has become effective pursuant to this chapter; or (B) against any person . . . including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility, who has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment[.]

42 U.S.C. § 6972(a)(1).

20. "RCRA's primary purpose . . . is to reduce the generation of hazardous waste and to ensure the proper treatment, storage, and disposal of that waste which is nonetheless generated, 'so as to minimize the present and future threat to human health and the environment.'" *Meghriq v. KFC W., Inc.*, 516 U.S. 479, 483 (1996) (quoting 42 U.S.C. § 6902(b)).

21. RCRA's citizen suit provision "allows citizen suits when there is a reasonable prospect that a serious, near-term threat to human health or the environment exists." *Me. People's All. & Nat. Res. Def. Council v. Mallinckrodt, Inc.*, 471 F.3d 277, 279 (1st Cir. 2006).

Clean Water Act

22. Congress enacted the Clean Water Act to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a). To accomplish that objective, Congress set as a national goal that “the discharge of pollutants into the navigable waters be eliminated” *Id.*

23. Accordingly, Section 301(a) of the Clean Water Act, 33 U.S.C. § 1311(a), prohibits the discharge of any pollutant into waters of the United States from a point source, unless the discharge complies with various enumerated sections of the Act.

24. Among other things, Section 301(a) prohibits discharges not authorized by, or in violation of, the terms of a valid NPDES permit issued pursuant to Section 402(p) of the CWA, 33 U.S.C. § 1342(p).

25. Section 502(14) of the Clean Water Acts defines “point source” broadly to include “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.” 33 U.S.C. § 1362(14).

26. Under the regulations implementing the Clean Water Act, the definition of “discharge of a pollutant” includes “additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man.” 40 C.F.R. § 122.2.

27. Dischargers of pollutants, including industrial wastewater, process water and stormwater associated with industrial activity, must obtain and comply with the requirements of NPDES permits issued under Section 402 of the Clean Water Act, 33 U.S.C. § 1342.

28. NPDES discharge permits contain pollutant sampling and monitoring requirements and limits on the amount or concentration of allowable pollutants, in addition to requirements regarding control measures, best management practices, and recordkeeping and reporting.

29. The discharge of any pollutant in violation of a NPDES permit, the failure to conduct required monitoring for pollutant discharges, and the failure to comply with other requirements of a NPDES permit are all violations of the Clean Water Act, 33 U.S.C. §§ 1311(a), 1342.

30. Section 505(a)(1) of the Clean Water Act, 33 U.S.C. § 1365(a)(1), provides for citizen enforcement actions against any “person” who is alleged to be in violation of an “effluent standard or limitation . . . or an order issued by the Administrator or a State with respect to such a standard or limitation.”

31. Such enforcement action under Clean Water Act Section 505(a) includes an action seeking remedies for unauthorized discharges in violation of Section 301 of the Clean Water Act, 33 U.S.C § 1311, as well as for failing to comply with one or more permit conditions in violation of Sections 402 and 505(f) of the Act, 33 U.S.C. §§ 1342, 1365(f).

32. Each separate violation of the Clean Water Act subjects the violator to a penalty of up to \$37,500 per day per violation for all violations occurring between January 12, 2009 and November 2, 2015, and up to \$51,570 per day per violation for all violations occurring after November 2, 2015. *See* 33 U.S.C. §§ 1319(d), 1365(a); 40 C.F.R. §§ 19.1–19.4.

FACTUAL BACKGROUND

ExxonMobil's Everett Terminal

33. ExxonMobil's Everett Terminal, located in Everett, Massachusetts ("Everett Terminal" or "Terminal") is a petroleum products distribution and bulk storage terminal that has operated since 1965. It had previously operated as a refinery from 1921 to 1964.

34. The Terminal is composed of approximately 110 acres and consists of a light fuel (gasoline, diesel and jet fuel) storage area known as the North Tank Farm; a heavy fuel oil and asphalt storage area known as the South Tank Farm; and a marine bulk products receiving and shipping facility known as the Marine Facilities.

35. Sprague Energy is an asphalt storage and distribution facility located within the South Tank Farm on property formerly owned by ExxonMobil.

36. ExxonMobil's Everett Terminal is engaged in the receipt, storage, and distribution of petroleum products. The spectrum of fuels handled by this facility consists of gasoline, low sulfur diesel, jet fuel, heavy oil, and fuel additives. Petroleum products are received in bulk quantities at the Everett Terminal's marine vessel dock and then transferred, via aboveground piping, to aboveground storage tanks located within the facility's "tank farm." The "tank farm" is comprised of a tank truck loading rack and twenty-nine storage tanks in which petroleum products are stored. Final distribution of product is conducted at the Terminal's truck loading racks.

37. ExxonMobil's Everett Terminal generates, stores, handles, and disposes of toxic and hazardous chemicals, metals, and compounds including but not limited to: Ignitable Waste, Petroleum Hydrocarbons, Benzene, Toluene, Ethylbenzene, (m,p,o), Xylenes, tert-Butyl Alcohol, Naphthalene, Phenols, Phthalates (Phthalate esters), Polycyclic Aromatic

Hydrocarbons (“PAHs”), Acenaphthene, Anthracene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene, Pyrene, Antimony, Arsenic, Cadmium, Copper, Lead, Nickel, Selenium, and Zinc.

38. The Terminal’s marine transfer area is comprised of three berths (Berths 1, 3, and 4). At active berths, barges and ships offload petroleum products that are piped to and stored in the tanks within the tank farm. Those products are then piped to the Terminal’s truck loading rack, where they are loaded onto trucks and distributed.

39. The Terminal is typically operated by a regular staff of approximately fourteen employees, who operate out of an office building located adjacent to the tank farm and just north of the marine docking facility. The regular Terminal staff consists of a terminal superintendent, a terminal supervisor, nine terminal operators who cover twenty-four hour operations of the Terminal, an electrician, a mechanic, and an accountant. At any given time, at least two terminal operators are on duty. Additional Terminal support is provided by a field operations specialist, an area administrator, and an area engineer.

40. ExxonMobil Pipeline is responsible for the proper operation and maintenance of the facility. Those responsibilities entail, among other duties, monitoring the Terminal and, when necessary, cleaning, repairing, and replacing, as appropriate, worn or damaged equipment, including pipes, valves, docks and tanks. Likewise, ExxonMobil Pipeline was and is responsible for monitoring the transfer of petroleum products at each point in the process, from delivery at the marine transfer area through the receipt and storage of those products in the tanks in the tank farm, to the transport of those products to the truck loading rack where they are loaded on trucks for distribution.

41. The ExxonMobil Everett Terminal operations also include the collection and discharge of stormwater from all areas of the Terminal, including from Sprague Energy.

42. All of the stormwater discharged is collected by the Terminal's stormwater collection system which drains to a treatment works near the eastern edge of the North Tank Farm.

43. Residential areas are located in close proximity to the Terminal.

Discharges to the Island End River & ExxonMobil's NPDES Permit

44. ExxonMobil operates the Everett Terminal pursuant to EPA NPDES Permit No. MA0000833, as modified on October 12, 2011 ("the Permit").

45. The Permit authorizes ExxonMobil, subject to certain conditions, to discharge stormwater, groundwater, steam condensate, tank bottoms, and potable water (used for garage floor washing, hydrostatic testing, truck washing, fire testing, landscape watering, and safety showers).

46. The receiving water identified in ExxonMobil's Permit is the Island End River (Boston Harbor/Mystic River Watershed/Segment MA71-03), a small tributary to the Mystic River.

47. The Island End River flows into the Mystic River, approximately half a mile west of the Mystic River's confluence with Boston Harbor.

48. The Island End River is designated as a Class SB water body by the Commonwealth of Massachusetts, meaning that it is "designated as a habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation." 314 Mass. Code Regs. 4.05.

49. Under Section 303(d) of the Clean Water Act, states are required to develop information on the quality of their water resources and report this information to the EPA, the U.S. Congress, and the public.

50. In Massachusetts, the responsibility for identifying waters that are impaired, meaning that they do not meet the Massachusetts Water Quality Standards, 314 CMR 4.0, resides with the Massachusetts Department of Environmental Protection (“MassDEP”).

51. The MassDEP’s most recent assessment of impaired waters was published in *Massachusetts Year 2014 Integrated List of Waters*, MassDEP (Dec. 2015).

52. The *Massachusetts Year 2014 Integrated List of Waters* identifies the lower reach of the Mystic River (Segment ID No. MA71-03, which includes the Island End River) as one of the waterways within Massachusetts that is impaired. The impairment, as identified by the MassDEP, is related to the presence of the following pollutants, which were not considered to be present due to natural causes: Ammonia (Un-ionized); Dissolved Oxygen; Foam/Flocs/Scum/Oil Slicks; Petroleum Hydrocarbons; Taste and Odor; Fecal Coliform; PCB in Fish Tissue; Sediment Screening Value (Exceedence); and Other.

53. The *Massachusetts Year 2010 Integrated List of Waters* identified this section of the Mystic River, including the Island End River, as impaired for the following pollutants: Ammonia (Un-ionized); Dissolved Oxygen; Foam/Flocs/Scum/Oil Slicks; Petroleum Hydrocarbons; Taste and Odor; Fecal Coliform; PCB in Fish Tissue; and Other. *Massachusetts Year 2010 Integrated List of Waters*, MassDEP (Nov. 2011).

54. As required by statute, EPA has included conditions in the Permit to ensure that discharges from the Terminal will not cause or contribute to a violation of the Massachusetts Water Quality Standards.

55. Stormwater discharges from the Everett Terminal are conveyed to the Island End River by means of a 6-foot diameter, 1,500 foot long culvert. The downstream end of the culvert is regularly submerged by, and its flow influenced by, the tidal influences of the Island End River.

56. There are three discharge outfalls from the Everett Terminal that connect to the culvert: Outfalls 01A, 01B, and 01C. The Permit includes mandatory permit conditions that specify the required operation of the stormwater system, including specific conditions and limitations governing the discharge from each outfall.

57. The mandatory operational protocol in the permit was implemented pursuant to a settlement agreement between ExxonMobil and EPA, whereby ExxonMobil “agreed to extensively redesign its effluent treatment system in order to improve effluent quality under all flow conditions, including through the use of a continuously operated advanced treatment system, and a flow equalization tank to store storm water volume during periods of peak storm water flow.” Response to Comments on Draft Modification of NPDES Permit No. MA0000833, at 1-2 (attached to Permit).

58. The Permit requires that all discharges up to and including a volume of 280 gpm must occur through Outfall 01C.

59. Discharges through Outfall 01C are treated by a continuously operated advanced treatment system, which was implemented to improve effluent quality under all flow conditions.

60. The permit includes numeric effluent limitations for each outfall, including effluent limitations for PAHs.

Spill Prevention and Response Measures Required at the Everett Terminal

61. The Permit requires that ExxonMobil “develop, implement, and maintain a Storm Water Pollution Prevention Plan (“SWPPP”) designed to reduce, or prevent, the discharge of pollutants in storm water to the receiving waters.” Permit Part I.B.1, p. 13.

62. The Permit requires that: “the SWPPP shall contain the elements listed below: A description of all storm water controls, both structural and non-structural. [Best Management Practices (“BMPs”)] must include . . . preventative maintenance programs, spill prevention and response procedures, runoff management practices, and proper handling of deicing materials. The SWPPP shall describe how the BMPs are appropriate for the facility. All BMPs shall be properly maintained and be in effective operating conditions.” Permit Part I.B.4(e), p. 13-14.

63. The Permit incorporates spill prevention and response procedures as a BMP in the SWPPP.

64. Applicable spill prevention and response procedures include a Spill Prevention, Control, and Countermeasures (“SPCC”) Plan, which is required pursuant to 40 C.F.R. § 112, Subpart A.

65. ExxonMobil is required to prepare an SPCC for the Everett Terminal because it is an “owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, into or

upon the navigable waters of the United States or adjoining shorelines . . .” 40 C.F.R. § 112.1(b).

66. The SPCC must include “procedures, methods, equipment, and other requirements to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines . . .” 40 C.F.R. § 112.1(a)(1).

67. The SPCC regulations highlight the importance of SPCC Plans:

SPCC Plans are designed to complement existing laws, regulations, rules, standards, policies, and procedures pertaining to safety standards, fire prevention, and pollution prevention rules. The purpose of an SPCC Plan is to form a comprehensive Federal/State spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility. Compliance with this part does not in any way relieve the owner or operator of an onshore or an offshore facility from compliance with other Federal, State, or local laws.

40 C.F.R. § 112.1(e).

68. The SPCC regulations state that:

Except as provided in §112.6, a licensed Professional Engineer must review and certify a Plan for it to be effective to satisfy the requirements of this part. (1) By means of this certification the Professional Engineer attests: (i) That he is familiar with the requirements of this part; (ii) That he or his agent has visited and examined the facility; (iii) That the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part; (iv) That procedures for required inspections and testing have been established; and (v) That the Plan is adequate for the facility. (vi) That, if applicable, for a produced water container subject to §112.9(c)(6), any procedure to minimize the amount of free-phase oil is designed to reduce the accumulation of free-phase oil and the procedures and frequency for required inspections, maintenance and testing have been established and are described in the Plan. (2) Such

certification shall in no way relieve the owner or operator of a facility of his duty to prepare and fully implement such Plan in accordance with the requirements of this part.

40 C.F.R. § 112.3(d).

69. Applicable spill prevention and response procedures include a Facility Response Plan (“FRP”), which is required pursuant to 40 C.F.R. § 112, Subpart A.

Risks to the Everett Terminal

70. The Everett Terminal is vulnerable to sea level rise, increased precipitation, increased magnitude and frequency of storm events, and increased magnitude and frequency of storm surges due to its location, elevation, and lack of preventative infrastructure.

71. ExxonMobil has not implemented needed actions to address and eliminate these vulnerabilities at the Everett Terminal.

72. For Everett, Massachusetts, the flood of record for storm surge risk occurred in February 1978 and had a flood elevation of 10.5 feet.

73. Upon information and belief, the majority of the areas at the Everett Terminal are at or below 10.5 feet.

74. Preparation for spills and other releases of hazardous substances is especially important at the Everett Terminal given its vulnerability to sea level rise, increased precipitation, increased magnitude and frequency of storm events, and increased magnitude and frequency of storm surges.

75. The Federal Emergency Management Agency (“FEMA”) flood maps for Boston, Chelsea, Revere, and Winthrop were recently updated in part to reflect readily available information

regarding climate change-induced sea level rise and storm surge predictions. The updated FEMA maps for Chelsea include a substantial part of the city in the flood hazard zone.

76. Applying the same data and information that were applied to Chelsea to Everett, places a substantial part of ExxonMobil's Everett Terminal in the flood hazard zone.

77. The boundary between the cities of Everett and Chelsea is in close proximity to, and at the same elevation as, the Everett Terminal and the area of Chelsea nearest the Everett Terminal is in the flood hazard zone.

78. Despite the extensive information and knowledge in ExxonMobil's possession regarding climate change-induced impacts, including knowledge and information about increased precipitation, storm surge and sea level rise, ExxonMobil has not requested an update of the FEMA flood hazard maps for the location of its Everett Terminal.

79. A severe rainfall event in July 2010 (NRC Report No. 947252), together with ExxonMobil's failure to fortify its Terminal against increased risks from extreme weather events, produced a failure of the Everett Terminal's treatment system that resulted in a discharge of untreated pollutants directly into the Island End River. In an August 15, 2010 letter to the MassDEP, ExxonMobil explained that this failure and unpermitted, untreated discharge occurred in part because:

On July 10th the facility experienced a severe rainfall event, noted in the Boston and Cambridge area as a rainfall of 2-3.5" of rain in ~2 hrs. The sudden intense rainfall resulted in the flooding of the facility oil water separator, compromising the function of the system. Water continued to be pumped from the suction end of the [Oil Water Separator].

Letter from A. F. Powers, Terminal Superintendent, ExxonMobil Pipeline Co., to Water Technical Unit, U.S. EPA, *Submission of Discharge Monitoring Reports, Permit No. MA0000833* (Aug. 15, 2010)

80. As indicated in the “SLOSH” model (Sea, Lake, and Overland Surges from Hurricanes), the majority of the Everett Terminal is included within a “Category 1” Hurricane Surge Inundation Zone, which is indicated by the color light green as shown in the legend below the map on this page:



Census 2010 Municipalities Labels

Legend for Hurricane Surge Inundation Zones

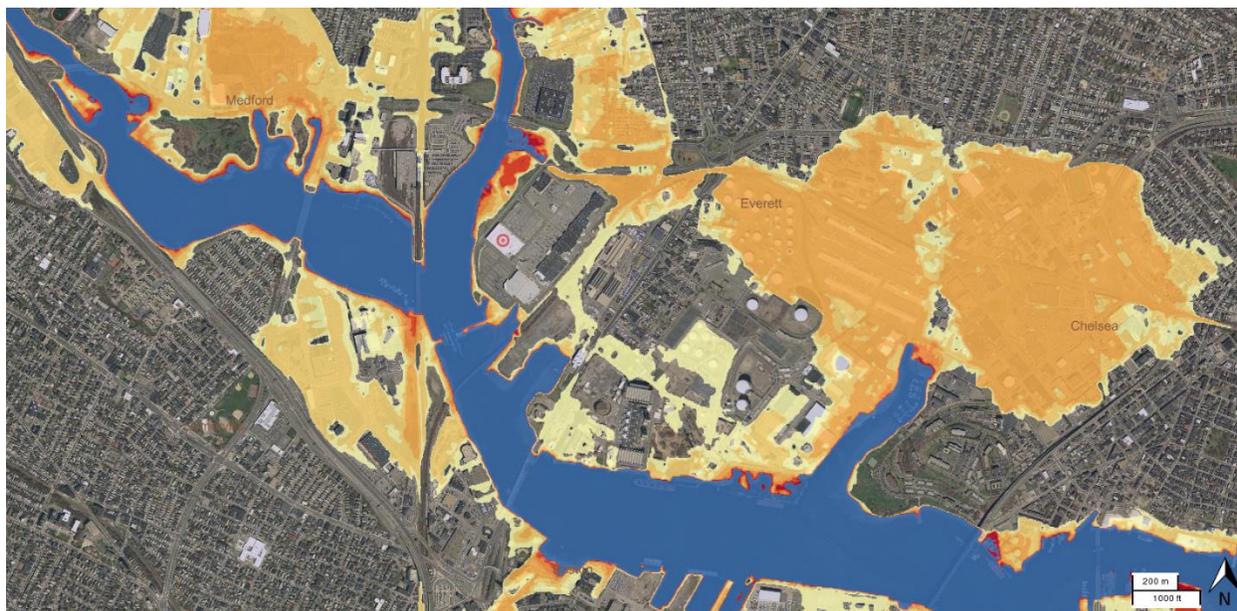
- Category 1
- Category 2
- Category 3
- Category 4

Hurricane Surge Inundation Zones

2013-2014 Color Orthos (USGS)

http://maps.massgis.state.ma.us/map_ol/oliver.php

81. The threat of a rise in sea level at the Terminal is imminent, as indicated by the following map, which shows that a four-foot or greater rise in sea level will inundate much of the Terminal:



2010 U.S. Census Municipalities Labels

Legend for Coastal Inundation Scenarios

- Current Mean Higher High Water
- 1 ft Sea Level Rise
- 2 ft Sea Level Rise
- 3 ft Sea Level Rise
- 4 ft Sea Level Rise
- 5 ft Sea Level Rise
- 6 ft Sea Level Rise

Coastal Inundation Scenarios

Massachusetts Municipal Boundaries Lines

- Towns
- Interstate
- Coast

http://maps.massgis.state.ma.us/map_ol/oliver.php

82. The Terminal is at risk of discharging oil and other pollutants due to climate change-induced sea level rise.

83. The Terminal is at risk of discharging oil and other pollutants due to climate change-induced storm surge.

84. The Terminal has discharged, and is at risk of discharging, oil and other pollutants due to climate change-induced increased precipitation.

85. The Terminal has discharged, and is at risk of discharging, oil and other pollutants due to climate change-affected weather events.

86. The Terminal has discharged, and is at risk of discharging, oil and other pollutants due to climate change-affected severe weather events.

87. The Terminal has discharged, and is at risk of discharging oil and other pollutants due to climate change-affected extreme weather events.

88. ExxonMobil is aware of these risks, yet has failed to design and implement protective measures to fortify the Everett Terminal as required under federal law.

Climate Change Impacts

89. The harms associated with climate change are serious and well recognized.

Massachusetts v. EPA, 549 U.S. 497, 521 (2007).

90. “That global warming is taking place as a result of human emissions of carbon dioxide and other greenhouse gases, and that its consequences are likely to be harmful, is widely accepted in the scientific community.” *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*, 508 F. Supp. 2d 295, 341 (D. Vt. 2007).

91. In 2013, the President of the United States issued an Executive Order entitled “Preparing the United States for the Impacts of Climate Change.” That Executive Order states that “[t]he impacts of climate change—including an increase in prolonged periods of excessively high temperatures, more heavy downpours, an increase in wildfires, more severe droughts, permafrost thawing, ocean acidification, and sea-level rise—are already affecting communities, natural resources, ecosystems, economies, and public health across the Nation.” Exec. Order No. 13653, 78 Fed. Reg. 66,819 (Nov. 6, 2013).

92. According to the Third National Climate Assessment:

- a. “Global climate is changing and this is apparent across the U.S. in a wide range of observations. The global warming of the past 50 years is primarily due to human activities, predominantly the burning of fossil fuels.” Third National Climate Assessment ((J. M. Melillo et al. eds., 2014) at 15, *available at* <http://nca2014.globalchange.gov/report>).
- b. “Some extreme weather and climate events have increased in recent decades, and new and stronger evidence confirms that some of these increases are related to human activities.” *Id.*
- c. “Human-induced climate change is projected to continue, and it will accelerate significantly if global emissions of heat-trapping gases continue to increase.” *Id.*
- d. “Impacts related to climate change are already evident in many sectors and are expected to become increasingly disruptive across the nation throughout this century and beyond.” *Id.*

- e. “Climate change threatens human health and well-being in many ways, including through more extreme weather events and wildfire, decreased air quality, and diseases transmitted by insects, food, and water.” *Id.* at 16.
 - f. “Infrastructure is being damaged by sea level rise, heavy downpours, and extreme heat; damages are projected to increase with continued climate change.” *Id.*
 - g. “Water quality and water supply reliability are jeopardized by climate change in a variety of ways that affect ecosystems and livelihoods.” *Id.*
 - h. “Climate disruptions to agriculture have been increasing and are projected to become more severe over this century.” *Id.*
 - i. “Ecosystems and the benefits they provide to society are being affected by climate change. The capacity of ecosystems to buffer the impacts of extreme events like fires, floods, and severe storms is being overwhelmed.” *Id.* at 17.
 - j. “Ocean waters are becoming warmer and more acidic, broadly affecting ocean circulation, chemistry, ecosystems, and marine life.” *Id.*
 - k. “Planning for adaptation (to address and prepare for impacts) and mitigation (to reduce future climate change, for example by cutting emissions) is becoming more widespread, but current implementation efforts are insufficient to avoid increasingly negative social, environmental, and economic consequences.” *Id.*
93. According to the Massachusetts Climate Change Adaptation Report:
- (a) “Massachusetts’ climate is already changing and will continue to do so over the course of this century—ambient temperature has increased by approximately 1°C

(1.8°F) since 1970 and sea surface temperature by 1.3°C (2.3°F) between 1970 and 2002. These warming trends have been associated with other observed changes, including a rise in sea level of 22 centimeters (cms) between 1921 and 2006.”

Executive Office of Energy and Environmental Affairs, Massachusetts Climate Change Adaptation Report (Sept. 2011), at 7.

- (b) “Assuming that sea level continues to increase at its current rate, because land in Massachusetts is naturally subsiding, by the end of the century, it is expected to rise by another one foot (IPCC, 2007). In addition, the magnitude of sea level rise is predicted to be compounded by thermal expansion of the oceans, the melting of ice on land (such as Greenland) and the collapse of the West Antarctic Ice Sheet. By the end of this century, under the IPCC high emissions scenario with ice melt, it has been suggested that sea level rise resulting from all these factors could reach six feet.” *Id.* at 8 (internal citations omitted).
- (c) “Regarding infrastructure, the most significant vulnerability of existing structures stems from the fact that they were built based on historic weather patterns, not taking into account future predicted changes to sea level, precipitation, or flooding. This puts the infrastructure at increased risk of future damage and economic costs.” *Id.* at 10.
- (d) “There are several factors that contribute to sea level rise—expansion of the water as its temperature rises, changing water currents, and melting of ice on land (such as Greenland). In Massachusetts, these factors are further amplified by local subsidence of land. Relative sea level rise in Massachusetts from 1921 to 2006 was 2.6 millimeters annually (0.10 inches/year)—an increase of approximately 26 centimeters

or 10.2 inches per century. Over that same time period, the global rate of sea level rise was about 1.7 mm/year (0.07 inches/year). Thus, there is about 1 mm/year (0.04 inches/year) local land subsidence in the relative sea level record.” *Id.* at 21-22 (internal citations omitted).

- (e) “The Massachusetts Climate Change Adaptation Advisory Committee relied on three sources of projections for sea level rise by 2100 (Table 2 and Figure 4). First, the 2007 IPCC projections are widely viewed as conservative but are highly credible and internationally recognized. Second, the Rahmstorf et al. (2007) approach uses a relationship between global mean surface temperature and sea level and then projects future changes using the IPCC Third Assessment Report (2001) temperature scenarios. Third, Pfeffer et al. (2008) use the IPCC (2007) steric projection, and add ice melt to it. Pfeffer et al. (2008) base this on physically plausible melt or deterioration rates for Greenland, Antarctica, and other glaciers and ice caps related to different rates of melting and discharge that are known from ice sheet and glacier behavior.” *Id.* at 22.
- (f) “Sea currents also play a role in sea level rise along the Massachusetts coast. The northeastern U.S. may experience additional sea level rise above the global mean due to changes in the strength of the Atlantic Meridional Overturning Circulation, of which the Gulf Stream is a part. As the Atlantic Meridional Overturning Circulation slows, the dynamic topography of the sea surface changes and sea-level rises along the coast. Yin et al. (2009) suggest that there is the potential for an additional 15 to 27 cm (5.9 to 10.6 in.) sea level rise in Boston by 2100, while Hu et al. (2009)

suggest that a sea level rise of 10 to 30 cm (3.9 to 11.8 in.) will occur in the northeastern U.S. by 2100.” *Id.* (internal citations omitted).

- (g) “Finally, Bamber et al. (2009) found that the collapse of the West Antarctic Ice Sheet would not only add to sea level rise but, as it shrinks, would also cause a redistribution of ocean mass due to the reduced gravitational attraction of the smaller West Antarctic Ice Sheet. This would be a global effect, most pronounced in a band at $\sim 40^\circ$ north latitude where the sea level rise is projected to be about 25 percent more than elsewhere around the globe. Coastal Massachusetts extends from roughly $41^\circ 10'N$ to $42^\circ 53'N$ and would experience the full brunt of this impact. There is presently high uncertainty regarding the potential for full West Antarctic Ice Sheet collapse, but this effect also applies to a partial collapse. Overall, by 2100 sea level rise in Massachusetts could range from 29 to 201 cm.” *Id.*
- (h) “Current rates of sea level rise and projections for accelerated trends are all significant threats to the coastal communities of the state. Sea level rise would increase the height of storm surges and associated coastal flooding frequencies, permanently inundate low-lying coastal areas, and amplify shore line erosion. Extensive development and infrastructure, both public and private, would be affected in these expanding vulnerable areas.” *Id.* at 22-23.
- (i) “Analysis of five coastal sites in the Northeast, including Boston and Woods Hole, indicates that future sea level rise would create significant increases in the frequency of today’s 100-year flood events.” *Id.* at 23 (internal citations omitted).

- (j) “Engineered structures, such as seawalls designed to stabilize shorelines, could be overtopped.” *Id.*
- (k) “It is forecast that the Northeast will experience a greater frequency of high precipitation events Scientists predict an 8 percent increase in extreme precipitation events in the northeastern U.S. by mid-century, and up to a 13 percent rise by 2100. Rainfall during the wettest five-day period each year is projected to increase by 10 percent by mid-century and by 20 percent by the end of the century.” *Id.* at 25 (internal citations omitted).
- (l) “By 2050, Boston could experience the current 100-year riverine flood every two to three years on average and, by 2100, the current 100-year riverine flood is expected to occur every one to two years under both the low- and high-emissions scenarios. In the case of coastal storms, the frequency and timing of winter storms or nor’easters could change. Under the low-emissions scenario, little change is predicted in the number of nor’easters striking the Northeast, but it could experience approximately 5 to 15 percent more late-winter storms under the high-emissions scenario.” *Id.* (internal citations omitted).
- (m) “The energy sector’s three primary climate change concerns are flooding (due to increased precipitation and storm surge), extreme events (such as hurricanes and snow and ice storms), and increased temperature.” *Id.* at 62.
- (n) “The following are the predicted impacts on energy infrastructure: . . .”
- i. “Extreme and more frequent weather events, including flooding, may damage energy production and delivery equipment such as generation

plants (e.g. the Pilgrim nuclear power station), terminals, storage facilities and above- and below-ground wires and pipes. Damaged infrastructure will lead to interrupted service, degraded energy reliability, increased equipment maintenance or replacement costs, and adverse impacts to public safety.” *Id.*

- ii. “Sea level rise and storm-related flooding may require relocating coastal infrastructure, which would require new real estate acquisitions for replacement sites.” *Id.*
- iii. “Extreme temperature changes could result in an increased demand for cooling in summer and a decreased demand for heating in winter. One 2005 study of changes in Boston’s heating and cooling demand indicates that, ‘depending on the climate scenario, household electricity consumption in peak summer months may be nearly three times that of the 1960-2000 average, with over 25 percent of the increase directly attributable to climate change.’ Such changes also can shift energy production and use. For example, high temperatures reduce thermal efficiency of electric generation. This could challenge the ability of the electric system operators to meet peak electricity demands.” *Id.* (internal citations omitted).
- iv. “There may be lengthened repair times and delays. Repair crews will find it more difficult to work in protective gear for extended periods in high temperatures, during prolonged rain or in extreme cold.” *Id.*

- (o) “Other entities that have the potential to generate hazardous waste in the event of a natural disaster include waste generators such as retailers with hazardous materials (e.g., pharmacies and chain retail stores), certain chemical handling businesses, fuel tank farms, waste transporters, and residences equipped with heating oil tanks and containing hazardous household products.” *Id.* at 69.
- (p) “Potential Strategies identified in the Massachusetts Climate Change Adaptation Report to address the serious harms threatened by large quantity hazardous waste generators include: . . .”
- a. “Ensure that contingency plans for hazardous waste treatment, storage, and disposal facilities and large quantity generators include a description of procedures, structures, or equipment used at the facilities to prevent flooding and run-off from hazardous waste handling areas.” *Id.* at 69.
 - b. “Develop better mapping data to identify solid and hazardous waste facilities that would be vulnerable to rising sea level and new, more frequent, or more severe flooding.” *Id.*
 - c. “Consider requiring all solid and hazardous waste facilities operating in areas prone to coastal or inland flooding to prepare adaptation plans. This could be addressed through the permit renewal process.” *Id.*
 - d. “Evaluate modification of the siting and design requirements for new and expanded waste management facilities to account for predicted site-specific climate change impacts that could be expected during the life of the facility.” *Id.* at 70.

94. Massachusetts coastal communities regularly face impacts associated with storm damage, flooding, and erosion, which affect residential and commercial development, infrastructure and critical facilities, and natural resources and ecosystems. Sea level rise will exacerbate these problems, and as the rate of rise accelerates, not only will the impacts from coastal storm events become more frequent and widespread, but even daily high tides will have adverse effects. Sea Level Rise: Understanding and Applying Trends and Future Scenarios for Analysis and Planning (2013) at 5 (*available at* <http://www.mass.gov/eea/docs/czm/stormsmart/slr-guidance-2013.pdf>).

95. This unfortunate reality has been demonstrated recently in the context of severe weather events, including Superstorm Sandy. As reported on November 14, 2012 in the New Jersey news media outlet NJ.com:

[A]t the Sewaren terminal of Motiva Enterprises, a subsidiary of Shell, the tidal surge damaged bulk fuel tanks, releasing approximately 378,000 gallons of low-sulfur diesel, officials said. Nearly three quarters of that amount escaped the containment area, rushing into the Arthur Kill and its tributaries. That's like 30 tanker trucks pouring their contents into the water.

It represents the largest fuel or oil spill in New Jersey in perhaps a decade or more, officials said.

'That's a major spill,' said Larry Ragonese, a spokesman for the state Department of Environmental Protection. 'On a normal basis, we would have had quite a bit of uproar and media attention.'

That, of course, did not happen as the region reeled amid death, destruction and darkness. Quickly and quietly, though, Shell and the other two oil companies that experienced leaks — at the Phillips 66 refinery in Linden and at the Kinder Morgan terminal in Carteret — moved in to plug breached tanks and contain what had already been released.

Within 24 hours, hundreds of workers had responded with oil skimmers, vacuum trucks, water barges, work boats and thousands of feet of containment boom, according to local, state and federal officials who have provided oversight for the work.

Ryan Hutchins, *Oil Spills, Other Hurricane Sandy Damage Present N.J. with Potential Pollution Headaches*, NJ.com. (Nov. 14, 2012), available at:

http://www.nj.com/news/index.ssf/2012/11/hurricane_sandy_oil_spills.html.

96. Harvard's Daniel P. Schrag, Sturgis Hooper Professor of Geology in the Faculty of Arts and Sciences stated in a news report regarding Superstorm Sandy that:

‘By midcentury, this will be the new normal,’ Schrag predicted. ‘How do you deal with extreme heat in the summer? It’s going to be a challenge, but humans are adaptable. It’s not going to be easy, just like a 13-foot storm surge will be the new norm on the Eastern seaboard.’

Edward Mason, *Hello Again, Climate Change: Sandy Prompts Renewed Interest and Concern, and Schrag Says it Should*, Harvard Gazette (Nov. 6, 2012) available at:

<http://news.harvard.edu/gazette/story/2012/11/hello-again-climate-change/>.

ExxonMobil has Long Been Aware of Climate Change and the Related Impacts

97. ExxonMobil has long been well aware of the present impacts and risks of climate change.

98. Despite knowing of the certainty of rising temperatures and rising sea levels since as early as the 1970s, ExxonMobil did not use its findings to prepare its Everett Terminal for such risks.

99. ExxonMobil is a science and engineering based company that employs roughly 16,000 scientists and engineers who every day explore the boundaries of scientific knowledge in order to develop the energy supplies that power the modern economy.

100. ExxonMobil scientists have contributed climate research and related policy analysis to more than fifty papers in peer reviewed publications from at least 1977 to the present.

101. ExxonMobil scientists and researchers were among the first to grapple with the fact that there might be a connection between the carbon dioxide emissions from humanity's use of fossil fuels and climate fluctuations.

102. In an October 31, 1977 ExxonMobil interoffice memorandum from H. Shaw to J. Harrison, ExxonMobil acknowledged the rule of thumb that doubling the current level of CO₂ from 330 ppm to about 700 ppm would cause a change of about 2°C on average in temperature, and that the "CO₂ problem . . . is the most important man-made weather problem that we have to contend with." Inter Office Mem. from H. Shaw to J. Harrison on "Environmental Effect of Carbon Dioxide" (Oct. 31, 1977), at 4.

103. A May 18, 1978 transcript of a presentation delivered by ExxonMobil's J.F. Black, Scientific Advisor to Products Research Division of Exxon Research and Engineering Co., states that, based on estimates of fossil fuel consumption that agree with ExxonMobil's, "one recent study predicts that in 2075 A.D., CO₂ concentration will peak at a level about twice what could be considered normal." Letter from J.F. Black to F.G. Turpin, Vice President, Exxon Research and Engineering Co. Petroleum Staff, (June 6, 1978), at 2 (attaching "Greenhouse Effect Presentation Transcript of May 18, 1978").

104. Mr. Black's presentation further concludes that "the best presently available climate model for treating the Greenhouse Effect predicts that a doubling of the CO₂ concentration in the atmosphere would produce a mean temperature increase of about 2°C to 3°C over most of the earth" and that "there is no guarantee that better knowledge will lessen rather than augment the severity of the predictions." *Id.* at 3.

105. According to Mr. Black, “[p]resent thinking holds that man has a time window of five to ten years before the need for hard decisions regarding changes in energy strategies might become critical.” *Id.* “Atmospheric scientists generally attribute this growth in CO₂ to the combustion of fossil fuel.” *Id.* at 5.

106. The presentation further confirmed that “it is generally accepted by climatologists that a doubling of the carbon dioxide concentration in the atmosphere would produce from 1.5°C – 3.0°C warming at the earth’s surface in the lower and mid-latitudes with about 2 to 3 times greater effect at the poles,” and “that the expected temperature increase would be large even compared to the temperatures at the time of the last interglacial.” *Id.* at 11.

107. In December 1978, ExxonMobil’s H. Shaw of Government Research Labs of Exxon Research and Engineering Co. wrote to E.E. David, General Administration, describing a proposed ExxonMobil tanker research program to measure CO₂ uptake by oceans and wine to estimate relative contribution to atmospheric CO₂ concentration of fossil fuel combustion and forest clearing. One rationale for the research program, he explained, was to be able to “carry bad news, if any, to the corporation.” Letter from Henry Shaw to r. Edward E. David, Jr. (Dec. 7, 1978), at 2.

108. Soon thereafter, an ExxonMobil research memorandum entitled “Controlling the CO₂ Concentration in the Atmosphere” recognized that CO₂ concentrations were 15% higher than in 1850 and “appear[] to be doubling every 15 years.” Mem. on “Controlling Atmospheric CO₂” (Oct. 16, 1979), at 1.

109. According to the memorandum, the most widely held theory was that the increase in CO₂ concentrations was due to fossil fuel combustion, that it would cause a warming of the earth’s

surface, and that the present trend of fossil fuel consumption would cause “dramatic environmental effects before the year 2050.” *Id.*

110. The memorandum goes on to state that “[t]he potential problem is great and urgent,” *id.* at 2 (emphasis in original), and “[m]any models today predict that doubling the 1860 atmospheric CO₂ concentration will cause a 1° to 5°C global temperature increase,” *id.* at 3. Such doubling would occur by about 2050. *Id.*

111. The memorandum quotes a 1969 E.K. Peterson study regarding the effects of doubling 1860 CO₂ concentration, including a temperature increase of 9°F above 1950 levels and sea level rise of 4 feet. *See id.* at Appendix A.

112. The memorandum concludes in part that “[t]he present trends of fossil fuel combustion with a coal emphasis will lead to dramatic world climate changes within the next 75 years” according to many climate models. *Id.* at 1.

113. Mr. Ferrall’s letter enclosing the memorandum cautioned that:

The major conclusion from this report is that, should it be deemed necessary to maintain atmospheric CO₂ levels in order to prevent significant climatic changes, dramatic changes in patterns of energy use would be required. World fossil fuel resources other than oil and gas could never be used to an appreciable extent.

Mem. from W.L. Ferrall, to R.L. Hirsh on “Controlling Atmospheric CO₂” (Oct. 16, 1979) (enclosing October 16, 1979 Mem. on “Controlling Atmospheric CO₂”).

114. In December 1980, a research memo prepared by Exxon Research & Engineering Company entitled CO₂ Greenhouse Effect Technological Forecast expressed “[l]ittle doubt” that atmospheric CO₂ concentrations have been increasing since the 1950s. Mem. to T. K. Kett from

Henry Shaw on “Exxon Research & Engineering Company Technological Forecast: CO₂ Greenhouse Effect”, at 1 (attached to Mem. from H. Shaw to T. K. Kett (Dec. 18, 1980)).

115. ExxonMobil’s December 1980 Technological Forecast further states that, based on various energy projections, Exxon Research calculations indicated that the doubling of the CO₂ concentration “can occur at about 2060. If synthetic fuels are not developed, and fossil fuel needs are met by petroleum, then the atmospheric CO₂ doubling time would be delayed by about 5 years to 2065.” *Id.* at 3.

116. According to the December 1980 Technological Forecast, “[t]he most widely accepted calculations carried on thus far on the potential impact of a doubling of carbon dioxide on climate indicate that an increase in the global average temperature of $3\pm 1.5^{\circ}\text{C}$ is most likely . . . with greater warming occurring [sic] at the . . . polar regions.” The forecast went on to say that calculations projecting lower average temperature increases “are not held in high regard by the scientific community.” *Id.*

117. The Forecast predicted that “a general concensus [sic] will not be reached until such time as a significant temperature increase can be detected above the natural random temperature fluctuations in average global climate. The earliest that such discreet signals will be able to be measured is after the year 2000.” *Id.* at 4.

118. An August 18, 1981 memorandum from R.W. Cohen, Director, Theoretical and Mathematical Laboratory of Exxon R & E Co., to W. Glass stated that:

it is distinctly possible that the CPD scenario will later produce effects which will indeed be catastrophic (at least for a substantial fraction of the earth’s population). This is because the global ecosystem in 2030 might still be in a transient, headed for much more significant effects after time lags perhaps of the order of

decades. If this indeed turns out to be the case, it is very likely that we will unambiguously recognize the threat by the year 2000 because of advances in climate modeling and the beginning of real experimental confirmation of the CO₂ effect.

Inter-Office Correspondence from R. W. Cohen to W. Glass (Aug. 18, 1991), at 1 (with attachments).

119. An April 1, 1982 Technical Review and accompanying summary on CO₂ Greenhouse Effect prepared by the Coordination and Planning Division of Exxon R & E Company (marked “Proprietary Information, for Authorized Company Use Only”) updated the company’s “[b]est estimate” of CO₂ doubling, concluding that it would increase average global temperature from 1.3° to 3.1°C, with 10°C at the poles and very little at the equator. Summary of Technical Review (April 1, 1982), at 1. While claiming that the problem might not be as significant as a nuclear holocaust or world famine, the Technical Review acknowledged that “[a]t the high end, some scientists suggest there could be considerable adverse impact including the flooding of some coastal land masses as a result of a rise in sea level due to melting of the Antarctic ice sheet,” *id.* at 1, and that “if the Antarctic ice sheet . . . should melt, then this could cause a rise in sea level on the order of 5 meters.” Technical Review (April 1, 1982) at 12-13 (providing estimates of time for melting range from hundreds to a thousand years).

120. The Technical Review also advised ExxonMobil that a draft Massachusetts Institute of Technology and Oak Ridge Laboratory report that considered CO₂ concentration of 500-1000 ppm as the “assumed threshold for inducing great irreversible harm to our planet, such as causing a large ocean level rise due to melting polar ice.” *Id.* at 18.

121. Despite knowing of the imminence of rising temperatures and rising sea levels, ExxonMobil did not use its findings to better fortify its Everett Terminal against such risks.

122. An August 24, 1982 slide presentation for a meeting with Exxon Corp. personnel regarding the CO₂ Greenhouse Effect indicated that “[w]arming could induce major changes in climate,” including temperature, rainfall patterns and coastal sea levels. Slide presentation Re: Basis for the CO₂ Greenhouse Effect (Aug. 24, 1982), at 3. Graphs within the presentation demonstrate estimates of changes in global average surface temperatures for different ranges of CO₂ concentration. For example, a CO₂ concentration of 600 ppm shows increase in global average surface temperature from 2°C to over 3°C. *Id.* at 6.

123. Despite knowing of that warming global temperatures would result in changes to coastal sea levels, ExxonMobil did not use its findings to better fortify its Everett Terminal from such risks.

124. On September 2, 1982, Roger Cohen, of Exxon Research and Engineering, wrote to A. M. Natkin, in Exxon’s Office of Science and Technology that:

over the past several years a clear scientific consensus has emerged regarding the expected climatic effects of increased atmospheric CO₂. The consensus is that a doubling of atmospheric CO₂ from its pre-industrial revolution value would result in an average global temperature rise of (3.0 ± 1.5) °C.

Letter from Roger W. Cohen, Director, Theoretical and Mathematical Sciences Laboratory, to A.

M. Natkin, Office of Science and Technology, Exxon Corporation (Sept. 2, 1982), at 1. Mr.

Cohen further stated that:

[t]here is unanimous agreement in the scientific community that a temperature increase of this magnitude would bring about significant changes in the earth’s climate, including rainfall

distribution and alterations in the biosphere Current projections indicate that doubling will occur sometime in the latter half of the 21st century It is generally believed that the first unambiguous CO₂-induced temperature increase will not be observable until around the year 2000.

Id. at 1-2. Mr. Cohen noted that ExxonMobil research results are consistent with most researchers in the field, and notes that the company's "ethical responsibility is to permit the publication of our research in the scientific literature; indeed to do otherwise would be a breach of Exxon's public position and ethical credo on honesty and integrity." *Id.* at 3.

125. Despite knowing of the certainty of rising global temperatures and resulting changes to the earth's climate, ExxonMobil did not use its findings to better fortify its Everett Terminal against such risks, nor did it share its findings to notify the public of related risks.

126. A February 1984 slide presentation to ExxonMobil entitled "Corporate Research Program in Climate/CO₂-Greenhouse" likewise acknowledged that the climatic effect of CO₂ doubling includes mean surface temperature rise between 1.5°C and 4.5°C as well as a decrease in coverage and thickness of sea ice and concurrent sea level rise. Corporate Research Program in Climate/ CO₂-Greenhouse (Feb. 2, 1984), presented by A. J. Callegari, at 9.

127. Approximately five years later, a presentation to ExxonMobil's Board of Directors on "Potential Enhanced Greenhouse Effects" cited the 1983 National Research Council projections of temperature increase of 1.5-4.5°C (2-3 times greater in polar regions) and sea level rise of 70 cm over the next 100 years. The presentation acknowledged that data at that time confirmed that: greenhouse gasses are increasing, fossil fuels contribute most of the CO₂, and projections suggest "significant climate change" and "sea level rise with generally negative consequences." Potential Enhanced Greenhouse Effects, Status and Outlook (Feb. 22, 1989), presented by Daune G. Levine, at 23.

128. Despite knowing of rising sea levels resulting from rising global temperatures, ExxonMobil did not use its findings to better fortify its Everett Terminal against such risks.

129. ExxonMobil has continued to pursue climate change research since that initial discovery.

130. As part of its work on climate science, ExxonMobil participated in the National Academy of Sciences' review of the third U.S. National Climate Assessment Report.

131. ExxonMobil has pursued collaborative research with leading universities such as MIT and Stanford.

132. ExxonMobil has been acknowledged as a groundbreaking leader in scientific research analyzing historic sea levels and sedimentary deposition at different sea levels over time.

133. The discipline of sequence stratigraphy had its origin in the 1977 comprehensive monograph of Payton, which first published the results of the extensive in-house stratigraphic studies by Peter Vail and his colleagues within ExxonMobil.

134. The Vail group drew their insights from the analysis of seismic profiles available to them as part of ExxonMobil's worldwide exploration efforts. Two quite distinct but intertwined paradigms were encompassed by Payton's original publication, and persisted in later summaries by ExxonMobil researchers.

135. The recognition of unconformity-bounded sequences was predicated upon the belief that sequence deposition was controlled by sea level fluctuations, leading to the concept of systems tracts and the development of what later writers have termed the "sequence stratigraphic model (SSM)."

136. At the same time, it was asserted that an accurate sea level history could be reconstructed from sequence analysis, leading to the concept of a global sea level curve, or global sea level model (GSM), which could be applied to the interpretation of continental margin strata worldwide.

137. ExxonMobil scientists developed the GSM model of global sea level change, referred to as the global eustasy model. The global eustasy model was developed by Peter Vail and his coworkers at ExxonMobil during the 1960s. Vail's contributions fundamentally altered the techniques for reservoir mapping and prediction. Vail's work was hailed as a theoretical and technical breakthrough.

138. The ExxonMobil global eustasy model was based on proprietary geophysical data also developed through ExxonMobil's scientific assessments. Articles about the new techniques appeared in the journal "Science" commenting about the "staggering amount of data normally denied to outsiders." Most of these data have never been seen or published outside of ExxonMobil.

139. Publications and conference presentations by the Vail group appear as large volumes of work accompanied by superb graphics, in which funding subsidies from ExxonMobil are acknowledged.

140. Despite the extensive research conducted by ExxonMobil scientists and knowledge of the conclusive findings regarding climate change and its impacts, including sea level rise, ExxonMobil has not taken reasonable and required measures to protect the Everett Terminal against such risks.

141. Further, ExxonMobil did not share its findings with the people of the Commonwealth of Massachusetts, the Massachusetts Department of Environmental Protection, or the EPA.

142. Rather, ExxonMobil relied on its research and associated knowledge of climate change in making business and investment decisions.

143. ExxonMobil has recently acknowledged that action should be taken to address the risks of climate change in general.

144. ExxonMobil has agreed that the second assessment report of the Intergovernmental Panel on Climate Change, published in 1995, reached the following conclusion: “The balance of evidence suggests a discernible human influence on global climate.” Letter from Kenneth P. Cohen, Vice President Public and Gov’t Affairs, ExxonMobil, to Mr. Lee Bollinger, President, Columbia University (Nov. 20, 2015), at 3.

145. In December 2015, Ken Cohen of ExxonMobil wrote of the COP21 climate change conference in Paris that “[w]hen it comes to COP21, we are hopeful that an agreement will be reached for meaningful action to address the risks surrounding climate change.” The official statement released by ExxonMobil regarding COP21 similarly states that “ExxonMobil takes global climate change seriously and the risks of rising greenhouse gas emissions warrant thoughtful action.”

146. In April 2016, Suzanne McCarron of ExxonMobil wrote that “[t]he risks of climate change are real and those risks warrant constructive action by policymakers, the business community, and everyone who uses energy.” She repeated that sentiment in May 2016, stating that “[a]t ExxonMobil, we believe the risks of climate change are real,” and going on to say that “[a]ll told, since 2000, ExxonMobil has spent approximately \$7 billion to develop lower-

emission energy solutions.” Most recently, in August 2016, she wrote that “[r]educing greenhouse gas emissions in the coming decades amounts to one of society’s most important challenges.”

147. Despite acknowledging that the risks of climate change are real, ExxonMobil has not taken reasonable and required measures to sufficiently fortify the Everett Terminal and protect it from such risks.

148. ExxonMobil’s CEO, Rex Tillerson, has been giving speeches emphasizing the importance of reducing greenhouse gases and managing the risks of climate change since at least 2009.

149. According to ExxonMobil’s disclosures to investors, “the Chairman of the Board and Chief Executive Officer and the members of the Management Committee have responsibility for climate change matters.” Investor CDP 2014 Information Request, Exxon Mobil Corporation, at 2.

150. “The Board’s Public Issues and Contributions Committee is responsible for the oversight of safety, health, and environmental performance, including climate change risk. This committee reviews the effectiveness of the Corporation’s policies, programs, and practices on safety, health and the environment, and social responsibility. The Committee hears reports from operating units on safety and environmental activities and also visits operating sites to observe and comment on current operating practices. All members of the Committee are independent within the meaning of the NYSE listing standards.” *Id.*

151. “The Committee’s charter is available on the Corporate Governance section of ExxonMobil’s website. Corporate governance is managed with systems and standards for all

aspects of our business. Specific to environmental issues including climate change, there are timely interactions with members of the Management Committee as well as updates at least annually with the ExxonMobil Board of Directors and the Public Issues and Contributions Committee, which is comprised of non-employee directors.” *Id.*

152. “On the subject of risks of climate change, the full ExxonMobil Board of Directors receives in depth briefings at least annually that cover updates on public policy, scientific and technical research, as well as company positions and actions in this area. In addition, the Chairman of the Board and Chief Executive Officer and members of the Management Committee are actively engaged in discussions relating to greenhouse gas emissions and climate change on an ongoing basis.” *Id.*

153. Despite the Board’s responsibilities and in-depth briefings on scientific and technical updates concerning climate change, ExxonMobil has not taken reasonable and required actions to sufficiently protect the Everett Terminal from climate change-related risks.

154. ExxonMobil claims a strong commitment to robust engineering of its facilities in the face of acknowledged risks of severe storm events and sea level rise.

155. ExxonMobil has stated that the “company also engineers its facilities and operations robustly with extreme weather considerations in mind. Fortification to existing facilities and operations are addressed, where warranted due to climate or weather events, as part of ExxonMobil’s Operations Integrity Management System.” Energy and Carbon – Managing the Risks, 14, <http://cdn.exxonmobil.com/~~/media/global/files/energy-and-environment/report---energy-and-carbon---managing-the-risks.pdf> (last visited Sept. 13, 2016).

156. In discussing the topic of “Engineer[ing] facilities resilient to extreme events,”

ExxonMobil has stated that:

ExxonMobil also employs robust engineering with regard to its facilities. Local climate, as well as potential changes in local conditions over the life of the investment (such as changes to sea level or permafrost) are carefully assessed and considered. Given the spatial and temporal uncertainties of many extreme weather events, particularly with respect to future changes in climate, facilities are generally engineered to be resilient to extreme event “tails”, with the inclusion of additional safety factors. Some jurisdictions, such as Singapore, have specific building standards that are employed in our designs that consider potential climate change impacts.

For existing facilities, processes and systems to manage extreme weather events (such as Gulf Coast hurricanes) are considered along with other factors in the company’s Operations Integrity Management System (OIMS), both with regard to risk management and extreme event response. These processes are drilled extensively, both internally and cooperatively with local authorities, to ensure readiness when needed, and are systematically evaluated and continuously improved as part of our ongoing OIMS system.

Energy and Climate, 20-21 <http://cdn.exxonmobil.com/~media/global/files/energy-and-environment/report---energy-and-climate.pdf> (last visited Sept. 13, 2016).

157. Contrary to this statement, ExxonMobil has not engineered its Everett Terminal robustly with extreme weather conditions in mind, nor has it ensured “readiness” with regard to risk management and extreme event response.

158. ExxonMobil’s operations around the world include both onshore and offshore activities that can experience weather extremes and storms, large sea level variations and wave height, and temperature and precipitation extremes.

159. ExxonMobil claims that, “[a]s a result, [the company] designs, constructs and operates our facilities to withstand a variety of extreme weather conditions, much of the range of potential outcomes.” Investor CDP 2014 Information Request, Exxon Mobil Corporation, at 10.

160. ExxonMobil further asserts that “[a]t ExxonMobil, risks are mitigated with appropriate contingency planning and the application of a comprehensive risk management system. Known risks are mitigated first of all by factoring them into equipment and facility design, construction and operations. Business continuity planning and emergency preparedness are two essential elements to manage risks of business disruption, so that we can continue supplying fuels for transportation and electrical power as well as chemicals for consumer products.” *Id.*

161. Contrary to these statements, ExxonMobil has not designed, constructed or operated its Everett Terminal to withstand a variety of extreme weather conditions, nor has it mitigated the risks at the Terminal with appropriate planning.

162. Engineers working in the oil and gas industry and other major infrastructure projects along the coastal United States customarily take future climate change impacts into account throughout their planning, decision-making, and project construction and design processes.

163. Engineers exercising skill and judgment reasonably expected of similarly situated professionals make planning and design decisions based on information regarding climate change-induced impacts.

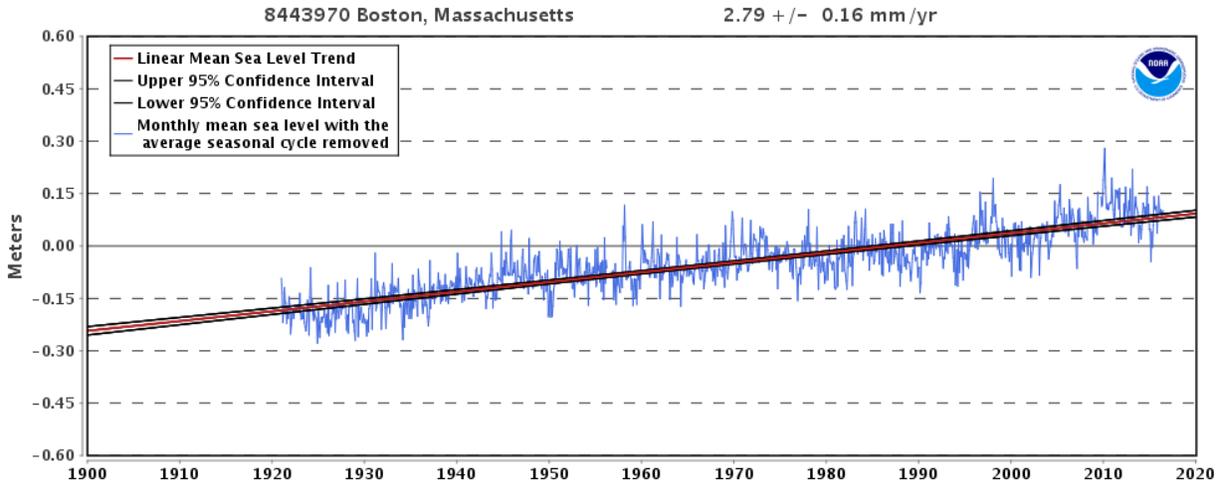
164. For example, the U.S. Army Corps of Engineers issued a regulation in 2013 entitled “Incorporating Sea Level Change in Civil Works Programs.” That regulation states that “[sea level change (“SLC”)] can cause a number of impacts in coastal and estuarine zones, including changes in shoreline erosion, inundation or exposure of low-lying coastal areas, changes in storm

and flood damages, shifts in extent and distribution of wetlands and other coastal habitats, changes to groundwater levels, and alterations to salinity intrusion into estuaries and groundwater systems.” Department of the Army ER 1100-2-8162, U.S. Army Corps of Engineers CECW-CE, CECW-P Regulation No. 1100-2-8162 (Dec. 31, 2013), at Appendix B.

165. The U.S. Army Corps of Engineers acknowledges that sea level change is likely to impact coastal projects, and “[a]s a result, managing, planning, engineering, designing, operating, and maintaining for [sea level change] must consider how sensitive and adaptable 1) natural and managed ecosystems and 2) human and engineered systems are to climate change and other related global changes.” *Id.*

166. The Army Corps’ regulation also states that “[h]istoric trends in local MSL [mean sea level] are best determined from tide gauge records. The Center for Operational Oceanographic Products and Services (CO-OPS), of the National Oceanographic and Atmospheric Administration (NOAA), provides historic information and local MSL trends for tidal stations operated by NOAA/NOS in the US.” *Id.* at B-2.

167. The historic rate of relative sea level change at relevant local tide stations (as shown in the graph below for the Boston Tide Gauge) should be used as the low rate for analysis, because it is a linear extrapolation from historic tide gauge measurements and does not account for future acceleration of sea level rise, ice sheet melt or sea level rise due to warmer water occupying a greater volume.



Mean Sea Level Trend Measured at the Boston Tide Gauge, Tides & Currents, NOAA, available at: http://tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?stnid=8443970 (last visited Sept. 13, 2016).

168. At the local level, municipalities also take climate change induced risks into account in designing and constructing various infrastructure projects. For example, the Deer Island sewage treatment plant in Boston, Massachusetts was designed and built taking future sea level rise into consideration. Because of the level of the plant relative to the level of the ocean at the outfall is critical to the amount of rainfall and sewage that can be treated, the plant was built 1.9 feet higher than it would otherwise have been to accommodate the amount of sea level rise projected to occur by 2050, the planned life of the facility. The planners recognized that the future would be different from the past and they decided to plan for the future based on the best available information.

169. Unlike others involved in large-scale engineering projects, ExxonMobil has not taken climate change information known to it into account in designing and constructing the Everett Terminal to protect the Terminal and surrounding communities from catastrophic discharges that will result in the event of sea level rise, increased precipitation or storm events, and storm surges.

170. ExxonMobil's knowing disregard of the imminent risks of climate change that threaten the Everett Terminal and its continuing failure to fortify the Terminal against such known risks make ExxonMobil liable for violations of the CWA and RCRA, as described below.

CLAIMS FOR RELIEF

First Cause of Action

Violations of the Resource Conservation and Recovery Act – Imminent and Substantial Endangerment to Human Health and the Environment

171. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

172. At the Everett Terminal, ExxonMobil is regulated under RCRA as a “Large Quantity Generator” of hazardous waste, Handler ID No. MAD000842427.

173. As described above, ExxonMobil's Everett Terminal generates, stores, handles, and disposes of toxic and hazardous chemicals, metals, and compounds, including but not limited to: Ignitable Waste, Petroleum Hydrocarbons, Benzene, Toluene, Ethylbenzene, (m,p,o), Xylenes, tert-Butyl Alcohol, Naphthalene, Phenols, Phthalates (Phthalate esters), Polycyclic Aromatic Hydrocarbons (PAH), Acenaphthene, Anthracene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene, Pyrene, Antimony, Arsenic, Cadmium, Copper, Lead, Nickel, Selenium, and Zinc. *See supra*, ¶ 37.

174. As described above, large areas of the Everett Terminal are located at an elevation of less than ten feet above sea level.

175. As indicated in the “SLOSH” model (*supra* ¶ 80), the majority of the Everett Terminal is included within a “Category 1” Hurricane Surge Inundation Zone.

176. The threat of significant storm surge at the Terminal is imminent. *See supra*, ¶ 80.

177. The threat of sea level rise at the Terminal is imminent. *See supra*, ¶ 81.

178. ExxonMobil's Everett Terminal is at risk of being inundated and destroyed by storm surge and sea level rise, because the facility has not been properly engineered, managed, and fortified or, if necessary, relocated to protect from the impending threat of these climate change-related impacts.

179. ExxonMobil has not integrated climate change-induced risks into its systems for handling, storage, or disposal of hazardous waste at the Everett Terminal facility.

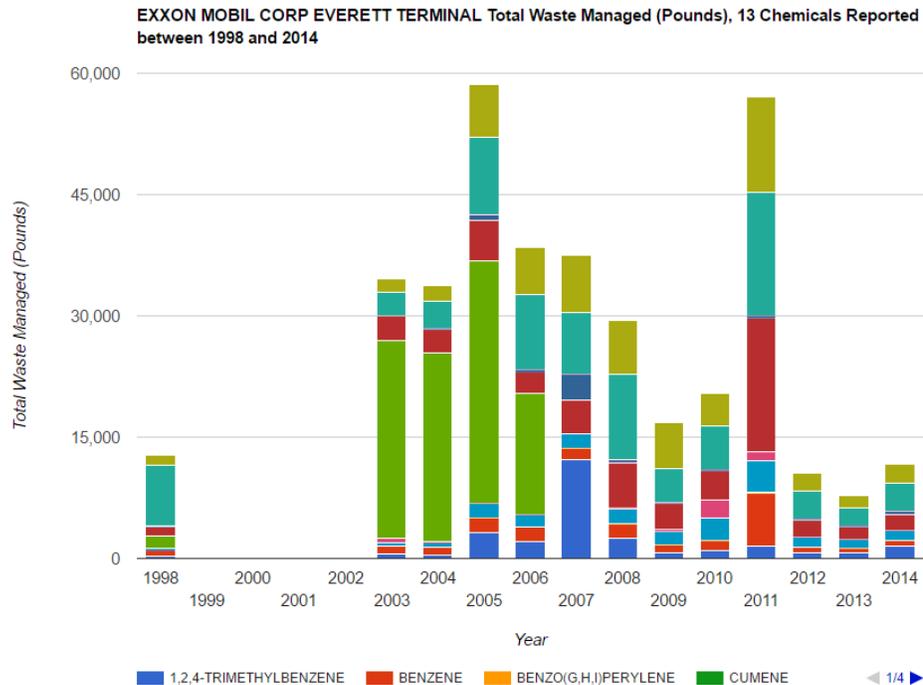
180. ExxonMobil has failed to address sea level rise, increased precipitation and flooding, altered groundwater systems, and increased magnitude and frequency of severe weather events in its RCRA and other compliance and permitting filings.

181. ExxonMobil has not meaningfully modified the Everett Terminal to protect the facility from climate change-induced risks.

182. The design of the Everett Terminal facility, and any regulatory filing based thereon, is based on standards for spill containment, drainage, and resistance to weather events that do not integrate information related to climate change and its related impacts.

183. ExxonMobil's failure to adapt the Everett Terminal to increased precipitation, rising sea levels and storm surges of increasing frequency and magnitude puts the facility, the public health, and the environment at great risk because a significant storm surge, rise in sea level, and/or extreme rainfall event may flood the facility and release solid and hazardous wastes into the Island End River, Mystic River, and directly onto the city streets of Everett.

184. The resulting harm to the Terminal, the public health and the environment would be significant, due to the magnitude of waste hazardous waste managed by the Terminal:



Exxon Mobil Corp Everett Terminal Total Waste Managed (Pounds), 13 Chemicals Reported between 1998 and 2015, available at:

[http://iaspub.epa.gov/triexplorer/facility_profile_charts?p_tri=02149XXNCS52BEA&p_VAR=WST_PROD&p_LABEL=Total+Waste+Managed%20\(Pounds\)](http://iaspub.epa.gov/triexplorer/facility_profile_charts?p_tri=02149XXNCS52BEA&p_VAR=WST_PROD&p_LABEL=Total+Waste+Managed%20(Pounds)) (last visited Sept. 28, 2016).

185. ExxonMobil’s operation of its Everett Terminal presents an “imminent and substantial endangerment to health or the environment” because sea level rise, increased precipitation and flooding and severe storm impacts (including wind, storm surge and pounding surf) will result in releases of solid and/or hazardous wastes into the environment and surrounding residential communities.

186. Due to its failure to adapt to these risks, ExxonMobil has contributed and is contributing to the past or present handling, storage, treatment, transportation, or disposal of solid and hazardous wastes which may present an imminent and substantial endangerment to health or the environment under 42 U.S.C. § 6972(a)(1)(B), in violation of RCRA.

Second Cause of Action

Violations of the Clean Water Act – Failure to Comply with Permit’s Operational Requirements for Discharges

187. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

188. ExxonMobil’s NPDES Permit contains operational requirements that define the circumstances under which ExxonMobil may discharge through each of its three outfalls.

189. The Permit provides, in relevant part:

Wastewater Treatment System Flow

a. The continuous treatment system shall be designed, constructed, maintained and operated to treat the volume of storm water, groundwater and other associated wastewaters up to and including 280 gpm through outfall 01C.

b. The collection, storage and treatment systems shall be designed, constructed, maintained and operated to treat the total equivalent volume of storm water, groundwater, hydrostatic test water, boiler condensate, fire testing water, truck wash water, effluent pond water and continuous treatment system filter backwash water which would result from a 10-year 24-hour precipitation event, which volume shall be discharged through outfall 01C and outfall 01A. All wet weather and dry weather discharges less than or equal to the design capacity of the continuous treatment system [280 gpm] shall be treated through the continuous treatment system and discharged at outfall 01C. The flow through the corrugated plate separator shall not exceed 4,000 gpm.

Permit Part I.A.23(a)–(b), p. 10-11.

190. The Permit further specifies that discharges from Outfall 01B shall be limited to situations when the combined capacity of the facility to collect and treat through outfalls 01A and 01C is exceeded and are expected only in extreme weather events. *See* Permit Part I.A.23(c), p. 11.

191. The Terminal Operator’s Guide (“TOG”) similarly provides that:

All dry weather flow, 0–280 gpm, is treated by the OWS followed by dry weather treatment system (DWTS; also known as the CTS) and discharged to outfall 01C.

Moderate storm event flow, 280–4,000 gpm, is treated by the OWS and discharged to outfall 01A without treatment by the DWTS.

Heavy storm event flow, 4,000–13,600 gpm, is pumped to tank 140 for treatment by the OWS or DWTS following the storm event. Up to 1.3 million gallons will be transferred to tank 140.

TOG Oil Water Separator § 6.2.

192. Outfall 01C is designated as the primary outfall because its discharges are treated through the continuously operated advanced treatment system.

193. Discharges from Outfalls 01A and 01B receive lower levels of treatment, if any, and are thus only authorized when total flow exceeds the designated levels for Outfall 01C.

194. Contrary to the express terms of the Permit, discharges from Outfall 01A frequently occur even when Outfall 01C has not reached its 280 gpm capacity.

195. As a result, the entire discharge system, including Outfalls 01A and 01C, is being operated in violation of the Permit.

196. Through such unlawful operation, ExxonMobil is routinely failing to comply with its Permit and ensure that all of its discharges receive the highest level of treatment possible.

197. Each and every day that the discharge system was or is operated in violation of the Permit constitutes a separate and distinct violation of the Clean Water Act.

Third Cause of Action

Violations of the Clean Water Act – Violations of Permitted Effluent Limits

198. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

199. ExxonMobil's NPDES Permit for the Everett Facility includes numeric effluent limitations for each outfall.

200. ExxonMobil has repeatedly discharged pollutants from the Facility into the Island End River and Mystic River, from and through point sources, in concentrations and amounts that exceed the numeric effluent limits set out in its NPDES Permit.

201. ExxonMobil discharged pollutants in amounts exceeding the maximum allowable levels set by the numeric effluent limits in the Permit at least 164 times since 2010.

202. The pollutants discharged by ExxonMobil in excess of the permitted levels include, but are not limited to: Anthracene; Acenaphthene; Acenaphthylene; Benzo(a)anthracene; Benzo(b)fluoranthene; Benzo(k)fluoranthene; Benzo(ghi)perylene; Benzo(a)pyrene; Chrysene; Dibenz(a,h)anthracene; Fluoranthene; Fluorene; Indeno(1,2,3-cd)pyrene; Naphthalene; Phenanthrene; Pyrene; and Total Suspended Solids.

203. Each and every violation of the effluent limitations in the Permit is a separate and distinct violation of ExxonMobil's NPDES Permit and Section 301(a) of the CWA, 33 U.S.C. § 1311(a).

204. Further, each and every day that there is discharge from Outfall 01A when Outfall 01C is below its maximum capacity of 280 gpm constitutes a separate and distinct violation for each

and every pollutant present in the discharge, since **no** pollutants may be discharged from Outfall 01A if Outfall 01C has not reached maximum capacity.

205. These violations are ongoing and continuous, and barring a change at the Terminal and full compliance with the permitting requirements of the Clean Water Act, these violations will continue indefinitely.

Fourth Cause of Action

Violations of the Clean Water Act – Violations of State Water Quality Standards

206. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

207. The Permit requires ExxonMobil to ensure that its discharges do not cause violations of State Water Quality Standards, that pollutants are not discharged in concentrations or combinations that would be hazardous or toxic to human or aquatic life, and that its discharges do not impair the uses designated for the Island End and Mystic Rivers.²

208. Massachusetts Surface Water Quality Standards provide in relevant part that “[a]ll surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.” 314 Code Mass. Regs. § 4.05(5)(e).

² See Permit Part I.A.2, p. 3; Part I.A.3, p. 5; Part I.A.4, p. 6 (stating that for each outfall, any discharge must be “limited and monitored by the permittee as specified” and “not cause a violation of the State Water Quality Standards of the receiving water”); Part I.A.5, p. 9 (“The discharges either individually or in combination shall not cause or contribute to a violation of State Water Quality Standards of the receiving waters.”); Part I.A.9, p. 9 (“The discharge shall not contain materials in concentrations or combinations which are hazardous or toxic to human health, aquatic life of the receiving surface waters or which would impair the uses designate by its classification.”); Part 1.A.24, p. 11 (“The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.”; “Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated.”).

209. Under the Massachusetts Surface Water Quality Standards, the National Recommended Water Quality Criteria published by EPA in 2002 are the allowable receiving water concentrations unless otherwise specified. *See id.*

210. Many of ExxonMobil's discharges violate applicable State Water Quality Standards, and as such, constitute violations of the Permit and the Clean Water Act.

Fifth Cause of Action

Violation of the Clean Water Act – Failure to Develop, Implement, and Maintain a SWPPP Designed to Reduce or Prevent Discharge of Pollutants

211. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

212. The Permit states that “[t]he permittee shall develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) designed to reduce, or prevent, the discharge of pollutants in storm water to the receiving waters identified in this permit. The SWPPP shall be a written document and consistent with the terms of this permit. The permittee shall comply with the terms of its SWPPP.” Permit Part I.B.1, p. 13.

213. ExxonMobil's application for coverage under NPDES permits, including the currently applicable NPDES permit, as well as its SWPPP developed pursuant to the Permit, failed to include information documenting, or plans to address, climate change induced risks such as sea level rise, increased precipitation, increased magnitude and frequency of storm events, and increased frequency and magnitude of storm surges that threaten the Everett Terminal.

214. By failing to address sea level rise, ExxonMobil has not developed and is not implementing a SWPPP designed to prevent or reduce the discharge of pollutants in storm water to the receiving waters identified in the permit.

215. By failing to address increased magnitude and frequency of storm events, ExxonMobil has not developed and is not implementing a SWPPP designed to prevent or reduce the discharge of pollutants in storm water to the receiving waters identified in the permit.

216. By failing to address increased magnitude and frequency of storm surge, ExxonMobil has not developed and is not implementing a SWPPP designed to prevent or reduce the discharge of pollutants in storm water to the receiving waters identified in the permit.

217. By failing to address increased precipitation, ExxonMobil has not developed and is not implementing a SWPPP designed to prevent or reduce the discharge of pollutants in storm water to the receiving waters identified in the permit.

218. For all of these reasons, ExxonMobil has failed to develop and implement a SWPPP designed to prevent the discharge of pollutants in storm water to the receiving waters, in violation of the Permit and the Clean Water Act.

Sixth Cause of Action

Violation of the Clean Water Act – Unlawful Certification of SWPPP

219. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

220. The Permit requires that: “[t]he SWPPP shall be completed or updated and signed by the Permittee within 90 days after the effective date of this Permit. The Permittee shall certify that the SWPPP has been completed or updated and that it meets the requirements of the permit. The certification shall be signed in accordance with the requirements identified in 40 C.F.R. § 122.22.” Permit Part I.B.2, p. 13.

221. 40 C.F.R. § 122.22(a)(1) requires that a permit application submitted by a corporation be signed by a responsible corporate officer:

For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

Id. Section 122.22(a)(1) also notes that:

EPA does not require specific assignments or delegations of authority to responsible corporate officers identified in § 122.22(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under § 122.22(a)(1)(ii) rather than to specific individuals.

Id.

222. 40 C.F.R. § 122.22 required ExxonMobil to submit the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the

best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

40 C.F.R. § 122.22(d).

223. ExxonMobil signed and submitted the required certification at the time of submittal of each of its NPDES permit applications.

224. ExxonMobil signed and submitted the required certification at the time of development and certification of its SWPPP.

225. ExxonMobil signed these certifications without disclosing information in its possession and relied on by the company in its business decision-making regarding climate change-induced factors such as sea level rise, increased precipitation, increased magnitude and frequency of storm events, and increased magnitude and frequency of storm surge.

226. ExxonMobil signed these certifications without developing and implementing a SWPPP based on information in its possession and relied on by the company in its business decision-making regarding climate change-induced factors such as sea level rise, increased precipitation, increased magnitude and frequency of storm events, and increased magnitude and frequency of storm surge.

227. ExxonMobil signed these certifications without developing and implementing a Spill Prevention, Control, and Countermeasures based on information in its possession and relied on by the company in its business decision-making regarding climate change-induced factors such as sea level rise, increased precipitation, increased magnitude and frequency of storm events, and increased magnitude and frequency of storm surge.

228. ExxonMobil's failure to disclose and consider climate changed-induced factors such as sea level rise, increased precipitation, increased magnitude and frequency of storm events, and storm surge renders its SWPPP certification to not be true, accurate, and complete, and is therefore unlawful under 40 C.F.R. § 122.22.

229. Failure to prepare the SWPPP in accordance with the requirements identified in 40 C.F.R. § 122.22 to which ExxonMobil certified that it had complied with is a violation of the Permit and the Clean Water Act.

Seventh Cause of Action

Violation of the Clean Water Act – Failure to Prepare SWPPP in Accordance with Good Engineering Practices

230. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

231. The Permit requires that: “[t]he SWPPP shall be prepared in accordance with good engineering practices.” Permit Part I.B.4, p. 13.

232. ExxonMobil's SWPPP for the Everett Terminal was not prepared in accordance with good engineering practices because the SWPPP was not based on information consistent with the duty of care applicable to engineers.

233. The SWPPP was not prepared based on information regarding climate change-induced impacts known to reasonably prudent engineers.

234. The SWPPP was not prepared based on information regarding climate change-induced impacts known to ExxonMobil.

235. For these reasons, ExxonMobil has failed to prepare a SWPPP in accordance with good engineering practices, in violation of the Permit and the Clean Water Act.

Eighth Cause of Action

Violation of the Clean Water Act – Failure to Identify Sources of Pollution Reasonably Expected to Affect the Quality of Stormwater Discharges

236. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

237. The Permit requires that: “The SWPPP shall . . . identify potential sources of pollution that may reasonably be expected to affect the quality of the storm water discharges.” Permit Part I.B.4, p. 13.

238. This condition of the Permit uses the term “pollution” as opposed to the term “pollutant.”

239. ExxonMobil has failed to identify sources of pollution resulting from climate change-induced sea level rise, increased magnitude and frequency of storm surge, and increased magnitude and severity of storms as sources of pollution reasonably expected to affect the quality of the storm water discharges from the Everett Terminal, in violation of the Permit and the Clean Water Act.

Ninth Cause of Action

Violation of the Clean Water Act – Failure to Describe and Implement Practices to Reduce Pollutants and Assure Permit Compliance

240. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

241. The Permit requires that: “The SWPPP shall . . . describe and ensure implementation of practices which will be used to reduce the pollutants and assure compliance with this permit.”

Permit Part I.B.4, p. 13.

242. The SWPPP fails to describe or ensure implementation of practices which will be used to prevent and address pollutant discharges resulting from climate change-induced effects, in violation of the Permit and the Clean Water Act.

243. ExxonMobil has failed to properly maintain its waste water treatment system in violation of the Permit and the Clean Water Act.

Tenth Cause of Action

Violation of the Clean Water Act – Failure to Identify Sources, Spill Areas, and Drainage

244. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

245. The Permit requires that: “The SWPPP shall contain the elements listed below: A summary of all pollutant sources which includes all areas where spills have occurred or could occur. For each source, identify the expected drainage and the corresponding pollutant.” Permit Part I.B.4(c), p. 13.

246. The SWPPP does not address climate change-induced effects as pollutant sources.

247. The SWPPP does not identify areas where spills associated with climate change-induced effects could occur.

248. The SWPPP fails to identify expected drainage paths associated with climate change-induced effects such as storm surge and sea level rise.

249. For these reasons, the SWPPP fails to contain the elements required under Permit Part I.B.4(c), in violation of the Permit and the Clean Water Act.

Eleventh Cause of Action

Violation of the Clean Water Act – Failure to Implement Adequate Spill Prevention and Response Procedures

250. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

251. Climate change-induced and affected factors such as sea level rise, storm surge, precipitation, and weather events (including severe and extreme weather events) can reasonably be expected to cause or contribute to the discharge of oil in quantities that may be harmful to receiving waters in violation of the SPCC regulations, the SWPPP, and the Permit.

252. Due to its location, the Terminal is at risk of discharging oil due to climate change-induced sea level rise.

253. Due to its location, the Terminal is at risk of discharging oil due to climate change-induced storm surge.

254. Due to its location, the Terminal has discharged, and is at risk of discharging, oil and other pollutants due to climate change-induced increased precipitation.

255. Due to its location, the Terminal has discharged, and is at risk of discharging, oil and other pollutants due to climate change-affected weather events.

256. Due to its location, the Terminal has discharged, and is at risk of discharging, oil and other pollutants due to climate change-affected severe weather events.

257. Due to its location, the Terminal has discharged, and is at risk of discharging oil and other pollutants due to climate change-affected extreme weather events.

258. The SPCC Plan for the Everett Terminal was not prepared in accordance with good engineering practices because it is not based on consideration of climate change information known to ExxonMobil, the petroleum industry, and to practicing engineers in Massachusetts.

259. The SPCC Plan for the Everett Terminal was not prepared in accordance with good engineering practices because it is not based on consideration of climate change-induced and affected sea level rise that is reasonably expected to affect the Terminal.

260. The SPCC Plan for the Everett Terminal was not prepared in accordance with good engineering practices because it is not based on consideration of climate change-induced and affected storm surge that is reasonably expected to affect the Terminal.

261. The SPCC Plan for the Everett Terminal was not prepared in accordance with good engineering practices because it is not based on consideration of climate change-induced and affected precipitation that is reasonably expected to affect the Terminal.

262. The SPCC Plan for the Everett Terminal was not prepared in accordance with good engineering practices because it is not based on consideration of climate change-induced and affected weather events that are reasonably expected to affect the Terminal.

263. The SPCC Plan for the Everett Terminal was not prepared in accordance with good engineering practices because it is not based on consideration of climate change-induced and affected severe weather events that is reasonably expected to affect the Terminal.

264. The SPCC Plan for the Everett Terminal was not prepared in accordance with good engineering practices because it is not based on consideration of climate change-induced and affected extreme weather events that are reasonably expected to affect the Terminal.

265. Due to ExxonMobil's failure to consider climate change information, including information known to ExxonMobil, the SPCC fails to include necessary discharge prevention measures including procedures for routine handling of products (e.g., loading, unloading, and facility transfers, etc.).

266. Due to ExxonMobil's failure to consider climate change information, including information known to ExxonMobil, the SPCC fails to include necessary discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge.

267. Due to ExxonMobil's failure to consider climate change information, including information known to ExxonMobil, the SPCC fails to include to identify where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge).

268. Due to ExxonMobil's failure to consider climate change information, including information known to ExxonMobil, the SPCC fails to include a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.

269. Due to ExxonMobil's failure to consider climate change information, including information known to ExxonMobil, the SPCC fails to provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in 40 C.F.R. § 112.1(b).

270. Due to ExxonMobil's failure to consider climate change information, including information known to ExxonMobil, the SPCC fails to assure that the entire containment system, including walls and floor, is capable of containing oil and is constructed so that any discharge from a primary containment system, such as a tank, will not escape the containment system before cleanup occurs.

271. Due to ExxonMobil's failure to consider climate change information, including information known to ExxonMobil, the SPCC fails to address the typical failure mode associated with climate change-induced or affected factors and the most likely quantity of oil that would be discharged.

272. Due to ExxonMobil's failure to consider climate change information, including information known to ExxonMobil, the SPCC fails to include appropriately designed (i) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (ii) Curbing or drip pans; (iii) Sumps and collection systems; (iv) Culverting, gutters, or other drainage systems; (v) Weirs, booms, or other barriers; (vi) Spill diversion ponds; (vii) Retention ponds; or (viii) Sorbent materials. (2) For offshore facilities: (i) Curbing or drip pans; or (ii) Sumps and collection systems.

273. For all of these reasons, ExxonMobil has failed to implement adequate spill prevention and response procedures, in violation of the Permit and the Clean Water Act.

Twelfth Cause of Action

Violation of the Clean Water Act – Failure to Amend or Update the SWPPP

274. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

275. The Permit requires that:

The permittee shall amend and update the SWPPP within 30 days for any changes at the facility affecting the SWPPP. Changes which may affect the SWPPP include, but are not limited to, the following activities: a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the United States Any amended or new versions of the SWPPP shall be re-certified by the Permittee. Such re-certifications also shall be signed in accordance with the requirements identified in 40 CFR § 122.22.

Permit Part I.B.6, p. 14.

276. ExxonMobil has not amended or updated its SWPPP based on information regarding climate change known to ExxonMobil, in violation of the Permit and the Clean Water Act.

277. ExxonMobil has not amended or updated its SPCC, including an engineer's certification based on information regarding climate change known to ExxonMobil. 40 C.F.R. § 112.5.

278. 40 C.F.R. § 122. 41(e) requires that under all permits, including the Terminal's Permit, "the permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of [the] permit" and with the requirements of storm water pollution prevention plans. "Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit." *Id.*

279. ExxonMobil has failed to properly operate and maintain the Terminal due to its failure to consider and act upon climate change related information, including information known to ExxonMobil.

280. 40 C.F.R. § 122.41(d) requires that under all permits, including the Terminal's Permit, that "[t]he permittee shall take all reasonable steps to minimize or prevent any discharge which has a reasonable likelihood of adversely affecting human health or the environment." 40 C.F.R. § 122.41(d).

281. ExxonMobil has failed take all reasonable steps to minimize or prevent any discharge which has a reasonable likelihood of adversely affecting human health or the environment due to its failure to consider and act upon climate change related information, including information known to ExxonMobil.

282. For these reasons, ExxonMobil has failed to properly amend or update its SWPPP, in violation of the Permit and the Clean Water Act.

Thirteenth Cause of Action

Violation of the Clean Water Act – Violation of Permit Prohibition on Visible Oil Sheen, Foam, or Floating Solids

283. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

284. The Permit provides that a "discharge shall not cause a visible oil sheen, foam, or floating solids." Permit Part I.A.8, p. 9.

285. There have been at least four instances in which discharges associated with the ExxonMobil Everett Terminal and/or the Sprague Energy facility were reported to the National Incident Command. All four of these incidents, which occurred in 2011, 2014, and 2015, resulted in a discharge that reached the water, identified as the Mystic River and/or the Island End River.

286. These discharges constitute violations of the Permit and the Clean Water Act.

Fourteenth Cause of Action

Violation of the Clean Water Act – Unpermitted Discharges to the Half-Moon Shaped Pond

287. Plaintiff incorporates the allegations contained in the above paragraphs as though fully set forth herein.

288. The half-moon shaped pond within the Everett Terminal facility that is incorporated into the facility's stormwater treatment system has existed since time immemorial and was a part of the Island End River until, upon information and belief, ExxonMobil (or its predecessors in interest) filled in the surface water connection between the half-moon shaped pond and the Island End River sometime in the early 1900s.

289. The half-moon shaped pond is connected to the Island End River via surface water flows, subsurface hydrological connections, and man-made conduits. The half-moon shaped pond, the Island End River, and the Mystic River are all "waters of the United States" as defined in 40 C.F.R. § 122.2, and, therefore, "navigable waters" as defined in 33 U.S.C. § 1362(7).

290. Upon information and belief, the half-moon shaped pond has existed in its current location since at least the early 1900s and flowed into the Island End River until ExxonMobil (or its predecessors in interest) impounded and appropriated it in the early 1900s.

291. The half-moon shaped pond was part of the traditionally navigable Island End River or, alternatively, a navigable tributary to the traditionally navigable Island End River, and therefore was and is a water of the United States.

292. A man-made structure cannot eliminate the Clean Water Act's jurisdiction over a water of the United States.

293. A man-made diversion, however long ago undertaken, cannot change a water of the United States into something else.

294. ExxonMobil's discharges of pollutants into the half-moon shaped pond are unpermitted and therefore violate the Clean Water Act.

RELIEF REQUESTED

295. Wherefore, Plaintiff respectfully requests that this Court grant the following relief:

- a. injunctive relief pursuant to § 7002 of RCRA, 42 U.S.C. § 6972, ordering ExxonMobil to perform and pay for such work as may be required to respond to the hazardous waste and solid waste present at the Everett Terminal and restraining ExxonMobil from further violating RCRA;
- b. declaratory and injunctive relief to prevent further violations of the Clean Water Act pursuant to §§ 505(a) and (d) of the CWA, 33 U.S.C. § 1365(a);
- c. civil penalties of up to \$37,500 per day per day per violation for all Clean Water Act violations occurring between January 12, 2009 and November 2, 2015, and up to \$51,570 per day per violation for all CWA violations occurring after November 2, 2015 pursuant to § 309(d) of the CWA, 33 U.S.C. § 1319(d), and the regulations governing the Adjustment of Civil Monetary Penalties for Inflation, 40 C.F.R. §§ 19.2, 19.4;
- d. and an award of the costs of litigation, including reasonable attorney and expert witness fees, under § 7002 of RCRA, 42 U.S.C. § 6972, and § 505(d) of the CWA, 33 U.S.C. § 1365(d); and
- e. all other relief as permitted by law.

JURY DEMAND

Plaintiff requests a jury trial on the issue of liability and any other issue cognizable by a jury.

Respectfully submitted,

Dated: September 29, 2016

CONSERVATION LAW
FOUNDATION, INC.

By its attorneys:

/s/ Zachary K. Griefen

Zachary K. Griefen, Esq., BBO# 665521
Conservation Law Foundation
15 East State Street, Suite 4
Montpelier, VT 05602
(802) 223-5992 x4011
zgriefen@clf.org

/s/ Christopher M. Kilian

Christopher M. Kilian, Esq.*
Conservation Law Foundation
15 East State Street, Suite 4
Montpelier, VT 05602
(802) 223-5992 x4015
ckilian@clf.org
**Pro Hac Vice Application Filed Concurrently
with Complaint*

/s/ Allan Kanner

Allan Kanner*
Elizabeth B. Petersen*
Allison S. Brouk*
Kanner & Whiteley, LLC
701 Camp Street
New Orleans, LA 70130
(504) 524-5777
a.kanner@kanner-law.com
e.petersen@kanner-law.com
a.brouk@kanner-law.com
**Pro Hac Vice Applications Filed Concurrently
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