

United States District Court, S.D. New York

APL CO. PTE. LTD., THE BRITANNIA STEAM SHIP INSURANCE ASSOCIATION LIMITED, THE WEST OF ENGLAND SHIP OWNERS MUTUAL INSURANCE ASSOCIATION (LUXEMBOURG), Plaintiffs, -v- KEMIRA WATER SOLUTIONS, INC., (formerly known as "Kemiron Companies"), FAIRYLAND ENVITECH CO. LTD., Defendants.

11 Civ. 1686.
February 25, 2014.

OPINION & ORDER

Katherine B. Forrest, District Judge

This case arises from two shipments of ferrous chloride crystals sent from Taiwan to California that, simply put, did not go as planned. The bags in which the crystals were originally packaged leaked as a result of improper packaging at some point between their departure from Taiwan and their arrival in California. The result was contamination of the containers in which the bags were stored and of the ships that transported the containers, as well as at the ports where the containers were discharged. Cleanup and response efforts ultimately lasted more than seven months and were fraught with unexpected delays and setbacks along the way — both on-site at the ports and back at the corporate offices of the companies involved.

In the end, the bill for these efforts totaled more than five million dollars. Plaintiffs, APL Co. Pte. Ltd. ("APL") and its insurers,¹ footed that bill — APL was the carrier of the ferrous chloride cargo. Though this case has been narrowed considerably since its inception,² the fundamental question now before the Court is whether defendant Kemira Water Solutions, Inc. ("Kemira"),³ the end purchaser and consignee of the ferrous chloride, must bear the brunt of the joint and several liability provisions of Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"), 42 U.S.C. §§ 9601, et seq., for the cleanup and response costs incurred by APL. Kemira entered into an agreement with Fairyland Envitech Co. Ltd. ("Fairyland"), a Taiwanese company, to purchase the ferrous chloride crystal; in that agreement, Kemira specified the use of bulk bags to transport the material. The bags that were then chosen

¹ On May 1, 2013, the Court ordered APL's insurers — The Britannia Steam Ship Insurance Association Limited and The West of England Ship Owners Mutual Insurance Association (Luxembourg) (collectively, the "Insurers") — be joined as plaintiffs in this action. (ECF No. 116.) For the sake of consistency, APL and its Insurers are hereinafter referred to as both "APL" and "plaintiffs."

² As discussed *infra*, the Court narrowed the issues in this litigation both in its August 22, 2012 summary judgment opinion and at the June 3, 2013 final pretrial conference.

³ At the time of the events giving rise to this action, Kemira was known as "Kemiron." For the sake of consistency, this entity is hereinafter referred to as "Kemira."

and ultimately used by Fairyland to transport the material leaked, and a parade of horrors ensued. Fairyland, for its part, was and is nowhere to be found.

This Court finds that Kemira is liable under CERCLA for cleanup costs.

Plaintiffs brought this admiralty and maritime action, pursuant to 28 U.S.C. § 1333, in the Northern District of California on August 27, 2009 against defendants Kemira and Fairyland for breach of contract, negligence, and recovery under CERCLA related to the cleanup and response costs they incurred as a result of the two shipments. This action was transferred to the Southern District of New York on March 11, 2011 and transferred to the undersigned on November 8, 2011.

After the parties cross-moved for summary judgment, on August 22, 2012, this Court granted Kemira summary judgment on APL's breach of contract and negligence claims. (SJ Decision at 16, 24-25, ECF No. 96.) The Court declined to grant summary judgment for Kemira on APL's CERCLA claim. (*Id. at 22.*) In doing so, the Court held that (1) the bags in which the ferrous chloride crystals were packaged and shipped are "facilities" under 42 U.S.C. § 9601(9)(B); and (2) Kemira is a "potentially responsible party" (or "PRP") because it was an "operator," under 42 U.S.C. § 9607(a)(2), and not the "shipper" under 42 U.S.C. § 9607(20)(B). (*Id. at 17, 22.*)⁴ Accordingly, at the June 3, 2013 final pretrial conference, the Court made clear that the limited issues for trial were the scope of damages and the potential divisibility of such damages under 42 U.S.C. § 9607(a). (See 6/3/13 Tr. at 31, ECF No. 122; 6/4/13 Order ¶ 2, ECF No. 121.)

On August 26-28, 2013, the Court held a bench trial in this matter.⁵ The following individuals⁶ testified on behalf of APL: Dale Strieter, Technical Service Manager for

⁴ The elements of a CERCLA § 9607(a) claim are discussed in greater detail infra.

⁵ In advance of trial, the parties submitted a set of stipulated facts (cited herein as "SF"), as well as their own findings of fact and conclusions of law (which the Court has used in drafting this opinion).

Citations to the transcript of the trial are referred to herein as "Trial Tr." with the name of the testifying witness in parentheses. The transcripts for each trial day are continuously paginated. Transcript pages 1-241 pertain to August 26, 2013, transcript pages 242-371 pertain to August 27, 2013, and transcript pages 372-490 pertain to August 28, 2013.

The exhibits admitted into evidence at trial fall into three categories — exhibits cited herein as "JX" were exhibits jointly offered by the parties, exhibits cited herein as "PX" were exhibits marked by APL, and exhibits cited herein as "DX" were exhibits marked by Kemira.

Patriot Environmental Services ("Patriot"), Walt Dorn, Director of Emergency Services for Patriot, Haldis Fearn, Director of Hazardous Materials for the Americas for APL, Curtis Shaw, Director of Safety for APL, Mark Peterson, Manager of Insurance and Claims for APL, and Michael Bohlman, APL's proposed expert witness concerning the custom and practice in the steamship industry as to ensuring proper cargo packaging and the opening of cargo containers prior to transport. The following individuals testified on behalf of Kemira: Jerome Fahey, Vice President of Procurement at Kemira, Jan Pavlicek, Technical Product and Applications Manager at Kemira, Robert J. Ten Eyck, Kemira's proposed expert as to the bulk bags containing the ferrous chloride crystals, and Dr. Jeffrey V. Dagdigian, Kemira's proposed expert as to the adequacy and reasonableness of the cleanup and response efforts for both shipments of ferrous chloride under CERCLA.

The parties also submitted deposition designations for eight witnesses in lieu of live testimony⁷: Melvin Blaine, Operations Manager at Kemira's facility in Fontana, California, William F. Sheridan, Director of Network Operations in the Western Region for APL, Shannon Mizell, Dangerous Goods Specialist at APL, Diane Terrien, Senior Manager of Documentation at APL, Robert Wetzel, General Manager at Transloading Environmental Corporation ("TEC"), Eri Soto, a TEC foreman, Robert Wolters, Operations Superintendent at California United Terminals ("CUT"), and John Chiu, Owner of FTS International Express.

This Opinion constitutes this Court's findings of fact and conclusions of law in this matter. As set forth below, this Court finds that plaintiffs are entitled to judgment on their CERCLA claim under 42 U.S.C. § 9607(a). The Court finds that the expenses incurred by APL were both necessary and incurred for cleanup and response efforts that were substantially consistent with the National Contingency Plan ("NCP"). The Court also finds that Kemira has failed to meet its burden of showing that any portion of the costs for which it is solely responsible are divisible.

FINDINGS OF FACT

⁶ Unless otherwise specified, all job titles correspond to the relevant period in 2006 and 2007.

The parties submitted direct testimony by declaration. Those declarations were each marked as Court Exhibits and are cited herein as "[Name of witness] Decl." Each of these witnesses were then presented for live cross and further examination with the exception of APL expert Michael Bohlman, whose cross and re-direct examination was submitted by video and marked as Court Exhibit 6.

⁷ The deposition designations for each of these eight witnesses were also marked as Court Exhibits and are cited herein as "[Name of witness] Dep."

A. The Parties

1. APL is a global transportation and logistics company providing, among other services, container transportation services. APL was the carrier of the two ferrous chloride crystal shipments aboard the M/V HYUNDAI INDEPENDENCE ("Hyundai Independence") and the M/V APL SINGAPORE ("APL Singapore") in the fall of 2006 that are at issue in this litigation. (See SF ¶¶ 2, 15.)

2. Kemira is a company that sells water treatment chemicals. Kemira was the consignee and importer of the ferrous chloride into the United States and arranged for its clearance through U.S. Customs. (See SJ Decision at 1; SF ¶ 4; Chiu Dep. at 11-12, 20-21, 26-28; JX19.)

3. At the time of the events alleged in the complaint, Fairyland was a Taiwanese chemical supplier. Fairyland was the supplier of the two shipments of ferrous chloride at issue. Fairyland has ceased all business and operations, and cannot be located. As a result, according to the docket, Fairyland does not appear to have been served with the complaint. (See SF ¶ 3; SJ Decision at 1, 2 n.1.)

B. Background on Ferrous Chloride Crystal

4. Ferrous chloride crystal (also referred to as "FeCl₂ crystal") is a salt that is highly hygroscopic, which means that it attracts liquid and is prone to liquefaction when exposed to moisture. When ferrous chloride crystal liquefies, it is aggressively corrosive to most metals. (See Strieter Decl. ¶ 19; Trial Tr. at 76-78 (Strieter); JX12 at 1.)

5. Ferrous chloride crystal is a hazardous chemical classified as "Class 8: Corrosive" under the International Maritime Dangerous Goods ("IMDG") Code promulgated by the International Maritime Organization of the United Nations. (See SF ¶ 14.)

6. In this case, Kemira purchased the ferrous chloride crystals from Fairyland to be sold to municipal and industrial entities for use as a water treatment product. These entities use ferrous chloride to remediate sewer odor (by neutralizing hydrogen sulfide) and to remove phosphorous at their wastewater plants. (See SF ¶ 9; Trial Tr. at 326 (Fahey), 363 (Pavlicek).)

C. The Fairyland-Kemira Purchase Agreement

7. On August 3, 2006, Kemira and Fairyland entered into a purchase agreement pursuant to which Kemira agreed to purchase ferrous chloride crystal from Fairyland, and Fairyland agreed to ship the chemical from Taiwan to California (the "Purchase Agreement"). The Purchase Agreement confirmed the product and price provisions for the sale of the ferrous chloride crystal. (See SJ Decision at 2; SF ¶ 12; JX6 at 1-2.)

8. The Purchase Agreement set forth the terms of sale as "DDP" or "delivery duty paid" by Fairyland to Kemira's plant in Fontana, California. (See SF ¶ 12.)

9. Schedule A of the Purchase Agreement set forth the "General Requirements" for packaging the ferrous chloride. In it, Kemira directs Fairyland that the ferrous chloride crystal shall:

1. Be shipped in bottom unloading 1 metric ton net weight bulk bags with four loops capable of suspending the entire bag.
2. The bulk bags will be shipped in such a manner to assure that all material arrives at destination with sacks intact and without material leakage.
3. The bulk bags shall be impermeable to water.
4. The bulk bags shall be loaded into the container such that they will be able to be unloaded via forklift trucks or via pallet jacks of US specifications.
5. Material quality will be consistent throughout the shipment and within the bulk bags with respect to stated specifications.
6. Quantities of material in the bulk bags will be consistent throughout the shipment and net weight will be greater than 1 MT less than 1.2MT.
7. All bulk bags and sea containers will be marked with information appropriate for meeting all regulatory requirements of the United States of America and the States of California, Missouri and Indiana.

(See SJ Decision at 2, 18-19; SF ¶ 13; JX6 at 3.)

10. The shipments of ferrous chloride crystal that APL carried aboard the Hyundai Independence and the APL Singapore were purchased by Kemira from Fairyland pursuant to this Purchase Agreement. (See SF ¶¶ 11-13, 15.)

D. Shipment #1 — The Hyundai Independence

11. APL carried the two shipments of ferrous chloride under two separate bills of lading. The first shipment, under Non-Negotiable Sea Waybill No. APLU 451382861, dated September 30, 2006, was carried aboard the Hyundai Independence pursuant to a slot sharing agreement. The second shipment, under Non-Negotiable Sea Waybill No. APLU 401403279, dated October 17, 2006, was carried aboard the APL Singapore. (See SF ¶ 15.)

12. A Dangerous Goods Declaration is a required document provided by the shipper when it tenders containers for transport, and which must accompany every shipment of hazardous materials. Carriers are required to receive a Dangerous Goods Declaration prior to accepting such goods and may rely on them unless there are obvious discrepancies in the paperwork or obvious issues with the containers themselves. (See Fearn Decl. ¶ 17; Bohlman Decl. ¶ 6.)

13. According to Haldis Fearn, APL's Director of Hazardous Materials for the Americas, APL relies on Dangerous Goods Declarations when deciding whether to accept and load a shipment. APL will not receive, load, or transport hazardous materials without a properly completed and certified Dangerous Goods Declaration. (See Fearn Decl. ¶¶ 17-18.)

14. As Director of Hazardous Materials, a position she assumed in 1991, Fearn was responsible for the department that oversaw the movement of hazardous materials by APL both domestically and internationally. Fearn's department was charged with, *inter alia*, the review and approval of Dangerous Goods Declarations and responding to emergency situations involving hazardous materials. Fearn has nineteen years experience managing and responding to incidents involving hazardous materials, at a rate of approximately 85 to 100 such incidents a year. (See Fearn Decl. ¶¶ 1, 9, 12-13, 17; JX11; Trial Tr. at 192 (Fearn).) Though the Court found Fearn to be credible, it also found her to be confused at times during her testimony.

15. Fairyland signed the Dangerous Goods Declaration for the cargo shipped on board the Hyundai Independence (the "Hyundai Declaration"), and submitted it to APL. The Hyundai Declaration states the dangerous substance being shipped ("Corrosive Solid, NOS (Ferrous Chloride Crystal)", the UN identification number ("1759"), the Class ("8"), the Packing Group ("II"), and the specific type of packaging used for the identified substance ("UN13H3 (IN 220 PALLET) (412 BAGS)"). This meant that the Hyundai Independence was carrying 22 containers of ferrous chloride crystal shipped in 412 separate bags. (See SF ¶¶ 16-17; JX7 at 1; Strieter Decl. ¶ 19; Fearn Decl. ¶¶ 18-19.)

16. In the Hyundai Declaration, Fairyland provided certifications to APL as to the packaging of the ferrous chloride aboard the Hyundai Independence. Fairyland certified that the ferrous chloride had been packed and loaded into the containers in accordance with the IMDG Code. Fairyland also declared "that the contents of this consignment are fully and accurately described below by the proper shipping name, and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to the applicable international and national government regulations." (See SF ¶ 19; JX7 at 1.)

17. The Court finds that the Hyundai Declaration contains all of the required information and does not contain any obvious inaccuracies. According to Fearn, there is nothing in the Hyundai Declaration that would have caused APL to refuse the shipment or open the containers for further inspection. Fearn believes the Hyundai Declaration was properly approved by her department, and the Court agrees. (See Fearn Decl. ¶ 19; Bohlman Decl. ¶ 6; Ten Eyck Decl. ¶¶ 11-13.)

E. Leakage Aboard the Hyundai Independence

18. On Friday, October 13, 2006, Dale Strieter received a call to Patriot's 1-800 emergency response number from a representative of CUT. CUT asked Patriot to dispatch a team to assess and respond to three leaking containers that had been

discharged from the Hyundai Independence, and which were placarded as Corrosive 8, UN No. 1759. From this information, Strieter understood that the containers likely contained a corrosive hazardous material. When Strieter arrived at CUT later that day, he observed this same placarding on the containers. (See Strieter Decl. ¶ 18; PX73 at 4.)⁸

19. Patriot is an environmental contractor that has extensive experience with hazardous material cleanup and response operations at the ports of Long Beach and Los Angeles, California. It has handled and continues to handle operations for almost every commercial terminal at those ports, including the two terminals at issue in this case — CUT and Global Gateway South ("GGS").⁹ Prior to the incidents in this case, Patriot had handled approximately 40 to 50 separate cleanup and response operations for APL. (See Strieter Decl. ¶ 5.)

20. Similarly, for Strieter, October 13, 2006 was not his first time answering the proverbial "red phone." Strieter was a Technical Service Manager for Patriot, a position he has held since the company was founded in 2002. He has more than 33 years in the environmental services business under his belt. In his role at Patriot, Strieter was generally responsible for initial response operations, documentation, and interfacing with regulatory agencies (like the United States Coast Guard ("USCG")), for spills and other environmental threat responses. Prior to the events at issue, Strieter had worked on four to five incidents involving ferrous chloride crystals (though not in as large quantities). (See Strieter Decl. ¶¶ 1, 6, 14; Trial Tr. 38, 44 (Strieter).) The Court found Strieter to be a credible and serious witness.

21. Upon his arrival at CUT, Strieter requested and received from CUT personnel a copy of the Hyundai Declaration. He learned from the Declaration that the Hyundai Independence was carrying 22 containers of ferrous chloride crystal shipped in 412 separate bags. Strieter also learned, after consulting a reference guide, that ferrous chloride is extremely hygroscopic and is aggressively corrosive to most metals when in liquid form. (See Strieter ¶ 19; JX7 at 1.)

22. After reviewing this information, Strieter determined that the ferrous chloride did not pose a major health hazard for the kind of cleanup and response work that needed to be performed at that stage (although there was a serious threat from direct physical contact

⁸ Dorn took these photographs as well as "95%" of all of the photographs taken during the cleanup and response efforts conducted by Patriot for the Hyundai Independence and the APL Singapore. (See Dorn Decl. ¶¶ 9, 14.)

⁹ In addition to being referred to as "GGS," the Golden Gate Terminal (at which the APL Singapore arrived) is also referred to as the "Eagle Marine Terminal," which was run by Eagle Marine Services. (See Strieter Decl. ¶ 7.)

with the hazardous material) and that Patriot would be able to get close to the material without it posing a threat to worker safety. (See Strieter Decl. ¶ 20.)

23. Prior to Strieter's arrival at CUT, CUT personnel had discharged four or five leaking containers and placed them on a standard 24-foot chassis. Strieter observed these containers, and the leakage was readily apparent — brown liquid was leaking from some of the containers, while others were streaked with brown liquid running down their sides. According to Strieter, the liquid appeared more viscous than water but less so than molasses, and did not have an odor. (See Strieter Decl. ¶ 21; PX73 at 3-4.)

24. Strieter observed the corrosive effect of the ferrous chloride on the unpainted, exposed metal on the containers. Strieter performed a pH test on the liquid; it tested at a pH of 1-1.5, which confirmed that the liquid was highly acidic and corrosive. (See Strieter Decl. ¶ 21; JX12 at 1; JX26 at 1.)

25. Strieter accompanied other Patriot and CUT personnel to assess Bay 35 — the bay on the Hyundai Independence from which the leaking containers had been previously discharged. They determined that an additional eighteen containers (nine of which actually contained ferrous chloride crystal) in Bay 35 were contaminated. Strieter also determined that twenty other containers had been previously discharged from the Hyundai Independence and had been moved into the terminal. Thirteen of those containers were actively leaking ferrous chloride, while the others were "victim" containers — containers that had been impacted by the leaking ferrous chloride liquid. (See Strieter Decl. ¶¶ 23-24.)

26. Patriot and CUT personnel moved all leaking and victim containers to the "5000" area of the CUT terminal and enveloped them in plastic, in advance of rain that was expected that night. They decontaminated and cleaned the asphalt on the CUT terminal where the contaminated containers had been, and tested the cleaned area using pH paper test. (See Strieter Decl. ¶ 24.)

27. The USCG sent representatives from two different sections (the pollution section and the container section) to assess the incident that day, October 13, 2006.¹⁰ Strieter interfaced with them while they were on-site about the threat posed to worker safety by the spill as well as the appropriate initial response. According to Strieter, the USCG was heavily involved in and oversaw the cleanup and response process. In addition to on-site observation, Patriot provided the USCG with detailed oral briefings as to their cleanup and response efforts.¹¹ During the course of Patriot's cleanup and response efforts, for both the Hyundai Independence and later for the APL Singapore, Patriot never once

¹⁰ The parties did not present testimony from any USCG witnesses at trial. Accordingly, out-of-court statements by USCG personnel are hearsay and the Court will not consider them for their truth. To the extent any such statements are referenced or implied in this Opinion, and are not otherwise part of an exhibit that was admitted into evidence, they are considered solely for the fact that they were said.

¹¹ As is discussed *infra*, the oversight provided by the USCG increased substantially after renewed leakage from the ferrous chloride containers was discovered on January 15, 2007. (See Strieter Decl. ¶ 15; Trial Tr. 49 (Strieter).)

received an objection from the USCG as to their methods or work. (See Strieter Decl. ¶¶ 14-15, 25; Trial Tr. at 81 (Strieter).)

28. A "Captain of the Port Order" is a directive used by the USCG to ensure steps are taken in an expeditious manner to meet safety, security, and environmental mandates within the USCG's purview. A party that fails to meet the requirements of a Captain of the Port Order runs the risk that the USCG may assume complete command of the cleanup and response, and thus charge the responsible party or parties for those costs (which are often very high). A Captain of the Port Order also means that the USCG will be heavily involved in the cleanup and response process at the regulated facility and will require USCG approval of the steps the party intends to take in cleaning up and responding to a release. Once a cleanup response is completed, it is up to the USCG to assess whether a party has complied with the Captain of the Port Order and has met all other legal and regulatory requirements. At that point, the Captain of the Port Order is said to be "lifted." (See Shaw Decl. ¶ 7.)

29. On October 13, 2006, the USCG issued Captain of the Port Order 2006-502 to CUT in connection with the leaking ferrous chloride aboard the Hyundai Independence. The Order directed CUT to move all contaminated containers to a safe and secure location at least 75 feet from the water, and to submit a detailed plan for repairing, cleaning, and transporting each affected container on the Hyundai Independence and at the port. The Order required USCG approval for transport of any affected containers. Finally, the Order set forth the monetary penalties for violations of the Order under the Ports and Waterways Safety Act, 33 U.S.C. §§ 1221et seq. (See JX9 at 1; Strieter Decl. ¶ 26; Dorn Decl. ¶ 18; Fearn Decl. ¶ 26.)

30. APL received notice from CUT that the ferrous chloride crystal shipment aboard the Hyundai Independence had arrived at its terminal in Long Beach, and that the contents of the containers were leaking and had spilled along the outside walls of containers. CUT informed APL that it would hold APL responsible for all costs associated with the incident. (See SF ¶ 20; Fearn Decl. ¶¶ 15-16; JX11; JX14.)

31. Haldis Fearn was the person at APL who received this notification, and who was tasked with overseeing and managing APL's response. Upon receiving this notification, APL thereafter assumed responsibility for responding to the Hyundai Independence incident. (See Fearn Decl. ¶ 16.)

32. Upon learning of the leaking ferrous chloride aboard the Hyundai Independence, Fearn left a message for the emergency contact at Fairyland at the number listed on the Hyundai Declaration. (See Fearn Decl. ¶ 20; JX7; Trial Tr. at 233 (Fearn).)

33. Fearn then called Kemira. She informed the person with whom she spoke of the leaking ferrous chloride aboard the Hyundai Independence, that she had been unable to get in touch with anyone from Fairyland, and that APL had brought in a spill response team. Fearn also indicated that APL would hold Kemira responsible for the cleanup and

response costs if Fairyland did not step up and pay them. (See Fearn Decl. ¶ 21; JX10 at 1; PX17.)

34. In the internal Kemira email memorializing this notification by Fearn, Mel Blaine¹² raises the issue of obtaining a California Department of Transportation ("DOT")¹³ exemption in order to move the ferrous chloride to its facility in Fontana, California. Blaine states: "We have to get an exemption from DOT in order to move the crystal to Fontana. They say that we cannot ship fecl2 crystal in supersacks. Please get in touch with Vanessa [Tsai, of Fairyland]. We need help." Jerome Fahey¹⁴ responded to Blaine's email by copying Tsai to notify her of the leak. (See Fahey Decl. ¶¶ 6-7; Blaine Dep. at 92-94; PX17.)

35. Fearn next established contact with Patriot (who had already been brought in by CUT) and approved them as the lead response contractor for the assessment and cleanup. Because of the need to clean the vessel and the victim containers so that the vessel could leave on schedule, Fearn also contacted Robert Wetzel at TEC and requested that TEC assist Patriot with the response. (See Fearn Decl. ¶¶ 23-24; Strieter Decl. ¶ 27.)

36. TEC was another environmental contractor with extensive experience conducting clean-up and response operations. TEC had worked in this capacity for APL approximately one hundred times in the ten to fifteen years prior to these incidents, though there is no evidence in the record that this work involved ferrous chloride (and certainly not in the quantities involved here). No representatives of TEC testified at trial; instead, the parties submitted deposition designations for two individuals from TEC: General Manager Robert Wetzel and foreman Eri Soto. (See Wetzel Dep. at 12, 15-18; Soto Dep. at 5-6.)

37. The next day, October 14, 2006, Patriot discharged the eighteen remaining victim containers in Bay 35 of the Hyundai Independence, as well as twenty-four additional victim containers on the bottom rows of Bays 30 and 33. During discharge from the vessel and transport of the containers, Patriot draped 6 millimeter PVC plastic sheeting over the vessel's hatches, along the side of the vessel, and over the "bomb carts" used to transport the containers into the 5000 area of the CUT terminal. (See Strieter Decl. ¶¶ 28-29; Dorn Decl. ¶ 14; JX12 at 2; PX73 at 1-4).

¹² Blaine was the Operations Manager at Kemira's facility in Fontana, California from 1996 through 2007. (See Blaine Dep. at 14-15.)

¹³ The record in this matter refers to both DOT and the California Highway Patrol ("CHP") interchangeably. (See Trial Tr. at 132 (Dorn).) For the sake of consistency, the Court refers solely to the DOT in this opinion.

¹⁴ Fahey was the Vice President of Procurement at Kemira, a position he had held since May 2005. (See Fahey Decl. ¶ 2.)

38. Walt Dorn, Director of Emergency Services for Patriot since 2002, supervised the operations. Dorn has more than 20 years of experience with environmental cleanup and response efforts, both on water and land, all over the world. (See Dorn Decl. ¶¶ 1, 3, 13; Trial Tr. at 148 (Dorn).) The Court found Dorn to be highly experienced and credible.

39. Following the discharge of the contaminated containers, Patriot discovered that the ferrous chloride liquid had leaked into the ship's rainwater collection bilges. These bilges needed to be decontaminated and cleaned before the Hyundai Independence could be released back into service; according to Dorn, this was a "structural integrity issue" for the ship because the ferrous chloride liquid was attacking the ship itself. The USCG, which remained on-site on a daily basis, directed the order of priority for these tasks — the tasks set forth in Captain of the Port Order 2006-502. Strieter reported these developments to Fearn at APL. Based on a report Strieter prepared to CUT describing these initial response activities, he believes Patriot finished discharging the containers from the Hyundai Independence around 11:45 p.m. that night. (See Strieter Decl. ¶ 30; Dorn Decl. ¶ 15; Trial Tr. at 141-43 (Dorn); JX12 at 2; PX73 at 5-9.)

40. On Sunday, October 15, 2006, Dorn supervised the construction of a temporary wet wash area to decontaminate and clean the victim containers that needed to be reloaded onto the Hyundai Independence before its departure. Patriot constructed a temporary rather than permanent containment area due to time constraints, space constraints at CUT, and conversations with the USCG regarding the priority of operations. The area was a 50 foot by 30 foot temporary containment area constructed out of 10 millimeter visqueen plastic and industrial rug as padding. Patriot used the terminal lift to raise the containers one at a time, and used a sodium bicarbonate solution to rinse and clean the containers. After Patriot finished this process, the USCG inspected the containers and released them for reloading aboard the Hyundai Independence. The decontamination and cleaning residue was collected and pumped into poly drums for disposal. (See Dorn Decl. ¶ 16; Strieter Decl. ¶¶ 31-32; Trial Tr. at 100-101 (Strieter), 145 (Dorn); JX12 at 2.)

41. APL also brought in a team from TEC to assist with cleaning the rainwater collection bilges in Bay 35 of the Hyundai Independence that day. Patriot worked alongside TEC to decontaminate the floors in Bays 35, 33 and 30, as well as other portions of Bay 35, using a sodium bicarbonate and water solution. Patriot then pressure washed these areas with a cold water washer. Strieter reported on the status of the cleaning process to Fearn at some point that day. (See Strieter Decl. ¶ 31; Fearn Decl. ¶ 29; JX10 at 2; PX73 at 10-16.)

42. Once the cleaning of the bilges and vessel were complete, Strieter conducted pH paper testing and confirmed the cleanliness and decontamination of the affected areas. The vessel was then released back into service by the USCG. (See Strieter Decl. ¶ 34; JX26 at 2.)

43. USCG representatives remained on-site during each day of the initial response to the leaking containers from the Hyundai Independence, and they did not raise any objections as to Patriot's work or process. In particular, according to Dorn, the USCG never raised any issues as to the location of the temporary containment area on the CUT terminal in

terms of its proximity to the water (i.e., that the containers were to be at least 75 feet from the water per Captain of the Port Order 2006-502).¹⁵ (See Strieter Decl. ¶ 37; Trial Tr. at 139 (Dorn).)

44. On or about October 16, 2006, Fearn called and spoke with Mel Blaine from Kemira. Fearn told Blaine that the response and cleanup operations were ongoing and that the containers had been fully discharged from the Hyundai Independence. Fearn had still not heard from Fairyland. Fearn called Blaine a second time that day to request the Material Safety Data Sheet ("MSDS") for the product Kemira had imported; Blaine did not have a copy and gave Fearn the number of someone in Kemira's East Coast offices. Fearn called that number and spoke with someone about the MSDS; this person, who said he was a Vice President, told Fearn that he would get her one. Fearn also recalls that this person told her the shipment was a door-to-door delivery, Kemira did not own the cargo, and APL would need to go back to Fairyland on this. Fearn does not recall ever receiving an MSDS from Kemira. (See Fearn Decl. ¶ 25; Trial Tr. at 234-35 (Fearn).)

45. Fearn was finally able to speak with Vanessa Tsai of Fairyland on or about October 17, 2006. Fearn informed Tsai of the leaking containers and the ongoing containment and cleanup operations at CUT. Based on this conversation, Fearn's understanding was that Fairyland would take full responsibility for the costs of the cleanup. (See Fearn Decl. ¶ 30.)

46. Following completion of the initial temporary containment, Dorn took over as the lead project manager for Patriot to manage the longer term cleanup and response operations (though Strieter remained involved). (See Dorn Decl. ¶ 17; Strieter Decl. ¶ 38.)

47. Patriot's first step was to work with CUT and the USCG to locate an appropriate site at CUT for the containment structure. Once a site was located and approved by the USCG, Patriot pre-cleaned it and began construction. Patriot rolled out absorbent rug material on the asphalt and covered the rug with 60 millimeter plastic. Patriot then placed another absorbent rug on top of the plastic as a friction barrier, and placed a multi-layered plywood landing surface on top. Patriot placed more absorbent rug material in specific areas on top of the landing area where the leaking containers were placed, and built up the edges of the containment area to prevent the release of any material. Once the leaking containers were in containment, Patriot removed and disposed of the liners from the bomb carts and cleaned the bomb carts in the wet decontamination area. Patriot also

¹⁵ On cross-examination, Strieter agreed that "maybe" some of the containers were less than 75 feet from the water, after being shown a picture of the area. (See Trial Tr. at 53-54 (Strieter); PX74 at 15.) The Court finds this record evidence to be inconclusive and insufficient, especially in light of the on-site USCG supervision and lack of objection, to sustain a finding that Patriot violated the requirement of Captain of the Port Order 2006-502 that all containers be 75 feet from the water.

decontaminated and cleaned the area where the containers had been placed in temporary containment. (See Dorn Decl. ¶ 20; Strieter Decl. ¶ 41; PX74 at 19-34.)

48. The containers of ferrous chloride continued to leak while in containment. (See Dorn Decl. ¶ 21; Strieter Decl. ¶ 41; PX74 at 13-14, 36.)

49. Patriot also constructed a wet decontamination area in the 5000 area of the CUT terminal to clean the equipment and contaminated containers. The containers were decontaminated using a sodium bicarbonate and water solution, and cleaned using a cold water pressure washer. The decontamination and cleaning residue was then collected and pumped into 6,500 gallon poly tanks for disposal. (See Dorn Decl. ¶ 22; Strieter Decl. ¶ 40; PX74 at 1-11, 16-18.)

50. Patriot continued to provide regular updates to Fearn at APL. On October 19, 2006, Strieter and Dorn called Fearn and informed her that Patriot had finished decontaminating and cleaning several affected containers and that they would stage these containers on plastic pending USCG review and approval for release back into active service. Patriot also requested that APL approve extending operations to 12-hour days because, after subtracting the time spent on setup, lunch, and shut down, Patriot was only getting five hours of real work each day out of its workers. Fearn approved the request. The Court finds that this request was made and approved in order to increase productivity and efficiency and, ultimately, to lower costs in the long run. (See Strieter Decl. ¶ 42; Dorn Decl. ¶ 23; Fearn Decl. ¶ 31; JX10 at 2; Trial Tr. at 147-48 (Dorn).)

51. Fearn also called Tsai at Fairyland again that day concerning the need for Fairyland to obtain a one-time EPA identification number in order to dispose of the hazardous waste that resulted from the cleanup operations. (See Fearn Decl. ¶ 31; JX10 at 2.)

52. On or about October 23, 2006, Fearn received fax copies of the requests for release, and the USCG approval of release, of the victim containers that Patriot had cleaned and decontaminated up to that point. (See Fearn Decl. ¶ 32; PX20.)

F. Storage Options in Advance of Delivery to Kemira

53. While the construction of a more permanent containment area at CUT was underway, Patriot, APL, TEC, the USCG, and the DOT engaged in discussions about alternatives for addressing the leaking containers so that the hazardous material could be delivered to the end-user, Kemira. (See Dorn Decl. ¶ 24; Fearn Decl. ¶ 33.)

54. There were two options under consideration. The first was to transload the material into "roll-off bins." In a pilot test of this option, Patriot removed the ferrous chloride material from the container, drained the liquid into poly drums, suspended the packaging over a bulk bin that was double-lined with visqueen plastic, cut the bottom out of the super sacks, and collected the ferrous chloride crystal in the sealable bulk bins. (See Dorn Decl. ¶ 25; JX26 at 2; PX74 at 39-50.)

55. This option had its drawbacks. The roll-off bin process was labor and manpower intensive, expensive, and came with potential safety hazards — it required workers to get closer to the hazardous material in its crystal state rather than contained in canvas or plastic packaging. Additionally, the type of poly drums that were required were not available in the volume that was needed (APL and Patriot would have needed to special order these drums from the Midwest or the East Coast). (See Dorn Decl. ¶ 26; Fearn Decl. ¶ 33; Trial Tr. at 251-52, 256, 260 (Fearn); PX74 at 46, 57.)

56. The second option under discussion was what was referred to as an "over-bagging." For this option, the leaking packages would be removed from their original container and then "dewatered" by draining the liquid into a poly drum. The original package would then be placed into a large plastic over-bag, and the over-bagged package would be placed on top of a wooden pallet. New containers would then be lined with plastic on the floor and up the walls, and absorbent rug material would be placed on top of the plastic on the floor. The over-bagged package and pallet would then be placed into the newly lined container, single-stacked. Once a container was full, the end of the plastic liner would be rolled up in the container (like a diaper) and the container doors closed. (See Dorn Decl. ¶ 28.)

57. While these options were under consideration, Fearn called Blaine at Kemira to see how many bins of repacked material Kemira would be able to take on a daily basis. Fearn did not hear back from Blaine for some time. (See Fearn Decl. ¶ 33; JX10 at 3.)

58. The only solution that would both contain the product for months on end and allow transport without a DOT exemption was to use roll-off bins with custom liners. To create these custom liners would have first required Patriot to test various plastics; it would have then taken three to four weeks to create the liners themselves. According to Dorn, he did not believe Patriot and APL had this amount of time given the emergency nature of the response and the fact that they believed they needed only a temporary solution to buy enough time to deliver the product to Kemira. (See Dorn Decl. ¶ 27.)

59. On or about November 1, 2006, a meeting was held with Dorn of Patriot, Fearn of APL, Wetzel from TEC, and representatives of the USCG and DOT. After the two options under consideration were discussed at length, it was agreed by all of the parties and agencies present at the meeting that the overbagging method would be used to temporarily contain the leaking and to allow for delivery of the product. (See Dorn Decl. ¶ 29; Fearn Decl. ¶ 34; Trial Tr. at 235-36 (Fearn).)

60. The driving factor in selecting this method appears to have been the possibility of an exemption from the DOT that would allow the over-bagged packages to move over public roads (and thus to be delivered to Kemira). According to both Dorn and Fearn, their understanding from the DOT representatives at the meeting was that such an exemption would be favorably processed if the containers could be secured against leaking and a transportation plan approved by the USCG. (See Dorn Decl. ¶ 29; Fearn Decl. ¶ 34.)

61. There is no dispute that representatives of both the USCG and DOT were present at the November 1, 2006 meeting at which the need for an exemption was discussed. There is also no dispute that all parties at the meeting agreed on the over-bagging process discussed above.¹⁶

62. At the time of the meeting and while the over-bagging process was underway, the over-bagging method was viewed as a temporary solution, but one which required a DOT exemption in order to move the product over the roads in this form. The prevailing view was that Kemira would take delivery of the ferrous chloride once it was ready and, therefore, that the over-bagged material would not remain on the terminal for more than a month. (See Dorn Decl. ¶ 30; Fearn Decl. ¶ 34; Trial Tr. at 89-90 (Strieter), 158-59 (Dorn).)

63. The over-bagging process was the most time-efficient and cost-effective option, and it was also less likely to impose health and safety concerns on the workers. According to Dorn, in the selection of this method, there was never any expressed desire by APL to cut costs. (See Strieter Decl. ¶ 47; Dorn Decl. ¶ 30; Trial Tr. at 153-54 (Dorn).)

64. Kemira argues that either APL or Patriot should have reached out to Kemira in order to ask for its suggestions as to how to handle the product prior to delivery (i.e., which of the two options to pursue). There is no evidence in the record that they did so. If Kemira had received such a notification, it would have likely been to Jan Pavlicek, Kemira's North American Director of Health, Safety, Environmental, and Quality. (See Fahey Decl. ¶ 10; Trial Tr. at 350-51 (Fahey), 366 (Pavlicek).)

65. Nevertheless, the Court finds that it was reasonable for APL and Patriot not to specifically seek out Kemira's views as to how to handle the product at this time — on or about November 1, 2006. As Dorn explained, Kemira handled the product on a day-to-day industrial basis rather than in emergency response situations. There is no reason to believe they would have had relevant information to provide. This conclusion is bolstered by Pavlicek's testimony. Though the Court found Pavlicek to be an articulate witness at trial, his opinions, regarding what the cost of the cleanup (using lined roll-up bins) should have been, carry little weight. In addition to not being a CERCLA expert, Pavlicek has no first-hand knowledge of either incident and has never been involved in responding to a reported release under the direction of the USCG. (See Pavlicek Decl. ¶¶ 1, 15-17; Trial Tr. at 149 (Dorn), 366 (Pavlicek).)

¹⁶ Though Wetzel from TEC initially testified at his deposition that APL and Patriot decided to do something different from what he proposed at the November 1, 2006 meeting, he later explained that the approach he was advocating was a variation of the over-bagging method that was ultimately chosen and approved. (See Wetzel Dep. at 46-52.) The Court reads these excerpts from Wetzel's deposition as reflecting confusion rather than substantive disagreement (and certainly not that he advocated the roll-off bin option discussed above).

66. Finally, the Court notes that Fearn was in frequent communication with Kemira between October 13, 2006 and November 1, 2006, but was repeatedly told to contact Fairyland instead. There is no reason to believe that yet another phone call from Fearn to Kemira asking for assistance in this context would have been any more fruitful.

67. After considering the evidence in the record concerning the pros and cons of these two options, and in light of what was known to the parties at the time, the Court finds that the selection of the temporary over-bagging method by APL, its contractors, and the involved regulators to have been eminently reasonable.

68. Following the November 1, 2006 meeting, Fearn directed Patriot to begin the over-bagging process and to prepare a transportation plan so that they could obtain the necessary DOT exemption. It was only after the meeting, and after the decision to over-bag the ferrous chloride at both sites, that issues arose as to getting the USCG and the DOT to reach a consensus on who would actually issue the exemption and take responsibility for movement of the product. (See Fearn Decl. ¶ 34; Dorn Decl. ¶ 29.)

69. On or about November 9, 2006, the USCG issued an amendment to the USCG's Captain of the Port Order 2006-502. Patriot received a copy from CUT and faxed it to Fearn at APL the next day. According to Strieter and Dorn, it was their belief and understanding that this amendment directed APL (through CUT) to clean and safely remove the 22 contaminated containers using the over-bagging method approved at the November 1, 2006 meeting. Patriot then began the process of removing the leaking packages from their original containers and executing the over-bagging process at both CUT and GGS. (See Strieter Decl. ¶¶ 48-49; Dorn ¶¶ 31-32; Fearn Decl. ¶ 36; PX33 at 2; PX76 at 18, 57-58, 62, 64, 90, 92, 137-140.)

70. After the process was underway at CUT, CUT informed Patriot that it needed to move operations to a new location because the 5000 area was needed for a shipment of bulk steel. This took Dorn, Strieter, and Fearn by surprise. None of them had been told previously that CUT might need this area for another shipment. Dorn reported the issue to Fearn, and Fearn told him to move the operations as directed by CUT. According to Fearn, the Captain of the Port Orders would not have permitted the removal of the containers from CUT entirely. As a result, Patriot constructed new containment, staging, and wet decontamination areas in a new location at CUT called the "PIT" area and moved the containers there. (See Strieter Decl. ¶ 50; Dorn Decl. ¶ 33; Fearn Decl. ¶ 37; JX26 at 3; Trial Tr. at 87-88 (Strieter).)

71. Patriot completed the over-bagging and decontamination process at CUT in mid-to-late November 2006. At that time, the containment and decontamination areas were dismantled, and the containers of over-bagged ferrous chloride were relocated for storage pending release and delivery. The over-bagging process resulted in thirty-nine (39) containers of material; more containers were necessary because the bags were now single-stacked instead of double-stacked. (See Strieter Decl. ¶ 51; Dorn Decl. ¶ 34; Fearn Decl. ¶ 38; JX26 at 3.)

72. According to Fearn, she believed that these repacked containers would be released and delivered to Kemira immediately (and certainly within a few weeks). Additionally, Fearn had been in regular contact with Fairyland concerning the spill, and Tsai had never told her that Fairyland would not pay APL's cleanup and response costs or that Fairyland was abandoning the shipments. Fearn also believed that she could not release the shipments until she received approval from the USCG to do so and APL had been paid "at least a good part of" the costs and expenses Fairyland had committed to paying. (See Fearn Decl. ¶ 38; PX19; PX24; PX27.)

73. The Court finds that there was only one over-bagging performed by Patriot at CUT related to the Hyundai Independence. Kemira argues that there were two, however, the Court finds that the evidence on which Kemira relies for this assertion was easily (and credibly) explained at trial.

74. Though Strieter mistakenly testified at one point during his deposition that he thought the over-bagging process was done twice, he clarified this testimony later in his deposition and then again at trial. The confusion arose over the fact that he was shown pictures of the original containers when they were first opened; Strieter recalls that some of the packages in the containers aboard both the Hyundai Independence and APL Singapore had a second set of bags already placed over them. Dorn also testified that there was only one over-bagging and that, when Patriot opened the original containers, they found that many of the sacks had already been over-bagged. Similarly, Fearn confirmed that some of the sacks were already over-bagged in two of the containers she observed that were discharged from the Hyundai Independence. (See Strieter Decl. ¶ 52; Trial Tr. at 56-58, 63-66, 96 (Strieter), 124-28, 134 (Dorn), 229-30 (Fearn); Dorn Decl. ¶ 35; PX76 at 13, 21, 23, 30, 42-43.)

G. Shipment #2 — The APL Singapore

75. While the decontamination and over-bagging process was underway at CUT, Fearn learned that a second shipment of ferrous chloride crystal from Fairyland to Kemira had already shipped aboard the APL Singapore on October 17, 2006 and was scheduled to arrive at APL's GGS terminal on October 28, 2006. (See SF ¶ 15; Fearn Decl. ¶ 42; JX15; JX16 at 1; PX23.)

76. Fearn first learned of the second shipment on or about October 26, 2006, in an email from John Huang, APL's account representative in Asia responsible for Fairyland. The email indicated that a second shipment of ferrous chloride from Fairyland was scheduled to arrive on October 28, 2006. (See Fearn Decl. ¶ 42; PX23.)

77. By the time Fearn learned of this second shipment on board the APL Singapore, the vessel had been at sea for several days and was about to arrive at GGS. Fearn had Shannon Mizell, an APL employee working under Fearn in the HAZMAT Department, pull the container numbers and stow locations of the containers with ferrous chloride onboard the APL Singapore. Fearn then forwarded that information to the Captain of the APL Singapore and asked him to check for leakage. A few hours later, the Chief Mate of

the APL Singapore called Fearn (and followed up with a confirming email), reporting that leaking ferrous chloride could be seen in Bay 27, but that the configuration of the loaded containers aboard the vessel prevented further investigation. (See Fearn Decl. ¶¶ 42-43; JX16; JX10 at 3.)

78. Upon learning of the second leaking shipment, Fearn immediately notified the USCG. (See Fearn Decl. ¶ 44; JX10 at 3.)

79. After notifying the USCG, Fearn emailed Huang and informed him that Fairyland was embargoed, that APL was not to accept or load any further shipments from Fairyland, and that she was cancelling a third shipment from Fairyland that she had located in APL's computer system. Fearn also notified Tsai, GGS, and TEC of the leak aboard the APL Singapore. (See Fearn Decl. ¶ 45; PX24; Trial Tr. at 223 (Fearn).)

H. The Failure to Stop the Shipment

80. Prior to learning of the second shipment of ferrous chloride aboard the APL Singapore, Fearn's focus had been on the Hyundai Independence incident at CUT and the pressures related to cleaning it up quickly. She was working around the clock. In her nineteen years of experience responding to incidents involving hazardous materials — hundreds if not thousands of incidents in total — there had never been a second shipment with defective packaging sent by the same shipper within such close time proximity. As a result, it was not Fearn's regular practice or procedure to check the APL computer system to see if another shipment from the same shipper with the same cargo was coming in the immediate future. (See Fearn Decl. ¶ 42; Trial Tr. at 224-26 (Fearn).)

81. Further, and importantly, despite Fearn's communications with representatives of both Fairyland and Kemira following the discovery of leaking ferrous chloride aboard the Hyundai Independence, there is no evidence in the record that anyone mentioned this second shipment to her (in fact, the evidence clearly indicates that they did not). (See Fearn Decl. ¶ 42; JX10 at 1-3.)

82. Kemira was certainly aware of the second shipment. On October 14, 2006, Fahey advised Tsai that the shipment of ferrous chloride on the Hyundai Independence was leaking in violation of the Product Specifications in the Purchase Agreement (which prohibited leakage), and instructed Tsai not to ship any more until this "non-conformance issue" was resolved. (See Fahey Decl. ¶ 8; DX2.)

83. The clear implication of this email is that Fahey was aware of the possibility of additional shipments, and Fahey admitted as much at trial. Fahey testified that he was aware that the initial order called for two shipments "during the month" and that, as reflected in multiple emails over the month preceding the first shipment in October 2006, Fahey was actively involved in discussions concerning multiple shipments of ferrous chloride from Fairyland. (See Trial Tr. at 331-38 (Fahey); PX12; PX13.)

84. Despite having knowledge of both problems with the first shipment and the upcoming second shipment, there is no evidence that Fahey, Blaine, or anyone else at Kemira reached out to Fearn at APL to tell her about the second shipment. They could have picked up the phone or sent an email. They did not. They could have mentioned this information during phone calls with Fearn on October 13 and 16, 2006. They did not.

85. Similarly, despite having knowledge of both problems with the first shipment and the upcoming second shipment, there is no evidence that anyone at Fairyland (Tsai) notified Fearn of the second shipment. Tsai could have mentioned this fact during her conversations with Fearn on either October 17 or 19, 2006. She did not.

86. The Court is not persuaded by the declaration and testimony of Robert J. Ten Eyck, a witness Kemira offered to show that the bulk bags used to transport the ferrous chloride aboard the Hyundai Independence should have themselves put APL on notice to check for other shipments and open those containers. Ten Eyck admitted on cross-examination that he lacks the requisite experience to draw such conclusions — he has never worked at a shipping terminal or for a steamship line, he has no personal knowledge of when steamship lines will open containers, and he has no personal experience as to how steamship lines use Dangerous Goods Declarations. (See Trial Tr. at 377-78 (Ten Eyck).)

87. In contrast, William Sheridan, Director of Network Operations in the Western Region for APL, testified at his deposition that APL will typically only open containers if they are prompted by a regulatory agency or were otherwise on notice of an issue — circumstances that were not present here prior to the departure of the APL Singapore. (See Sheridan Dep. at 33-35.)

88. The Court is also not persuaded that either the existence or content of the Dangerous Goods Declaration for the APL Singapore (the "APL Singapore Declaration") should have led Fearn to take steps to halt the departure of the APL Singapore.

89. The APL Singapore Declaration contained substantially the same information as the Hyundai Declaration. It states the dangerous substance being shipped ("Corrosive Solids NOS (Ferrous Chloride crystal)", the UN identification number ("1759"), the Class ("8"), the Packing Group ("2"), and the specific type of packaging used for the identified substance ("UN13H3 (in 290 PLTS) (530 BAG)"). This meant that the APL Singapore was carrying 29 containers of ferrous chloride crystal shipped in 530 separate bags. (See Fearn Decl. ¶ 44; Strieter Decl. ¶ 54; JX8 at 1; SF ¶¶ 16, 18;.)

90. As with the Hyundai Declaration, the APL Singapore Declaration contained certain certifications by Fairyland as to the packaging of the ferrous chloride. Fairyland certified that the ferrous chloride had been packed and loaded into the containers in accordance with the IMDG Code. Fairyland also declared "that the contents of this consignment are fully and accurately described below by the proper shipping name, and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to the applicable international and national government regulations." (See JX8 at 1; SF ¶ 19.)

91. The Court finds that the APL Singapore Declaration contains all of the required information and does not contain any obvious inaccuracies. According to Fearn, there is nothing in the APL Singapore Declaration that would have caused APL to refuse the shipment or open the containers for further inspection. Fearn believes the APL Singapore Declaration was properly approved by her department, and the Court agrees. (See Fearn Decl. ¶ 44; Bohlman Decl. ¶ 6; Ten Eyck Decl. ¶¶ 11-13.)

92. According to Fearn, given its October 13, 2006 date and the time difference with Taiwan, the APL Singapore Declaration would have been received and approved by APL in California on or about October 12, 2006. Fearn became aware that the ferrous chloride aboard the Hyundai Independence was leaking by the afternoon of October 13, 2006. If Fearn had checked the APL computer system for another shipment by the same shipper at that time, she would have discovered the APL Singapore Declaration reflecting the second shipment aboard the APL Singapore. Further, if Fearn had discovered the APL Singapore Declaration prior to October 17, 2006 (the date on which the APL Singapore departed Taiwan), she theoretically could have taken steps to stop the shipment from leaving Taiwan. Though October 14 and 15, 2006 were both weekend days, Fearn was working over that weekend (on the response to the Hyundai Independence incident) and theoretically could have accessed the APL computer system. (See Fearn Decl. ¶ 44; Trial Tr. at 218-21 (Fearn); JX15.)

93. Nevertheless, the Court finds that APL's failure to check for a second shipment of ferrous chloride from Fairyland to Kemira, after learning of the leak aboard the Hyundai Independence on October 13, 2006 but prior to the departure of the APL Singapore from Taiwan on October 17, 2006, was reasonable. The Court thus finds that (1) APL's failure to stop the second shipment of ferrous chloride aboard the APL Singapore was reasonable; and (2) it was foreseeable by Kemira that APL would fail to do so. In making these findings, the Court credits the unusual nature of these shipments, Fearn's prior practice in checking APL's computer systems, and the lack of any notification of the second shipment by either Kemira or Fairyland (despite having multiple opportunities to do so).

I. Cleanup at GGS

94. Fearn arranged for TEC to meet the APL Singapore upon its arrival at GGS on October 28, 2006. APL also asked Patriot to assist, though TEC was the lead contractor handling the initial discharge and temporary containment of the containers and for the cleaning of the vessel. (See Fearn Decl. ¶¶ 45-46, 49; Soto Dep. at 9-14; Wetzel Dep. at 38-39; Strieter Decl. ¶ 54; Dorn Decl. ¶ 37; JX17 at 1.)

95. TEC assessed the APL Singapore and found a brown liquid covering the flooring in the ship's hold at Hatch 27. During discharge of the containers from Hatch 27, it appeared that the ship's hold at Hatch 25 had also been affected by the leaking containers. (See Soto Dep. 15-18; JX17 at 1.)

96. TEC discussed and prepared a work plan for discharge of the containers from the APL Singapore and for cleaning the vessel with USCG. Though the version of the work plan in the record is not signed, the record indicates that the understanding of both Fearn and TEC was that the USCG approved the plan. (See Fearn Decl. ¶ 46; Soto Dep. at 9-14; Wetzel Dep. 26, 43-45; JX17 at 1; JX18 at 1-2.)

97. To execute that plan, TEC draped plastic sheeting over the vessel's hatch, along the side of the vessel, on the pier and over the bomb carts used to transport the containers at the terminal. Both the containers leaking ferrous chloride and those affected by the leakage (victim containers) were discharged from the APL Singapore. These containers — 64 victim containers and 18 of the 29 containers containing the leaking ferrous chloride — were placed on plastic sheeting at GGS, awaiting further processing. TEC then decontaminated the affected areas of the APL Singapore and pumped the contents of the ship's bilges into totes. The USCG and the local fire department remained on-scene throughout this process. (See Wetzel Dep. at 36-39, 43-45, 64-65; Soto Dep. at 9-14; Strieter Decl. ¶ 56; Fearn Decl. ¶¶ 46-47; JX17 at 1-2; JX18 at 1-2; JX26 at 3.)

98. According to Strieter, based on his discussions with TEC, he believes TEC used the same general process for its initial response operations as Patriot used for the leaking containers from the Hyundai Independence. TEC did, however, use different, thinner plastic sheeting (and which, after a period of time, developed holes in it). As Dorn explained, this was a temporary containment situation in an emergency response; TEC did the best they could with the information and materials available to them. (See Strieter Decl. ¶¶ 55-56; Trial Tr. at 168-70 (Dorn).) The Court agrees with this explanation.

99. The USCG issued Captain of the Port Order 2006-531 to Eagle Marine Services on October 29, 2006 in connection with the leaking ferrous chloride aboard the APL Singapore. The Order directed Eagle Marine to move all contaminated containers to a safe and secure location at least 75 feet from the water, and to submit a detailed plan for repairing, cleaning, and transporting each affected container on the APL Singapore and at the port. The Order required USCG approval for transport of any affected containers. Finally, the Order set forth the monetary penalties for violations of the Order under the Ports and Waterways Safety Act, 33 U.S.C. § 1221 *et seq.* (See Dorn Decl. ¶ 38, Strieter Decl. ¶ 57; Fearn Decl. ¶ 48; PX26.)

100. Captain of the Port Order 2006-531 was substantially similar to Captain of the Port Order 2006-502, which was issued by the USCG in connection with the ferrous chloride leak aboard the Hyundai Independence. (Compare JX9 with PX26.)

101. APL notified Kemira of the leaking ferrous chloride aboard the APL Singapore on or about November 1, 2006. Fahey, however, had already received notice that the shipment was leaking four days earlier, on October 27, 2006, in an email from Tsai. In response to the notification from APL, Fahey asks Blaine to tell APL to notify Fairyland (which Blaine confirms that he did). (See JX19; PX25; PX31; Trial Tr. at 346-49 (Fahey); Blaine Dep. at 106-107.)

102. After the containers from the APL Singapore had been placed in temporary containment by TEC, Fearn had Patriot construct durable containment, staging, and "wet" decontamination areas at GGS similar to those it had constructed at CUT. Patriot then placed the leaking containers into these areas and began cleaning the victim containers. (See Fearn Decl. ¶ 49; Strieter Decl. ¶ 58; JX26 at 3; PX72 at 17-19.)

103. After the victim containers were cleaned, inspected, and released back into service by the USCG, Patriot began repacking the leaking containers at GGS using the same over-bagging method that was being use at CUT. The ferrous chloride was repacked into 44 new containers. The increase in the number of containers was, again, a function of the fact that the bags were now single-stacked rather than double-stacked. Patriot then stacked the containers two high for storage pending delivery to Kemira. The containment and wet wash areas were dismantled and cleaned to the satisfaction of GGS and the USCG, and the residue was collected and pumped into 6,500 poly tanks for disposal. (See Dorn ¶¶ 39-40; Fearn Decl. ¶¶ 51-52; Trial Tr. at 167-68 (Dorn); JX26 at 3-4; PX77 at 25.)

104. In a letter to Fairyland dated November 3, 2006, Kemira rejected both shipments of ferrous chloride crystal as "materially nonconforming deliveries which substantially impair the value of the goods." In the letter, Kemira Vice President & General Counsel Evin L. Netzer states that Fairyland alerted Fahey that the two ferrous chloride shipments "were improperly packaged and because of the improper packaging both shipments have leaked." The letter states that APL intends to seek from Fairyland "at least \$250,000 in clean-up related costs with respect to one shipment alone." The letter also states that Fairyland has indicated that it will not be able to pay these costs, and that APL "may look to Kemira for payment" if Kemira accepts the ferrous chloride crystal shipments. (See Trial Tr. at 338-39 (Fahey); PX32.)

105. Fahey was aware of the likelihood that APL would look to Kemira for payment if it accepted the shipments. As Fahey explained at trial: "We could have used [the ferrous chloride] immediately, but it always had the stigma of the penalty, that we had to accept the liability for the cleanup." (See Trial Tr. at 338-42 (Fahey).)

106. In any event, Kemira would not have been able to accept the contents of both shipments all at once at its Fontana facility. In an October 17, 2006 email from Blaine to Fahey, Blaine indicated that Tsai had visited Kemira's Fontana facility that day and had told Blaine that the second shipment aboard the APL Singapore had already shipped. Blaine then stated in his email to Fahey that he would not have room for both shipments at the same time. Kemira would likely only have been able to receive up to seven containers (as originally packed) per day. (See Trial Tr. at 335-36, 357-48 (Fahey); Blaine Dep. at 87-88; PX14; PX18.)

107. After completing the over-bagging process at both CUT and GGS, APL learned that Kemira could not take delivery of the 83 containers containing the over-bagged ferrous chloride crystal because it did not have space for the containers. Fearn recalled being

shocked and upset that Kemira had not notified APL earlier. It was also around this time that Fearn stopped hearing from Tsai at Fairyland. (See Fearn Decl. ¶¶ 53-54.)

108. On December 14, 2006, APL requested permission from the USCG to transport the contaminated containers from CUT to TEC's facilities so that they could remove the contaminated floors. The USCG approved the request. TEC then replaced the contaminated floors on the containers from both the Hyundai Independence and the APL Singapore. (See Fearn Decl. ¶¶ 39-40; JX20 at 1; PX40; PX41 at 1; Wetzel Dep. at 67-70; Soto Dep. at 15-19.)

109. From Patriot's perspective, the over-bagging process was completed in early December 2006. By December 19, 2006, the ferrous chloride product was ready to be delivered to Kemira. (See Trial Tr. 50-51 (Strieter); 171-72 (Dorn); JX21 at 1.)

110. Fearn did not grant permission to move the product to Kemira at that time, however, because APL was waiting to be reimbursed for its cleanup costs. In a letter from Fearn to the USCG dated December 15, 2006, Fearn states:

The new containers with the Ferrous Chloride are being held at the moment waiting for the shipper to reimburse APL for the cost of the clean up. Once that issue is resolved, either the shipper or APL will apply to the US Dept of Transportation, Pipeline and Hazardous Materials Safety Agency for an emergency exemption to transport these containers to an agreed upon destination. A copy of the exemption will be provided to the Coast Guard. If for some reason the shipper fails to reimburse APL and we have to exercise our lien on the cargo, APL will still apply for the emergency exemption and work with PHMSA regarding the dispensation of the cargo. APL will keep the Coast Guard informed of the final plan approved by PHMSA.

Between December 15, 2007 and January 15, 2007, Fearn did not request such a waiver. (See PX40; Trial Tr. at 204-206, 244 (Fearn).)

111. At this time, Fearn notified Kemira that APL expected payment prior to releasing the ferrous chloride. According to Fearn, this course of conduct was authorized by various provisions of Title 49 of the United States Code of Federal Regulations (typically referred to as "49 CFR").¹⁷ Fearn indicated that, if Fairyland did not pay the cleanup and response costs, APL would look to Kemira for those costs and would hold the cargo until they did. The cargo also could not be moved to Kemira until a DOT exemption was obtained. (See Fahey Decl. ¶ 11; Trial Tr. at 208, 210-11, 245-46 (Fearn).)

¹⁷ It is not clear whether Kemira disputes that APL was permitted to hold the cargo until receiving payment for cleanup costs under 49 CFR. In any event, no evidence in the record indicates that such a course of action was impermissible under 49 CFR.

J. Second Leak Event in January 2007

112. On January 15, 2007, Patriot was notified by CUT that CUT suspected the repacked containers with the over-bagged ferrous chloride were again leaking. Dorn went to CUT and confirmed that these containers, as well as the lined roll-off bins created during the pilot test, had renewed leaking. Dorn immediately notified Fearn at APL and asked for clearance to go to GGS to inspect the containers of repacked ferrous chloride at that location. Dorn determined that the containers at GGS were leaking as well, and informed Fearn at APL. Fearn then notified the USCG. (See Strieter Decl. ¶ 60; Dorn Decl. ¶¶ 27, 41-42; Fearn Decl. ¶ 55; PX77; JX26 at 4.)

113. Fearn directed Patriot to build new containment areas at both CUT and GGS, and to place the containers into those new containment areas as soon as possible. Dorn served as Project Manager, and Strieter supported his team. Patriot built a larger containment area in the same location it had used previously at GGS. Patriot used a different site at CUT to accommodate the need for a larger containment area and adjoining work space. Both containment areas were constructed in the same manner as the prior containment areas in October 2006. Further, pursuant to the Occupational Safety and Hazard Administration rules, Patriot created three zones at each containment area — "Hot," "Warm," and "Cold" — with access restricted depending on the threat level. (See Strieter Decl. ¶¶ 60-61; Dorn Decl. ¶¶ 43-46; Fearn Decl. ¶ 55; JX27 at 27-31, 33-36.)

114. By January 19, 2007, Patriot had finished moving all containers at both sites into the newly built (and rebuilt) containment areas. (See Dorn Decl. ¶ 47.)

115. After learning of the leakage at both CUT and GGS, the USCG established a formal Unified Command and Incident Command. This meant that multiple federal, state, and local agencies were about to become involved, and it increased the level of formality and reporting required. (See Strieter Decl. ¶ 62; Dorn Decl. ¶ 49; Fearn Decl. ¶ 56; Shaw Decl. ¶ 14; JX26 at 4.)

116. Curtis Shaw, APL's Director of Safety, took over the day-to-day responsibilities for APL's operations at this time.¹⁸ Shaw had been at APL since 2000, and had been Director of Safety since 2006. Shaw had also served on active and reserve duty in the USCG since 1988. Through that experience, Shaw had developed familiarity with CERCLA, the NCP, and responding to releases of hazardous materials. Shaw took over operations for APL in order to lend his experience in working with the USCG. Though the USCG was upset that the ferrous chloride containers were now leaking again, Shaw does not recall any discussions of specific criticisms of APL's prior actions with the USCG. (See Fearn Decl. ¶ 57; Shaw Decl. ¶¶ 1-6, 9-10; Trial Tr. at 249 (Fearn), 266-274 (Shaw).) The Court found Shaw to be credible.

¹⁸ Fearn retired from APL on February 23, 2007, and has since been the manager of her own training and consulting service relating to domestic and international transportation of dangerous goods and hazardous materials. (See Fearn Decl. ¶¶ 1, 7; Trial Tr. at 195 (Fearn).)

117. The USCG convened a meeting on or about January 19, 2007 at its office in Long Beach at which representatives of Patriot (Dorn), APL (Fearn and Curtis Shaw), the USCG, the Environmental Protection Agency, and numerous other local agencies were present. At the meeting, the USCG presented APL and Patriot with a "Regulatory Action Plan" in which the USCG proposed taking over the cleanup with a USCG strike team. According to Dorn, the cost of putting that plan into effect would have cost "three times as much." (See Dorn Decl. ¶¶ 49-50; Fearn Decl. ¶ 56; JX33.)

118. Rather than putting the Regulatory Action Plan into immediate effect, the USCG gave APL until roughly January 24, 2007 to prepare work plans that would go into a formal Incident Action Plan ("IAP") that addressed the renewed leakage at the CUT and GGS terminals, ensured the safety of public health, and protected the environment. Patriot prepared these plans and presented them to the Unified Command. Following these presentations, and revisions of the plans to reflect the feedback Patriot received, the USCG and all other involved agencies approved the IAP on or about January 31, 2007. (See Strieter Decl. ¶ 63; Dorn Decl. ¶¶ 51-55, 63; Fearn Decl. ¶ 58; Shaw Decl. ¶ 15, 17-22; PX46; JX22-JX26.)

119. The IAP required APL (through Patriot) to transload the leaking ferrous chloride crystal into roll-off bins with custom liners. This process was similar to the pilot test that had been performed in late October 2006, but now called for custom-made liners. To execute the plan, Patriot transloaded all of the ferrous chloride crystals into roll-off bins at both CUT and GGS by removing the material from the containers, draining the liquid into poly drums, suspending the packaging over a custom lined roll-off bin, cutting the bottom out of the super sacks, collecting the ferrous chloride crystal in the sealable roll-off bin, and "burrito wrapping" the custom liner around the ferrous chloride crystal prior to closing the bin. The sealed bins were placed into containment, pending delivery or disposal. Once this process was complete, Patriot decontaminated the storage containers and the containment, staging, and decontamination areas at both facilities to the satisfaction of the USCG. (See Strieter Decl. ¶¶ 64-65; Dorn Decl. ¶¶ 55-63; PX46; JX26 at 5.)

120. The USCG was a constant presence at both terminals in order to ensure compliance with the terms of the IAP. In the first three or four days following approval of the IAP, the USCG was on-site every day. Shaw and Dorn interfaced with the USCG, briefed them, and answered questions. Shaw and Dorn also met again with the members of Unified Command within this initial period. After the first three or four days, the USCG came out less frequently, though Patriot continued to have official meetings with the USCG either at their offices or at the terminals themselves to discuss their progress. (See Dorn Decl. ¶ 64; Shaw Decl. ¶¶ 25-27.)

121. Dorn also met on a daily basis with Shaw of APL and kept him informed of Patriot's progress, the likely and potential costs, and any issues they had or were likely to come up. (See Dorn Decl. ¶ 66; Shaw Decl. ¶ 24; PX50; PX51; PX59; PX63; JX26.)

122. According to Shaw, even though the USCG was not necessarily at CUT or GGS every day, it nonetheless conducted frequent testing and oversight throughout the cleanup. For example, the USCG insisted on using a pH paper test on the concrete of the terminal to determine its acidity and its pH level; Patriot had to wash down the concrete using a bicarbonate solution until the concrete pH level met with the USCG's approval. The USCG required that APL (through Patriot) executed their work strictly in accordance with the IAP. (See Shaw Decl. ¶ 27; Dorn Decl. ¶ 65.)

K. Final Disposition of the Product

123. Shaw and Dorn also engaged in attempts to find a buyer (other than Kemira) for the ferrous chloride. These efforts proved difficult and ultimately unsuccessful. There were few potential buyers who could handle the product in the volume with which Patriot and APL needed to transfer it and, for those buyers who were interested, they were hesitant to purchase the product after hearing about the leak incidents. (See Shaw Decl. ¶¶ 29-30; Dorn Decl. ¶ 68; Trial Tr. at 180-81 (Dorn).)

124. Patriot and APL also considered disposing of the product as hazardous waste — solidification of the ferrous chloride with cement, using the product as landfill, or incinerating the product (which would have required transloading the product to Texas). According to Fearn, disposal as hazardous waste was not considered until late January 2007; previously, Fearn's understanding was that the product belonged to Kemira (though Kemira never claimed such ownership¹⁹) and that APL was not authorized to dispose of the product as hazardous waste (though she never asked Kemira if they could do so). (See Dorn Decl. ¶ 68; Trial Tr. at 181-82 (Dorn), 247-48, 252, 254-55, 259 (Fearn).)

125. By letter dated February 15, 2007, APL informed Kemira that it was prepared to commence deliveries of the ferrous chloride crystal "without prejudice to any claims that APL may have for the expenses and costs of clean-up and storage of the cargo that APL has incurred before delivery." The letter also states that "[i]n the event that [Kemira] does not accept delivery of the cargo, APL will hold [Kemira] responsible for all costs incurred in the sale or other disposal of the goods, including, but not limited to the transport and disposal of the cargo at an authorized dump site." According to Fahey, this was the first indication from APL that it was willing to deliver the ferrous chloride without an agreement from Kemira that it would pay the cleanup and response costs. (See Fahey Decl. ¶ 12; PX48.)

126. After lengthy negotiations, APL and Kemira executed an agreement under which Kemira would accept delivery of the ferrous chloride crystal without a liability release relating to the cleanup and response costs. (See Shaw Decl. ¶ 31; Fahey Decl. ¶ 13; PX57.)

127. Patriot began delivery of the ferrous chloride crystal to Kemira in the roll-off bins on or about April 11, 2007. Because the custom-lined roll-off bins (for the crystalline ferrous

¹⁹ According to Fahey, because the shipment was "DDP" or "delivery duty paid," Kemira did not own the ferrous chloride until it was delivered to its facility. (See Trial Tr. at 353-54 (Fahey).)

chloride) and Kemira's tanker trucks (for the liquid ferrous chloride) met or exceeded the DOT packaging requirements, Patriot was able to transport the product without acquiring a DOT waiver or permit. Patriot completed the delivery of the ferrous chloride crystal to Kemira on or about May 15, 2007. The length of the delivery schedule was necessary because Kemira could not take all of the ferrous chloride crystal at one time — its Fontana and Mojave facilities were only able to accept two to four bins of ferrous chloride a day (which amounted to approximately 20-40 bags in the original shipment). (See SF ¶ 22; Dorn Decl. ¶¶ 69-70; Shaw Decl. ¶¶ 22, 32; Fahey Decl. ¶ 14; Trial Tr. at 103-104 (Dorn), 282-85 (Shaw); PX58; PX59; PX78.)

128. According to Strieter and Dorn, who have between them decades of experience in the field, these incidents were significant because of, *inter alia*, the volume of product and the scope of the work required. Most "big jobs" for a contractor like Patriot involve three containers of material at most; these incidents (at two separate ports) involved 22 containers of ferrous chloride crystal from the Hyundai Independence, 29 containers of ferrous chloride crystal from the APL Singapore, and more than 80 victim containers that were impacted by the leakage. Similarly, Wetzel of TEC could not recall working on any incidents involving ferrous chloride "on the scale of this." (See Strieter Decl. ¶ 16; Dorn Decl. ¶ 8; Wetzel Dep. at 17.)

L. Costs Incurred by APL and its Insurers

129. APL incurred and paid \$5,020,169.88 in cleanup and response costs relating to the leaking shipments of ferrous chloride crystal aboard the Hyundai Independence and the APL Singapore, and at the CUT and GGS facilities. (See Peterson Decl. ¶¶ 33-37; Strieter Decl. ¶¶ 69-70; Fearn Decl. ¶¶ 59-62; Wetzel Dep. at 57-60, 62-64, 67-69-70; Wolters Dep. at 7, 9, 18, 23, 25-41; JX30-JX32; PX65-PX72.)

130. APL received reimbursement from The Britannia Steam Ship Insurance Association Limited for response costs relating to the Hyundai Independence totaling \$2,816,303.33. (See Peterson Decl. ¶¶ 28-32; JX32.)

131. APL received reimbursement from The West of England Ship Owners Mutual Insurance Association (Luxembourg) for response costs relating to the APL Singapore totaling \$2,188,800.34. (See Peterson Decl. ¶¶ 24-27; JX32.)

132. APL continues to bear its deductible cost for both vessels, totaling \$120,000.00. (See Peterson Decl. ¶ 38; JX32.)

CONCLUSIONS OF LAW

A. Summary of Remaining Legal Issues

1. APL's sole remaining claim in this action is under CERCLA § 9607(a). CERCLA permits owners of polluted property to seek reimbursement for response costs from another so-called potentially responsible party ("PRP"). To prevail on a § 9607(a) claim,

a plaintiff must prove that (1) there has been a release or threatened release of hazardous materials at a facility; (2) it has incurred response costs; (3) the response costs were necessary and consistent with the NCP; and (4) the defendant is a PRP. See 42 U.S.C. § 9607(a); United States v. Alcan Aluminum Corp., 990 F.2d 711, 721 (2d Cir. 1993).

2. In its August 22, 2012 summary judgment decision, this Court determined that (1) the bulk bags at issue are facilities; and (2) Kemira is a PRP by virtue of being an operator of a facility (the bulk bags). (See SJ Decision at 17, 22.)

3. The Court holds, and there is no dispute, that there was a release or threatened release of a hazardous material (ferrous chloride) from the bulk bags that were shipped aboard the Hyundai Independence and the APL Singapore. See 42 U.S.C. § 9601(22) (definition of "release").

4. Similarly, the Court holds, and there is no dispute, that APL and its Insurers incurred millions of dollars in costs responding to this release or threatened release of the ferrous chloride shipped aboard the Hyundai Independence and the APL Singapore. See 42 U.S.C. § 9601(25) (definition of "response").

5. Kemira concedes that, in light of these facts and the Court's summary judgment decision, it has some liability in this case. (See Trial Tr. at 470 ("I will have to say and admit that, under your ruling, that Kemira has liability in this case. Kemira has liability.").)

6. Kemira argues, however, that its liability should be limited for two sets of reasons. First, Kemira argues that the overwhelming majority of the cleanup and response costs incurred by APL were not necessary and consistent with the NCP, as is required by CERCLA § 9607(a). Second, Kemira argues that these costs are divisible and capable of apportionment, which is an affirmative defense to joint and several liability under § 9607(a).

7. In advance of trial, the parties submitted proposed Findings of Fact and Conclusions of Law that addressed, primarily, the first set of issues; by order dated October 2, 2013, the Court ordered the parties to file these submissions on ECF. (See ECF Nos. 194, 197.)

8. With respect to the second set of issues, the Court ordered the parties to submit letters setting forth their positions with respect to divisibility on February 6, 2014. (See ECF No. 199.)²⁰ The parties submitted such letters to the Court on February 13, 2014. (See ECF Nos. 200, 201.)

²⁰ Though Kemira submitted a "revised pre-trial" brief on the eve of trial that contains legal analysis of divisibility (see ECF No. 169), the Court stated prior to trial that it would treat this submission as an "opening statement" rather than deciding whether or not to strike it at that time (as the Court had not requested such submissions from the parties). (See Trial Tr. at 5.) The Court finds that it need not consider this prior submission by Kemira because its February 13, 2014 letter sets forth substantially similar arguments.

B. Necessary and Consistent with the NCP

9. Under CERCLA, "[t]he President may . . . issu[e] such orders as may be necessary to protect public health and welfare and the environment." 42 U.S.C. § 9606(a). By Executive Order, the President delegated to certain federal agencies, in particular the USCG, his powers under § 9606(a). "[T]he functions vested in the President by [§ 9606(a)] . . . are delegated to the [USCG] with respect to any release or threatened release involving the coastal zone, Great Lakes waters, ports, and harbors." Exec. Order 12,580 § 4(c)(1), 52 Fed. Reg. 2,923 (Jan. 23, 1987).

10. An agency like the USCG to which the President has delegated authority under CERCLA may "order parties to clean up the hazardous waste and remedy its effects." Kelley v. EPA, 15 F.3d 1100, 1103 (D.C. Cir. 1994), cert. denied, 513 U.S. 1110 (1995); United States v. M/V Santa Clara I, 819 F.Supp. 507, 510-11 (D. S.C. 1993) (under CERCLA, the USCG may issue response and cleanup orders to private parties). The USCG did issue such orders — Captain of the Port Orders 2006-502 (as amended) and 2006-531 — under this authority in connection with the incidents involving the Hyundai Independence and the APL Singapore.

11. Section 9607(a) authorizes APL, as a PRP, "to seek reimbursement for all removal or remedial costs associated with the hazardous materials . . . provided that those actions are consistent with the [NCP]. . . ." See Niagara Mohawk Power Corp. v. Chevron U.S.A., Inc., 596 F.3d 112, 120-21 (2d Cir. 2010).

12. The NCP promulgated by the Environmental Protection Agency appears at 40 C.F.R. § 300.1et seq. Because the Court has already found Kemira to be a PRP, APL can thus recover all of its costs from Kemira provided that it fulfills these requirements — "Section [96]07 allows for complete cost recovery under a joint and several liability scheme; one PRP can potentially be accountable for the entire amount expended to remove or remediate hazardous materials." *Id.* at 121.

13. As a result, under CERCLA § 9607(a)(4)(B), Kemira is liable for "any . . . necessary costs of response incurred by [APL] consistent with the [NCP]. . . ." See 42 U.S.C. § 9607(a)(4)(B); Syms v. Olin Corp., 408 F.3d 95, 101 (2d Cir. 2005) ("A private party may sue a PRP under § [96]07(a) to recover necessary costs of responding to the release, or threatened release, of hazardous substances, consistent with the national contingency plan.") (internal quotation marks omitted).

14. The Court finds that APL has satisfied its burden of proving that the costs it incurred in its cleanup and response operations related to the Hyundai Independence and APL Singapore ferrous chloride incidents were necessary and consistent with the NCP.

15. "Generally, response costs are liberally construed under CERCLA." W.R. Grace & Co. v. Zotos Int'l, Inc., 559 F.3d 85, 92 (2d Cir. 2009). In determining whether costs are "necessary," the focus is "not on whether a party has a business or other motive for cleaning up the property, but on whether there is a threat to human health or the

environment and whether the response action is addressed to that threat." Carson Harbor Village, Ltd. v. Unocal Corp., 270 F.3d 863, 872 (9th Cir. 2001) (en banc), cert. denied, 535 U.S. 971 (2002); see City of Colton v. Am. Promotional Events, Inc., 614 F.3d 998, 1003 (9th Cir. 2010), cert. denied, 131 S.Ct. 646 (2010) (same); see also Amoco Oil Co. v. Borden, Inc., 889 F.2d 664, 669-70 (5th Cir. 1989) ("To justifiably incur response costs, one necessarily must have acted to contain a release threatening the public health or the environment.")

16. "Necessary costs are those required to contain and clean up hazardous releases, and include not only the cost of actual cleanup, but also include costs for investigation, planning, and remedial design." N.Y.S. Elec. & Gas Corp. v. FirstEnergy Corp., 808 F.Supp.2d 417, 522 (N.D. N.Y. 2011) (internal quotation marks omitted). "[C]ourts generally deny recovery where costs incurred are duplicative of others, wasteful, or otherwise unnecessary to address the hazardous substances involved." *Id.* at 522. "The element of necessity is therefore contextual, requiring the court to determine whether the party seeking recovery has exceeded what was necessary to conduct a cost-effective CERCLA quality cleanup and restore the property to a condition suitable for its prior use." *Id.* at 524.

17. Viewed in this light, the cleanup and response efforts APL undertook, and the costs it incurred, were clearly necessary. Though there were certainly many twists and turns in the road, the Court finds that APL's decisions concerning operations related to the ferrous chloride from the Hyundai Independence and APL Singapore were the product of thoughtful analysis and consensus building by experienced professionals in both the public and private sectors. The Court credits the informed decision-making by these individuals (who were on-site on a daily basis), and APL's reliance on their advice. That the cleanup and response operations went through multiple stages as the facts on the ground and at corporate headquarters changed is of no moment. That there may have also been a business purpose for certain actions taken during the cleanup and response — for instance, cleaning the victim containers at CUT first so that the Hyundai Independence could return to service, and the movement of the containment area at CUT because of the arrival of an unanticipated steel shipment — does not alter the Court's findings. The efforts of APL and its contractors were consistently geared toward mitigating the threat to human health and the environment caused by the leaking ferrous chloride (both aboard the ships and on the ports). This threat was exacerbated by both the size and timing of the shipments — factors in the control of Kemira, not APL.

18. APL incurred necessary expenses both in responding to crisis situations — ferrous chloride leaks aboard vessels, at the ports, and in containment — as well as in repacking the product so that it could be delivered to Kemira (and thus removed from the terminals entirely). Though it is easy to view these costs through the rose-colored glasses of hindsight, the Court finds that these costs were necessary to respond to the developing situation at both terminals at the time the decisions to incur them were made.

19. Under the NCP, "any person may undertake a response action to reduce or eliminate a release of a hazardous substance, pollutant, or contaminant." 40 C.F.R. § 300.700(a). The

NCP echoes CERCLA § 9607(a) when it states, "[r]esponsible parties shall be liable for necessary costs of response actions to releases of hazardous substances incurred by any other person consistent with the NCP." Id. § 300.700(c)(2). Courts review consistency with the NCP on a "substantial compliance" standard. See, e.g., Reg'l Airport Auth. of Louisville v. LFG, LLC, 460 F.3d 697, 707 (6th Cir. 2006) (applying substantial compliance standard); Union Pac. R.R. Co. v. Reilly Indus., Inc., 215 F.3d 830, 835 (8th Cir. 2000) (same); see 40 C.F.R. § 300.700(c)(3)(i) (setting forth substantial compliance standard).

20. "Courts presume that actions undertaken by the federal, or a state, government are consistent with the [NCP]." Niagara Mohawk, 596 F.3d at 137. "One way of establishing compliance with the NCP] is to conduct a response under the monitoring, and with the ultimate approval . . ." of one of those agencies. Id. When "the orders under which [PRPs] acted were issued by [an authorized] Agency pursuant to § [96]06, and the district court found that [the PRPs] complied with the terms of these orders . . . their response actions were consistent with the [NCP]." Bancamerica Commercial Corp. v. Mosher Steel of Kansas, Inc., 100 F.3d 792, 796 (10th Cir. 1996); see Caldwell Trucking PRP v. Rexon Tech. Corp., 421 F.3d 234, 246-47 (3d Cir. 2005) (cost of response action approved by EPA consistent with NCP); Action Mfg. Co. v. Simon Wrecking Co., 428 F.Supp.2d 288, 322-23 (E.D. Pa. 2006), aff'd, 287 F.App'x 171 (3d Cir. 2008) (expenditure on testing new method of remediation with EPA's permission recoverable even though EPA had not yet approved that remediation method).

21. Agency approval is a sufficient but not a necessary condition for a party to recover its expenses under CERCLA § 9607(a). "Though the [NCP] describes the role of lead agencies in examining information and determining appropriate responses to environmental hazards . . . such provisions do not constrain private parties seeking to recover response costs under section [96]07(a)." Cadillac Fairview/Cal., Inc. v. Dow Chem. Co., 840 F.2d 691, 694 (9th Cir. 1988). The Cadillac Fairview court rejected "the contention that action by the federal government or by a lead agency is a necessary prerequisite to a private response action under section [96]07(a). . . ." Id.; see Richland/Lexington Airport Dist. v. Atlas Properties, Inc., 901 F.2d 1206, 1208-1209 (4th Cir. 1990) ("[W]e agree that governmental approval is not a prerequisite to private recovery for cleanup costs under 42 U.S.C. §§ 9607(a)(2), (3), and (4)(B) of CERCLA."); City of New York v. Exxon Corp., 633 F.Supp. 609, 617 (S.D. N.Y. 1986) (holding plaintiff "need not secure prior approval from federal or state authorities, or await the expenditure of moneys by those authorities at the affected sites, as a precondition for the commencement of this action").

22. Here, the USCG played an active role in supervising and directing the response efforts from the very beginning — it issued Captain of the Port Order 2006-501 the day the Hyundai Independence arrived at CUT with leaking ferrous chloride containers. From that point on, APL assumed responsibility for the cleanup and response operations, and conducted those operations pursuant to USCG orders and under USCG supervision. USCG personnel were on-site throughout the cleanup at both terminals, at times on a daily basis, and never raised any objections as to the conduct of the operations by APL

and its contractors. Furthermore, the record is replete with formal approvals by the USCG (as well as other regulators) at key decision points — in particular, the November 1, 2006 decision to over-bag and the approval of the January 31, 2007 IAP. Though the record does not reflect formal USCG approval of every single cost incurred by APL over the course of the seven-month response, the Court nevertheless finds that, under the circumstances described herein, these costs were consistent with the NCP as required by CERCLA § 9607(a)(4)(B).

23. Kemira takes issue with the types and amounts of expenditures in this case, primarily through the declaration and testimony of Dr. Jeffrey Dagdigian. In sum, Kemira uses Dr. Dagdigian to argue that various aspects of the cleanup and response operations for the Hyundai Independence and APL Singapore incidents were unnecessary and not "CERCLA quality" (i.e., inconsistent with the NCP). The Court is not persuaded.

24. First, Dr. Dagdigian's opinions were based on a lack of experience relevant to the facts of this case. Examples include:

a. His primary area of expertise was soil and groundwater contamination. (See Dagdigian Decl. ¶ 6; Trial Tr. at 387-88.²¹)

b. He has never worked on a cleanup project involving leaking containers discharged from a steamship vessel. (See Trial Tr. at 388.)

c. He has never worked on a cleanup project where the primary focus was contamination to a terminal and vessel resulting from leaking containers. (See id.)

d. He has never worked on a CERCLA cleanup project headed by the USCG as the lead regulatory agency. (See id.)

e. He has never worked on a CERCLA cleanup project involving solely ports and harbors. (See id. at 388-89.)

f. He has no experience seeking DOT exemptions to transport hazardous materials. (See id. at 406.)

25. Second, Dr. Dagdigian's opinions are based on either an inaccurate or incomplete understanding of the factual record about which he opined. Examples include:

a. Many of his conclusions were based on the assumption that Patriot over-bagged the leaking shipments at CUT not once but twice. (See Dagdigian Decl. ¶¶ 26-31; Trial Tr. at

²¹ All trial transcript references in this paragraph and the following three paragraphs correspond to the cross examination of Dr. Dagdigian.

392, 402, 432, 437-39.) As discussed above, the Court found that Patriot only conducted one such over-bagging.

b. He concluded that APL "knowingly chose what it believed was a cheap and temporary method of containment under the assumption that the crystal would be delivered within a few weeks," but was unaware of the other reasons for choosing the over-bagging option, such as the amount of time the roll-off bin option would take, the impact on worker safety, and the availability of the materials necessary for the roll-off bin option. (See Dagdigian Decl. ¶ 19; Trial Tr. at 393, 408.)

c. He stated that APL rejected the recommendation of both TEC and Patriot to use the roll-off bin method (rather than over-bagging) because APL believed it was more expensive. (See Dagdigian Decl. ¶ 25; Trial Tr. at 395-96, 429-32.) This is flatly contradicted by the record that Dr. Dagdigian claims to have reviewed — all parties at the November 1, 2006 meeting agreed on the over-bagging approach. Dr. Dagdigian himself ultimately admitted he "must have got it confused." (See Trial Tr. at 432.)

d. He states that APL and its contractors could have sent bulk bins with repacked ferrous chloride to Kemira as they became available, though he admitted that, if Kemira rejected the shipments (which it did), then this would not be possible. (See Trial Tr. at 408-409.)

e. He stated that he saw pictures where workers lacked the property safety gear, but did not include any such pictures in his trial declaration and was unable to point to such pictures on cross-examination. (See Dagdigian Decl. ¶ 40(c); Trial Tr. at 397-98.)

f. Despite concluding that APL should have reached out to Kemira to ask for their input on how to repack the ferrous chloride, he was unaware that Fearn had repeatedly reached out to Kemira and was told to deal with Fairyland instead. (See Dagdigian Decl. ¶¶ 19, 23; Trial Tr. at 409-10.)

g. He concluded that APL's planning and organization was "extremely poor" because CUT discharged 20 leaking and victim containers before APL was even notified of the incident by CUT. He also thought TEC was the contractor initially called in to respond to the leakage aboard the Hyundai Independence, and that they did not arrive until the second day. (See Dagdigian Decl. ¶ 20; Trial Tr. at 412-17.)

26. Third, much of Dr. Dagdigian's testimony as to what he would have done differently with respect to the cleanup and response operations at both terminals came across as speculative at best. Examples include:

a. Though APL's contractors (Patriot and TEC) provided work logs detailing their activities, he seemed to state that it was required by CERCLA for each worker to describe on a line by line basis what they did each day for each project. (See Trial Tr. at 390-92.)

b. He stated that he would have used a different lining for the rolloff bin test performed prior to the November 1, 2006 meeting (which ultimately failed), but he was unable to

say why. He testified that he would have contacted a third party like Kemira (a company with no background in emergency response to incidents involving hazardous materials) and asked their advice. (See Trial Tr. at 400-401.)

c. Without explanation, he stated that APL "probably" would have been able to obtain a DOT exemption to move the repacked ferrous chloride over the roads "early in the program," provided the roll-off bin method had been used. He was either unaware or unsure of whether, in fact, an exemption would have been required for both repacking options under consideration. (See Trial Tr. at 401-403.)

d. He stated that it would have taken "several days to maybe 10 days" in order to obtain the appropriate volume and type of plastic liner for the roll-off bins. He then stated that he had no reason to believe that the whole process could have been done more quickly than a month. (See Trial Tr. at 404-406.)

e. He continued to insist that Patriot over-bagged the ferrous chloride bags twice at CUT despite a fundamental lack of evidence (or evidence that had since been contextualized); though he stated that logs kept by Patriot supported his conclusion, he did not identify these log entries in his declaration. (See Trial Tr. at 432-37.)

f. He used Google Earth images as a basis for his opinion that there were numerous leaks at CUT, though he never actually visited the terminal. (See Dagdigian Decl. ¶¶ 16, 40(c); Trial Tr. at 445-46.)

27. Accordingly, the Court finds that Dr. Dagdigian's testimony, when given its appropriate weight, is insufficient to rebut the substantial evidence presented by APL that the costs it incurred in connection with the cleanup and response efforts for the Hyundai Independence and APL Singapore incidents were both necessary and consistent with the NCP. The Court finds that APL has met its burden, and that these costs are therefore recoverable from Kemira under CERCLA § 9607(a)(4)(B).

C. Divisibility

28. Though CERCLA § 9607(a) imposes a strict liability standard, it does not mandate joint and several liability in every case. Burlington N. & Santa Fe Ry. Co. v. United States, 556 U.S. 599, 613 (2009) (hereinafter "BNSF") (citing United States v. Chem-Dyne Corp., 572 F.Supp. 802, 805, 808 (S.D. Ohio 1983)). "Rather, Congress intended the scope of liability to be determined from traditional and evolving principles of common law." BNSF, 556 U.S. at 613 (quoting Chem-Dyne, 572 F.Supp. at 808) (internal quotation marks omitted).

29. As a result, the divisibility of harm doctrine is a common law tort defense to joint and several liability under CERCLA § 9607(a). See BNSF, 556 U.S. at 613-14. It is not a defense arising under CERCLA itself. See 42 U.S.C. § 9607(b); United States v. Sensient Colors, Inc., 580 F.Supp.2d 369, 379 (D. N.J. 2008).

30. Federal courts of appeals hold that "[t]he universal starting point for divisibility of harm analyses in CERCLA cases is § 433A of the Restatement (Second) of Torts." See BNSF, 556 U.S. at 614 (citing United States v. Hercules, Inc., 247 F.3d 706, 717 (8th Cir. 2001)) (internal quotation marks omitted); Chem-Nuclear Systems, Inc. v. Bush, 292 F.3d 254, 259 (D.C. Cir. 2002); United States v. R.W. Meyer, Inc., 889 F.2d 1497, 1507 (6th Cir. 1989).

31. "An examination of the common law reveals that when two or more persons acting independently caus[e] a distinct or single harm for which there is a reasonable basis for division according to the contribution of each, each is subject to liability only for the portion of the total harm that he has himself caused. . . . But where two or more persons cause a single and indivisible harm, each is subject to liability for the entire harm." Chem-Dyne, 572 F.Supp. at 810 (citing Restatement (Second) of Torts §§ 433A, 875, 881) (citations omitted); see BNSF, 556 U.S. at 614 (same).

32. Thus, to avoid joint and several liability pursuant to CERCLA § 9607(a) under the divisibility doctrine, a defendant bears the burden of proving that the harm is divisible and there is a reasonable basis for apportionment. BNSF, 556 U.S. at 614-15 ("When two or more causes produce a single, indivisible harm, courts have refused to make an arbitrary apportionment for its own sake, and each of the causes is charged with responsibility for the entire harm.") (internal quotation marks omitted). Thus, "[b]efore evidence can support a reasonable basis for apportioning the harm . . . the harm must be 'theoretically capable of apportionment.'" Pakootas v. Teck Cominco Metals, Ltd., 868 F.Supp.2d 1106, 1111 (E.D. Wash. 2012) (quoting BNSF, 556 U.S. at 615.)

33. Before discussing what the divisibility doctrine is in more detail, it is perhaps just as important to discuss what it is not. The divisibility doctrine is not a means by which courts allocate the costs incurred in a cleanup and response operation among PRPs on an equitable basis (i.e., on the basis of relative fault). See BNSF, 556 U.S. at 615 n.9 ("Equitable considerations play no role in the apportionment analysis; rather, apportionment is proper only when the evidence supports the divisibility of the damages jointly caused by the PRPs.")

34. Instead, CERCLA § 9613(f) provides a mechanism through which "defendants may seek contribution from other potentially responsible parties to apportion response costs equitably." Sensient Colors, 580 F.Supp.2d at 379; see 42 U.S.C. § 9613(f)(1) ("Any person may seek contribution from any other person who is liable or potentially liable under section 9607(a) of this title, during or following any civil action under . . . section 9607(a) of this title. . . . In resolving contribution claims, the court may allocate response costs among liable parties using such equitable factors as the court determines are appropriate.")

35. Application of the divisibility doctrine is different from a contribution claim under CERCLA § 9613(f). With respect to divisibility, "[i]f there is a single harm that is theoretically or practically indivisible, each defendant is jointly and severally liable for the entire injury"; "if there are distinct harms that are capable of division, then liability

should be apportioned according to the contribution of each defendant." Sensient Colors, 580 F.Supp.2d at 379 (quoting United States v. W. Processing Co., 734 F.Supp. 930, 938 (W.D. Wa. 1990)). On the other hand, a contribution claim under § 9613(f) does not affect a defendant's liability but rather permits a defendant "to limit the amount of damages it would ultimately have to pay by seeking an order of contribution apportioning the damages among the defendants" on the basis of equitable factors. Sensient Colors, 580 F.Supp.2d at 379 (quoting W. Processing Co., 734 F.Supp. at 938). Put another way, the divisibility doctrine "looks to whether defendants may avoid joint and several liability by establishing a fixed amount of damage for which they are liable, while contribution actions allow jointly and severally liable PRPs to recover from each other on the basis of equitable considerations." BNSF, 556 U.S. at 615 n.9 (internal quotation marks omitted).

36. In this action, Kemira did not file a counterclaim against APL for contribution under CERCLA § 9613(f); rather, in its answer, Kemira asserts that CERCLA did not apply to its conduct. (Answer ¶ 39, ECF No. 33.) Therefore, no contribution claim under § 9613(f) is before this Court. Nevertheless, though the word "divisibility" does not appear in Kemira's answer, the Court permitted Kemira to assert the divisibility defense at trial in light of the "sufficient material asserted in the affirmative defenses [in Kemira's answer] . . . in terms of divisible causation."²² (Trial Tr. at 458; Answer ¶¶ 29, 36, 38.)

37. Whether a particular harm is divisible, and thus capable of apportionment, is a question of law. See Hercules, 247 F.3d at 718; Matter of Bell Petroleum Services, Inc., 3 F.3d 889, 902 (5th Cir. 1993); Pentair Thermal Mgmt. LLC v. Rowe Indus., Inc., No. 06-cv-07164, [2013 BL 307750], 2013 WL 1320422, at *22 (N.D. Cal. 2013).

38. Though causation is not an element of a CERCLA plaintiff's case, a CERCLA defendant asserting the divisibility defense may show "that it caused only some part of the contamination, and how much." 3000 E. Imperial, LLC v. Robertshaw Controls Co., No. CV 08-3985, [2010 BL 307706], 2010 WL 5464296, at *9 (C.D. Cal. 2010); see also AmeriPride Services, Inc. v. Valley Indus. Serv., Inc., No. CIV. S-00-113, [2011 BL 126521], 2011 WL 1833179, at *18 (E.D. Cal. 2011) ("Under [§ 9607(a)], where the defendant can show that it is liable for only an identifiable portion of the harm, courts will apportion liability accordingly.") (emphasis in original) (citing BNSF, 556 U.S. at 615 n.9).

39. The key to the divisibility doctrine remains separate causation — the extent to which separate parties caused separate harms. See Goodrich Corp. v. Town of Middlesbury, 311 F.3d 154, 170 n.16 (2d Cir. 2002) (noting CERCLA § 9607(a) "divisibility of harm inquiry is guided not by equity but by principles of causation alone") (citing Hercules,

²² The Court also notes that Kemira's divisibility arguments were discussed at length at the June 3, 2013 final pretrial conference (6/3/13 Tr. at 3, 13-19, 22-23, 26, 28-32) and at the continuation of that conference held on August 5, 2013 (8/5/13 Tr. at 7, 11, 32, ECF No. 159).

247 F.3d at 718). In making this determination, courts look to "the contamination traceable to each defendant," United States v. Burlington N. & Santa Fe Ry. Co., 520 F.3d 918, 939 (9th Cir. 2008), overruled on other grounds by BNSF, 556 U.S. 599, or "what portion of the harm (i.e. the hazardous substances present at the facility and the response costs incurred in dealing with them) is fairly attributable to the defendant as opposed to other responsible parties." United States v. Manzo, 279 F.Supp.2d 558, 562 (D. N.J. 2003) (quoting United States v. Rohm & Haas Co., 2 F.3d 1265, 1280 (3d Cir. 1993)).

40. "Divisibility can be based on a variety of factors including volumetric, chronological, or geographic considerations, as well as contaminant-specific considerations." ITT Indus., Inc. v. Borgwarner, Inc., 700 F.Supp.2d 848, 877 (W.D. Mich. 2010) (citing BNSF, 556 U.S. at 618-19); see also Akzo Coatings, Inc. v. Aigner Corp., 881 F.Supp. 1202, 1211 (N.D. Ind. 1994) ("Given that each area of contamination is separate and, more importantly, non-contiguous, the court finds that the site is divisible based upon the geographic location of the harm.") Additionally, courts undertaking a divisibility inquiry will consider whether the event involves distinct harms ("those that may be properly regard as separate injuries") or single harms that may nevertheless be "divisible because it is possible to discern the degree to which different parties contributed to the damage." Hercules, 247 F.3d at 717-18.

41. Some courts hold that a "superseding cause" argument is not a basis for divisibility under CERCLA § 9607(a) because it is inconsistent with the strict liability provisions of CERCLA. See United States v. Vertac Chem. Corp., 364 F.Supp.2d 941, 953 (E.D. Ark. 2005), aff'd, 453 F.3d 1031 (8th Cir. 2006). Even if it were, such an argument would require a defendant to meet its burden of proving that the alleged superseding cause was a "cause of independent origin that was not foreseeable." Staub v. Proctor Hosp., 131 S.Ct. 1186, 1192 (2011) (quoting Exxon Co. v. Sofec, Inc., 517 U.S. 830, 837 (1996)). "[W]here an intervening act is a normal consequence of the situation created by a defendant's negligence, it does not constitute a superseding cause insulating the defendant from liability." Billsborrow v. Dow Chem., 177 A.D.2d 7, 17 (N.Y. App. Div. 1992) (citations omitted).

42. "Evidence supporting divisibility must be concrete and specific." Hercules, 247 F.3d at 718. "[C]ourts lacking a reasonable basis for dividing causation should avoid apportionment altogether by imposing joint and several liability." Id. at 718-19. "[B]ecause a successful divisibility defense would often undermine Congress' determination that CERCLA liability should be joint and several, such a defense is the exception, however, not the rule." United States v. NCR Corp., *No. 10-C-910*, [2012 BL 104945], 2012 WL 1490200, at *2 (E.D. Wis. Apr. 27, 2012) (citing United States v. Capital Tax Corp., 545 F.3d 525, 534 (7th Cir. 2008)). "Given the nature of hazardous waste disposal, rarely if ever will a [PRP] be able to demonstrate divisibility of harm, and therefore joint and several liability is the norm [under CERCLA]." Centerior Serv. Co. v. Acme Scrap Iron & Metal Corp., 153 F.3d 344, 348 (6th Cir. 1998).

43. Kemira argues that it has met its burden of proving that the divisibility doctrine relieves it of some liability in this case for, in substance, four sets of reasons: (1) the harm caused by the two shipments is divisible, so Kemira should not be held liable for the harm caused by the APL Singapore because APL failed to cancel the shipment; (2) the harm to the terminals is divisible from the harm caused to the vessels (and from each other), so Kemira should not be held liable for the harm to one or both of the terminals because this harm was caused by APL's "post-discharge conduct"; (3) the harm caused by the initial leak event, which Kemira argues ended with the "first over-bagging" and no later than December 19, 2006, is divisible from the second leak event discovered on January 15, 2007, so Kemira should not be held liable for the costs incurred as a result of the second leak event; and (4) even if the Court finds that the harm following the discharge of the containers is a "single harm," Kemira has met its burden of proving that there is a reasonable basis for determining the portion of this harm that is the result of Kemira specifying bulk bags in the Purchase Agreement as opposed to APL's conduct post-discharge. (See Kemira Divisibility Letter at 3-4, ECF No. 200.)

44. The Court disagrees; Kemira is not entitled to any relief from the joint and several liability provisions of CERCLA § 9607(a) under the divisibility doctrine.

45. As the parties both note, it is true that this is an unusual case in which to apply the divisibility doctrine; CERCLA cases discussing divisibility typically arise in the context of Superfund sites that have been polluted over long periods of time. See, e.g., BNSF, 556 U.S. at 602-608.

46. In applying the tort principles of divisibility, the Court finds that Kemira's actions were what set the events described above, which unfolded over the course of seven months, in motion. Kemira ordered bulk shipments of hazardous material, sent in rapid succession, and specified the use of improper packaging in the Purchase Agreement (bottom-loading bags). When the ferrous chloride was shipped in these bags, it leaked — on the vessels, on other containers, and ultimately on the ports. As a result, APL was forced to incur significant costs in order to address the release and continued release of the material.

47. Though the story above is about two "incidents" — spills of ferrous chloride aboard separate vessels roughly two weeks apart — these incidents were caused by a single, indivisible harm: Kemira's specification and requirement of improper packaging of the ferrous chloride in the Purchase Agreement. The chain of causation for both incidents thus begins with the execution of the Purchase Agreement and extends unbroken until May 2007, when the final shipment of ferrous chloride is delivered to Kemira. Cf. Vertac Chem. Corp., 453 F.3d at 1043 ("Hercules caused dioxin to enter the environment, thereby disposing of the waste. That Vertac and the EPA overpacked leaking drums in an effort to contain the further contamination of the site does not absolve Hercules of CERCLA liability.").

48. Each of Kemira's divisibility arguments rely on a superseding causation theory by APL and its contractors — whether it is APL's failure to stop the second shipment aboard

the APL Singapore, or APL's failure to contain the product and leakage more efficiently at various points along the way. Though courts in other circuits have found such an argument to be impermissible under CERCLA, see Vertac Chem. Corp., 364 F.Supp.2d at 953, the Court is not aware of similar controlling authority in the Second Circuit. Nevertheless, courts in all jurisdictions view divisibility as a separate causation inquiry that asks whether a defendant's conduct is only attributable to a discrete portion of the harm.²³

49. Even if a superseding causation argument were legally permissible, Kemira has not met its burden proving the existence of any such cause here.

50. As the Court found above, APL's failure to cancel the second shipment of ferrous chloride shipped aboard the APL Singapore a matter of days after the Hyundai Independence was discovered to have leaking containers was both reasonable and foreseeable by Kemira in light of the surrounding circumstances and the factual record. Those circumstances included Kemira's failure to notify APL of the second shipment of ferrous chloride aboard the APL Singapore despite knowledge of the shipment and multiple opportunities to do so.

51. As the Court found above, APL's "post-discharge" conduct was reasonable — APL and its contractors sought to temporarily contain the leakage (as required by the USCG), and then to repackage the ferrous chloride with an eye toward delivering the product to Kemira in the near-term. That APL failed to do so prior to the renewed leaking that was discovered in January 2007 was due in part to Kemira's rejection of the shipments over concerns about paying the cleanup and response costs, and the fact that Kemira could not have taken the product from both shipments all at once.

52. As the Court found above, APL's decision (made in consultation and in agreement with its contractors and regulators) to over-bag the ferrous chloride rather than load the material into lined roll-off bins was reasonable. Kemira's after-the-fact protestations that this was the wrong approach and that they would have somehow done things differently are not credited by the Court.

53. In sum, the Court finds that Kemira's asserted bases for divisibility in this case are, at most, a series of joint problems created, in part, by both APL and Kemira. Though such joint problems may raise equitable issues related to the relative fault of the parties (which Kemira seeks to insert into this causation analysis), they are not grounds for a finding that damages are divisible in this CERCLA § 9607(a) action. See BNSF, 556 U.S. at 616 n.9.

54. Kemira has failed to meet its burden of proving any portion of the harm and costs and incurred by APL are divisible.

²³ Kemira agrees. (See Kemira Divisibility Letter at 5.)

D. Prejudgment Interest

55. Under CERCLA § 9607(a):

The amounts recoverable in an action under this section shall include interest on the amounts recoverable under subparagraphs (A) through (D). Such interest shall accrue from the later of (i) the date payment of a specified amount is demanded in writing, or (ii) the date of the expenditure concerned.

42 U.S.C. § 9607(a). Prejudgment interest is thus mandatory. Goodrich, 311 F.3d at 177.

56. The Court finds that APL is entitled to prejudgment interest accruing from December 3, 2008, the date of its demand on Kemira for damages in excess of five million dollars.²⁴

CONCLUSION

For the reasons set forth above, judgment shall be entered in favor of plaintiffs for their claim under CERCLA § 9607(a). The parties shall confer as to an appropriate form of judgment, and shall submit a proposed form of judgment to the Court (in both PDF and Microsoft Word format) by electronic mail within 14 days of the date of this Opinion.

The Clerk of the Court is directed to terminate this action.

SO ORDERED.

²⁴ APL's December 3, 2008 demand letter to Kemira was submitted to the Court as PX61. This document was not admitted into evidence at trial. In its pre-trial document objections, Kemira objected to PX61 on relevance grounds. In light of the Court's rulings herein and the pre-judgment interest provisions of 42 U.S.C. § 9607(a), the Court finds that this document meets the requirements of Federal Rule of Evidence 401 and 402. PX61 is thus admitted into evidence for the limited purpose of fixing the date from which to calculate pre-judgment interest.