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Sea Food, Sea Sick: Dining in the Cruise Ship Industry

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ABSTRACT

From its humble beginnings as a transportation enterprise in the nineteenth century, the modern cruise ship industry now serves millions of passengers each year. A significant proportion of the activity conducted by cruise ship personnel includes the preparation, service and preservation of food items. Therefore, sanitation policies and practices are of utmost importance aboard these vessels. Because of the potential for the spread of communicable food-borne diseases, the Centers for Disease Control and Prevention exercise a great deal of authority over the industry. It has therefore promulgated voluntary guidelines based heavily upon the Food and Drug Administration's *Food Code*, to which the vast majority if not all of the American cruise lines adhere. This paper discusses the history and development of the cruise ship industry, the structure and function of the Vessel Sanitation Program, and the potential liability that the cruise lines may face as the industry expands and gastroenteritis outbreaks increase in frequency.

I. Introduction

For many, the term "cruise ship" immediately evokes images of the *R.M.S. Titanic* sinking into the dark waters of the Atlantic Ocean.[1] While modern cruise ships differ vastly from their predecessors both in form and function, the grandiose and elegant experience offered by ocean liners such as *Titanic* laid the foundation upon which the modern cruise vacation has developed. Today's cruise ships are part of a significant, global industry that serves and employs millions of passengers and workers each year. Hearkening back to the luxurious dining experience that was a much-anticipated and treasured feature of sea travel that early passengers enjoyed, today's cruise ships and the programming offered aboard them are in many ways centered around the service and consumption of food.

From four-course meals served in the dining room by precisely trained waiters to extravagant midnight buffets, food is the central focus of both passengers and staff. The cruise industry has developed a variety of remarkable innovations to ensure the delivery of memorable cuisine and service. Unfortunately, the nature of food service includes a substantial risk of food contamination, which leads to the rapid spread of food-borne gastrointestinal illness that at best ruin vacations and at worst end in serious injury or death. As a response to that threat, the Centers for Disease Control, the federal agency charged with supervising sanitation practices of vessels that serve American ports, has developed a program based largely in part on the Food Code promulgated by the Food and Drug Administration. This program has resulted in proportionally few outbreaks since its inception. However, as the industry and its passenger

[1] *See, e.g.,* John Walsh, *Liner notes: All at sea with John Walsh,* THE INDEP., Nov. 22, 2008, *available at* http://www.independent.co.uk/travel/americas/liner-notes-all-at-sea-with-john-walsh-1029214.html ("It was probably pure coincidence that Céline Dion's "My Heart Will Go On" was playing on the PA system as our coach pulled up in Fort Lauderdale harbour and we first laid eyes on the Celebrity Solstice where she lay at anchor like a fat skyscraper. Beside it, the Titanic suddenly seemed pretty small fry").

volume grow, the specter of norovirus and its equally unpleasant cousins continues to loom large.

This paper will begin with a brief history of the evolution of the cruise ship industry, from the iconic ocean liners of the Victorian era to the massive, resort-like ships that are the common vacation destination of so many Americans today. It will continue with a discussion of common logistical issues presented by large-scale food service aboard the increasingly gargantuan vessels that the industry utilizes. The paper then will shift to focus on the development of the Center for Disease Control's Vessel Sanitation Program, including an extensive consideration of the most recent promulgation of the Vessel Sanitation Program Operations Manual and the ways it has evolved throughout the history of the program. The paper will conclude by examining some of the legal challenges arising from food-borne illness outbreak that the industry has recently faced, as well as how adherence to the Program may or may not impact its success in avoiding liability going forward.

a. A Brief History of the Evolution of the Cruise Ship Industry

The cruise ship industry took root in the mid-nineteenth century. Steamships came into use in the 1830s for the purposes of shipping mail and passengers across the Atlantic Ocean.[2] The companies operating these steamships slowly began to consider the comfort of their passengers, adding luxuries such as electric lighting, entertainment facilities, and even cows to supply fresh milk throughout the voyage.[3] Transatlantic "pleasure cruises" also began to receive the endorsement of such influential personalities as Mark Twain, as well as doctors who recommended them for convalescence.[4] The 1880s saw the addition of "steerage" classes, which

[2] Michael L. Grace. *Cruise Line History – Cruising the Past.* CRUISE LINE HISTORY. Jun. 17, 2008, http://cruiselinehistory.com/?p=322 (last visited Mar 24, 2009).
[3] *Id.*
[4] *Id.*

carried immigrants to the United States without the amenities afforded to their first and second-class counterparts.[5]

In 1901, the Hamburg-American Steamship Company launched the first ship designed exclusively for the "excursion business," the *S. S. Prinzessin Victoria Luise*, a full eleven years before *Titanic*'s fateful maiden voyage.[6] Described as a "cruising yacht," the ship boasted "unusual luxury" in its accommodations, and featured itineraries that visited the West Indies and the Mediterranean.[7] Although the *Victoria Luise's* success was short lived, other ship companies eagerly followed in its footsteps.[8] European shipbuilders raced to develop vessels with features designed for ease of sailing in various climates.[9] *Titanic* itself was a product of this trend, favoring elegant living and dining spaces in its design over a more streamlined, speed-oriented form.[10] However, following *Titanic*'s demise, the cruise ship industry unsurprisingly faltered.[11] The industry did not recover until the launch of the French luxury vessel *Normandie* in 1935.[12] This event invigorated the competition between European shipbuilding outfits, and before long, iconic ocean liners such as Cunard Lines' *Queen Mary* and *Queen Elizabeth* began to appear in international waters.[13]

As the focus of transatlantic crossings shifted from transportation to entertainment, food service became a significant aspect of the experience. Aboard *Normandie,* passengers dined elegantly and frequently, enjoying lavish lunches, teas, and multi-course dinners served by

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[5] *Id.*
[6] *NEW CRUISING YACHT.; Prinzessin Victoria Luise Arrives On Her Maiden Voyage*. N.Y. TIMES, Jan. 18, 1901, at 12
[7] *Id.*
[8] The Prinzesse Victoria Luise ran aground on rocks off the coast of Kingston, Jamaica on Dec. 17, 1906 and was unable to be salvaged. *HER CAPTAIN A SUICIDE, VICTORIA LUISE ASHORE; Hamburg-American Liner Pounding on Rocks Near Kingston.* N.Y. TIMES, Dec. 18, 1906, at 12.
[9] Walsh, *supra* note 1.
[10] Grace, *supra* note 2.
[11] *Id.*
[12] *Id.*
[13] *Id.*

French-trained wait staff and in the company of Europe's elite.[14] Cunard in particular embraced the demand for "floating resorts," and its foray into the cruise ship industry featured vessels characterized by "structural sophistication and applied luxury."[15] The company adopted the slogan "Getting there is half the fun," focusing on selling the cruising experience itself rather than the transportation function of the ocean liner.[16] However, the cruise ship industry was again hampered by World War II, which saw the conversion of cruise ships into troop carriers, and the advent of transatlantic jet airplane service was the death knell for the functional motivation for transatlantic crossings.[17]

In the 1960s, cruise lines began focusing exclusively on the pleasurable purpose of cruising, concentrating on Caribbean itineraries and designing cruise ships primarily with the comfort and entertainment of the passenger in mind.[18] Princess Cruise Lines began in 1965, focusing specifically on the "leisure travel market," and Norwegian Cruise Lines, Royal Caribbean Cruise Lines, and Carnival Cruise Lines – the major players in the cruise ship industry of today – followed suit in 1966, 1968, and 1972, respectively.[19] Even Cunard, which even today maintains its images of elegance and luxury, formed an Economic Intelligence Unit during the planning stages of Queen Elizabeth 2, or "QE2" as it was popularly known, to evaluate the demands of the public and adjust the company's marketing strategies accordingly.[20] Therefore,

[14] Mark Renella and Whitney Walton. *Planned Serendipity: American Travelers and the Transatlantic Voyage in the Nineteenth and Twentieth Centuries,* 38 J. OF SOC. HISTORY 365 (2004), at 376.
[15] Ellen Leopold. *Q. E. II,* 13 PERSPECTA 235 (1971), at 236.
[16] William R. Siddall, *Transportation and the Experience of Travel.* 77 GEOGRAPHICAL REVIEW 309 (1987), at 315.
[17] Grace, *supra* note 2.
[18] *Id.*
[19] ROSS A. KLEIN. CRUISE SHIP SQUEEZE: THE NEW PIRATES OF THE SEVEN SEAS 10 (2005); Royal Caribbean International, Our History, http://www.royalcaribbean.com/ourCompany/ourHistory.do (last visited Mar. 24, 2009); Carnival Corporation & PLC, Mission and History, http://phx.corporate-ir.net/phoenix.zhtml?c=200767&p=irol-history (last visited Mar. 24, 2009).
[20] Leopold, *supra* note 14.

the development of QE2 marked yet another evolutionary step toward the modern cruise experience, as the ship's designers paid special attention to the food service element.

Upon its launch in 1968, QE2 featured a centralized, "open kitchen" plan for its galley, a facility capable of serving 8,000 passenger meals each day.[21] The architects went so far as to conduct efficiency studies of American and Canadian hotel kitchens in developing their designs.[22] QE2's kitchen facilities included such culinary innovations as "a specially designed souffle [sic] oven, automatic pan sterilizing machines and a raised observation area for the chef's office."[23] The dining room also incorporated special lighting technology aimed at enhancing the fine dining experience for the ship's passengers.[24]

Modern cruise travel is heavily focused on the dining experience, especially among the more expensive cruise lines. "[T]he feast for one's eyes and feast for one's stomach" ranks among the most attractive aspects of cruise travel – one survey found that half of Americans preferred cruise vacations.[25] Celebrity Cruises, a subsidiary of Royal Caribbean International, particularly markets the culinary sophistication aboard its ships, boasting of "award-winning cuisine" which is "[p]repared by world-renowned chefs" and "made from scratch using only the finest, fresh ingredients."[26] Celebrity even hosts culinary-themed cruises, such as the "Savor the Caribbean" experience offered in 2006.[27] Crystal Cruises, a "luxury" cruise line, promises "extraordinary cuisine for which [the cruise line] is justifiably famous."[28] More moderately-

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[21] *Id.* at 240.
[22] *Id.*
[23] *Id.* at 241.
[24] *Id.* at 241 ("…it includes automatic dimming installations to adjust the intensity of the artificial lighting to match the natural lighting, in order to avoid any imbalance. ").
[25] KLEIN, *supra* note 19, at 9.
[26] Celebrity Cruises, Dining, http://www.celebritycruises.com/whyceleb/dblTxtThumb.do;jsessionid=0000cOuyiznCYpbj1fsjuGO88jV:12hdebebp?pagename=taste_of_celebrity&cS=SIDENAV (last visited Mar. 24, 2009).
[27] Michelle Green. *Bon Voyage to the Three-Bean Salad*, N.Y. TIMES, Feb. 26, 2006, *available at* http://travel.nytimes.com/2006/02/26/travel/26cruise.html?scp=1&sq=%22three-bean%20salad%22&st=cse.
[28] Crystal Cruises, Wine & Food, http://www.crystalcruises.com/winefood.aspx?ID=3 (last visited Mar. 25, 2009).

priced Princess promotes its "passion for culinary arts" and "tradition of world-class chefs creating exceptional dishes with the finest ingredients."[29] Even Carnival, which eschews sophisticated affectations and instead bills itself as the "fun" cruise line, advertises the "culinary masterpieces" aboard its vessels.[30] Nearly all ships have begun offering "specialty restaurants," where passengers pay an additional fee for four-course gourmet meals in dining rooms featuring exceptionally sophisticated service and ornate décor.[31]

b. Food Service Logistics and Problems in the Modern Cruise Ship Industry.

As a result of the magnitude of the modern cruise ship industry, the statistics regarding food production and consumption are staggering. In 2007, among ships owned by North American cruise lines, there were 268,062 berths available to passengers on any given day, and a report commissioned by the industry's trade association estimates that the industry served 12.6 million passengers globally in 2007.[32] That same year, the industry spent $963 million on food and beverage purchases alone.[33] To put those numbers into perspective on a smaller, single-ship scale, the year the *Grand Princess* was launched, its passengers and crew consumed 200 pounds of salt, 1,431 pounds of poultry, 1,600 pounds of beef, 1,170 pounds of potatoes, 3,900 muffins,

[29] Princess Cruises, Personal Choice Dining, http://www.princess.com/learn/onboard/dining/index.html (last visited Mar. 24, 2009).
[30] Carnival Cruises, Dining, http://www.carnival.com/cms/fun/promo_content/obx/dining.aspx (last visited Mar. 24, 2009).
[31] *See, .e.g.,* Royal Caribbean International, Onboard Experience, http://www.royalcaribbean.com/beforeyouboard/dining/home.do;jsessionid=00009NVD348yyjWzGJdDe4-H5b_:12hbiocus?cS=NAVBAR (last visited Mar. 24, 2009); Celebrity Cruises, Specialty Dining, http://www.celebritycruises.com/whyceleb/heroSingleTxtSub.do;jsessionid=0000KIyJdkbKB3NexAO0IMkFL5x:12hdebebp?pagename=specialty_dining (last visited Mar. 25, 2009); Princess Cruises, Specialty Restaurants, http://www.princess.com/learn/onboard/dining/restaurants/index.html (last visited Mar. 25, 2009).
[32] BUSINESS RESEARCH AND ECONOMIC ADVISORS. THE CONTRIBUTION OF THE U.S. CRUISE INDUSTRY TO THE NORTH AMERICAN ECONOMY IN 2007 1-2 (2008).
[33] *Id.* at 6.

551 pounds of butter and margarine, and 910 pounds of ice cream on a daily basis.[34] Passengers on the *Queen Mary 2* consume approximately 16,000 meals each day.[35]

Understandably, the scale of food service on cruise ships poses certain logistical problems for the crew, especially given the demand for nearly twenty-four hour food service that has developed among the industry's customers.[36] For traditional dining, the sheer number of passengers requires the dining rooms to be configured optimally in configurations of eight-person tables, which are meant to ease traffic between the galley and the thousands of passengers who expect impeccable service.[37] Restaurant and galley workers routinely work twelve-to-sixteen hour days, seven days a week, in order to accommodate the culinary wants and needs of the passengers, and most workers are expected to complete breakfast, lunch, and dinner service each day.[38]

However, the biggest logistical nightmare looming over the cruise ship industry is the spread of gastrointestinal illness among passengers and crew. The industry first turned its attention to this problem in 1975, when the Sanitation and Vector Control Activity at the Centers for Disease Control and Prevention, or "CDC," began investigations in response to reported outbreaks of enteric diseases on cruise ships.[39] The CDC implemented an inspection program modeled on the Food and Drug Administration's *Food Code* and published in the *Vessel*

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[34] Christopher Reynolds, *Cruiseopolis: The Humongous Grand Princess*, *Latest in the Biggest Ship Sweepstakes, is a Veritable Floating City,* L.A. TIMES, Jun. 21, 1998, at L1.
[35] Steve Meacham, *The Majesty of Mary,* SYDNEY MORNING HERALD, Feb. 20, 2007, at 9.
[36] *See, e.g.,* Ian Robertson, *The newest in sea food; Cruise lines are adding variety, quality and flexibility to the mealtime routine*., THE TORONTO SUN, Mar. 22, 2009, at T6 ("There is fine dining and a 24-hour cafe on the fourth deck"); Todd Cardy, *Glorious Fruits of the Sea*, SUNDAY TELEGRAPH, Feb. 22, 2009, at Features p. 6 ("The bakery, salad and vegetable-peeling stations on P&O's Arcadia are staffed 24 hours a day"); Peter Goers, *Just weight and sea food,* SUNDAY MAIL, Jan. 18, 2009, at 30 ("You can eat 24 hours a day on this cruise ship and most of the Americans do").
[37] Eric Noland, *The newest in sea food; Cruise lines are adding variety, quality and flexibility to the mealtime routine,* PHILADELPHIA INQUIRER, Mar. 19, 2006, at N01.
[38] Christine B. N. Chin, *Labour Flexibilization At Sea*. 10 INT'L FEMINIST J. OF POL. 1, 9 (2008).
[39] Elaine H. Cramer, Curtis J. Blanton & Charles Otto, *Shipshape: Sanitation Inspections on Cruise Ships, 1990-2005, Vessel Sanitation Program, Centers for Disease Control and Prevention,* 70 J. OF ENVTL. HEALTH 15, 15 (2008).

Sanitation Program Operations Manual, hereinafter "Manual."[40] The next section of this paper will explore the larger purpose of this program, its development since 1975, and its current implementation in the North American cruise ship industry.

II. The Vessel Sanitation Program

The Vessel Sanitation Program, or "VSP," is located within the National Center for Environmental Health in the Centers for Disease Control and Prevention.[41] It maintains two offices; one in Atlanta, Georgia, and the other in Ft. Lauderdale, Florida, notable for its convenience to several large United States ports.[42] Its primary purpose is to provide support for the maintenance of proper sanitation practices by the cruise ship industry in order to reduce the risk of gastrointestinal illness posed to cruise ship passengers.[43] The program's primary concerns involve not only established gastrointestinal illnesses, but also new causes of and infection patterns followed by these diseases.[44] Its functions include conducting inspections of cruise ships, responding to incidences of gastrointestinal illness outbreaks, training crew members in appropriate sanitation practices, and providing relevant information to "the cruise ship industry, the traveling public, public health professionals, state and local health authorities, and the media."[45]

The program fulfills its mission by "assist[ing] the cruise ship industry to develop and implement comprehensive sanitation programs."[46] The most significant way that it does so is

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[40] *Id.*
[41] David Forney, *Foreword to* Centers for Disease Control and Prevention, VESSEL SANITATION PROGRAM OPERATIONS MANUAL ii (2005), *available at* http://www.cdc.gov/nceh/vsp/operationsmanual/OPSManual2005.pdf.
[42] Centers for Disease Control and Prevention, Health Practices on Cruise Ships: Training for Employees, http://www.cdc.gov/nceh/vsp/training/videos/transcripts/overview.pdf (last visited Mar. 26, 2009).
[43] *Id.*
[44] Centers for Disease Control and Prevention, Vessel Sanitation Program: Outbreak Investigation Overview, http://www.cdc.gov/nceh/vsp/surv/investigationoverview.htm (last visited Mar. 25, 2009).
[45] Centers for Disease Control and Prevention, About VSP, http://www.cdc.gov/nceh/vsp/desc/aboutvsp.htm (last visited Mar. 25, 2009).
[46] CDC, *supra* note 42.

through its surveillance and inspection activities. The VSP mandates biannual inspections for all vessels transporting thirteen or more passengers to foreign ports of call.[47] These unannounced inspections occur while the ship is located in a domestic port and examine common areas, medical facilities, potable water systems, passenger staterooms, and restaurants and galleys, among other aspects of the ship's operations.[48] The ship is scored on a scale of 100, with a score of 85 or below considered to be failing.[49] The VSP also conducts emergency investigations when outbreaks of gastrointestinal diseases occur.[50]

a. History of the Program.

The very nature of cruise ship travel provides the ideal setting for the proliferation of gastrointestinal illnesses. Cruise ships are closed systems where passengers interact in public, frequently-indoor spaces on a nearly-continuous basis.[51] The ample variety of germs and parasites carried by thousands of passengers from all regions of the world have a tendency to combine disastrously with the self-handling of food and beverages from common sources, which is typical of casual cruise ship dining.[52] A sizeable contingent of elderly passengers also comprises the typical cruise ship's manifest, and these passengers are more susceptible to illness.[53] Additionally, crewmembers remain working aboard their respective ships for months on end, and if exposed to illness during one particular voyage, they may easily carry it to a whole new group of people when the next voyage's passengers embark.[54]

Unsurprisingly, the rise in popularity of cruise vacations in the early 1970s brought with it a significant increase in gastrointestinal disease outbreaks, due in large part to the treacherous

[47] *Id.*
[48] *Id.*
[49] *Id.*
[50] *Id.*
[51] KLEIN, *supra* note 19, at 175.
[52] Peter Curson, *When fantasty cruises run aground on reality,* Feb. 3, 2009, NEW ZEALAND HERALD.
[53] *Id.*
[54] *Id.*

combination of poor sanitation practices with the aforementioned health disadvantages attributable to cruise ship conditions.[55] In 1972-73, it was estimated that, on two percent of cruises at sea, five percent or more of the passengers experienced gastrointestinal symptoms.[56] This prompted the CDC to develop a protocol whereby cruise ships had to report the number of reported cases of gastrointestinal illness twenty four hours before they were due for arrival in a United States port, with the intention of preparing landside officials to deal with outbreaks appropriately.[57] To combat this growing problem, the CDC developed the VSP in the early 1970s, and first implemented the program through its cruise ship inspections in 1975.[58] This initial surveillance and inspection protocol relied in large part on the World Health Organization's *Guide to Ship Sanitation*.[59] During the years 1975-78, the CDC investigated twenty six shipboard outbreaks.[60] With the exception of one outbreak, each incident could be traced directly to unsanitary food and water handling practices by staff aboard the ship.[61]

The VSP continued without interruption throughout the remainder of the 1970s and into the 1980s, until its curtailment in 1986 by the CDC, at which time the agency intended that the industry develop its own self-inspection programs based on the policies and procedures published in the *Vessel Sanitation Inspection Manual*.[62] However, this was insufficient in the eyes of the public and, by extension, Congress.[63] During a House of Representatives appropriations debate in July of 1986, Representative Smith of Florida decried the CDC's

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[55] Lisa Beaumier, *The Vessel Sanitation Program: Government Partnering with the Cruise Ship Industry to Improve Public Health.* 70 J. OF ENVTL. HEALTH 53, 53 (2007).
[56] Andrew L. Dannenburg, John C. Yashuk & Roger A. Feldman. *Gastrointestinal Illness on Passenger Cruise Ships, 1975-1978.* 72 Am. J. of Pub. Health 484, 484 (1982).
[57] *Id.*
[58] Cramer, *supra* note 39, at 15.
[59] CDC, *supra* note 42.
[60] Dannenburg, *supra* note 49, at 485.
[61] *Id.* at 486.
[62] CDC, *supra* note 42.
[63] CDC, *supra* note 41, at ii.

decision as "appalling, unwarranted and show[ing] a lack of concern for those who vacation on cruise ships."[64] He went on to insist that both the public and the cruise ship industry itself desired a standardized inspection system overseen by the CDC.[65] The Chairman of the Appropriations Committee then proceeded to share the findings of his committee's report, which concluded that the CDC made an "unwise decision," instructed the agency to "immediately resume all of its prior activities with regard to cruise ships," and assured Representative Smith that "[the Committee] intend[s] to follow this matter carefully to see that this takes place."[66] The program was reinstated and placed within the auspices of the National Center for Environmental Health of the CDC.[67]

Responding to Congress's reprimand, the CDC held a series of public meetings in order to gauge the interests and concerns both of the cruise ship industry and the cruising public, and in 1987, the agency introduced a restructured program which took its findings into account.[68] This restructured program included provisions to renew unannounced inspections on a biannual basis along with re-inspections to resolve outstanding issues, offer consultations during ship construction and renovation, carry out investigations in response to reported outbreaks, and report vessel sanitation scores both bi-weekly and upon demand.[69] In order to finance this renewed inspection effort, the CDC in 1988 introduced a "user fee" arrangement whereby cruise lines paid a rate proportional to the size of the vessel inspected in order to alleviate concerns regarding lack of resources to fund the program.[70] Today, most cruise ships fall into either "extra large" or "mega" classes and pay fees ranging approximately from $10,000 to $15,000 per

[64] 132 CONG REC H 5112 (daily ed. Jul. 31, 1986) (statement of Rep. Smith).
[65] *Id.*
[66] *Id.*
[67] CDC, *supra* note 41, at ii.
[68] *Id.*
[69] CDC, *supra* note 42.
[70] *Id.*

inspection.[71] These user fees fund the program in its entirety, and the CDC has calculated that the cost passed on to each passenger is around three cents per day.[72]

The CDC published the first VSP Operations Manual, or "Manual" in 1989, basing it in large part on the Food and Drug Administration's 1976 model food service code and the World Health Organization's *Guide to Ship Sanitation.*[73] In 1998, it became apparent to the agency that the Manual contained significantly outdated material, particularly in light of updates to FDA's food service code and significant changes in cruise ship technology since the Manual's original publication.[74] The CDC commenced a two-year process wherein the agency solicited comments from interested parties; namely, the industry, FDA, the "international public health community," and the general public, and the updated version of the MANUAL came into use in 2000.[75] Because of the rapid technological improvements both in the cruise ship industry and in the practices of food service and preservation, as well as the appearance and intensification of relevant pathogens, the agency updated the Manual once again in 2005.[76] The Manual in its current form will be discussed later in this paper.

b. Basic Information about Norovirus and Similar Gastrointestinal Illnesses.

Gastroenteritis is defined as "inflammation of the stomach and small and large intestine."[77] Common gastrointestinal diseases such as cryptosporidium, Escherichia coli, giardia, norovirus, salmonella, and shigella are caused by bacteria, parasites, and viruses.[78] Although the cruise ship industry is at risk for onboard outbreaks of all of these gastrointestinal

[71] *See* Beaumier, *supra* note 51, at 54 for a table of user fees. For a database of the gross tonnage of all cruise ships currently in service, *see also* Seatrade Communications Limited, Welcome to the Cruise Community, http://www.cruise-community.com/Search/FL_search.asp (last visited Mar. 26, 2009).
[72] CDC, *supra* note 42.
[73] CDC, *supra* note 41, at ii.
[74] *Id.*
[75] *Id.*
[76] *Id.*
[77] CDC, Viral Gastroenteritis, http://www.cdc.gov/ncidod/dvrd/revb/gastro/faq.htm (last visited Mar. 28, 2009).
[78] CDC, VSP Publications and References, http://www.cdc.gov/nceh/vsp/pub/pub.htm (last visited Mar. 28, 2009).

illnesses, norovirus is the iteration that currently impacts the industry the most significantly. The year 2002 saw an upsurge in norovirus outbreak incidents, rising from six or seven annual outbreaks in years prior to the comparatively enlarged figure of twenty-two outbreaks impacting approximately 1,500 passengers and crewmembers from September 2002 to January 2003.[79] The publicity surrounding these events was so intense that the virus became referred to as the "cruise ship virus."[80]

There are three ways that human beings can transmit and contract norovirus: fecal contamination of food and water that are later ingested, direct person-to-person contact, and through "environmental contamination."[81] The typical route on cruise ships originates from food and water contamination, which accounted for forty-two percent of the outbreaks included in a CDC study, as compared to twelve percent caused by direct person-to-person transmission.[82] The typical sources of contamination are compromised potable water treatment and storage and "deficiencies in food handling [and] preparation."[83] However, although the source of the initial infection is most often ingestion of contaminants in food or drink, the disease continues to propagate secondarily when infected individuals spread the illness directly to others, or shed the virus on surfaces that other passengers touch.[84] The incubation period is approximately twenty-four to forty-eight hours, at which point the victim begins to experience "nausea, vomiting, diarrhea, and abdominal pain, and sometimes a headache and low-grade fever," and, less often,

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[79] KLEIN, *supra* note 19, at 176.
[80] *Id.*
[81] Elmira T. Isakbaeva, Marc-Alain Widdowson, R. Suzanne Beard, Sandra N. Bulens, James Mullins, Stephan S. Monroe, Joseph Bresee, Patricia Sassano, Elaine H. Cramer, Roger I. Glass, *Norovirus Transmission on Cruise Ship,* 11 EMERGING INFECTIOUS DISEASES 154, 154 (2005).
[82] Klein, *supra* note 19, at 178.
[83] World Health Organization, Ship sanitation and health, Feb. 2002, http://www.who.int/mediacentre/factsheets/fs269/en/ (last visited Apr. 1, 2009).
[84] Isakbaeva et al, *supra* note 79.

chills, muscle ache, and fatigue.[85] These symptoms typically endure for one to three days; however, even after the symptoms have disappeared completely, infected persons may persist in their contagiousness for up to two weeks.[86] According to CDC, the most effective ways to avoid infection are frequent hand-washing, avoiding handshakes and similar personal contact during outbreaks, and using "alcohol-based hand sanitizer" as a supplement to washing with soap and water.[87]

c. Legal Authority for the Vessel Sanitation Program.

The vast majority of cruise lines obtain foreign registrations for their ships rather than registering them domestically.[88] In doing so, the cruise lines escape United States tax regulations and labor laws, but they cannot so easily eschew domestic health and safety regulations.[89] Flag-of-convenience registries, the most prominent of which are located in Liberia, Panama, and the Bahamas, give considerable latitude to the United States authorities such as the U.S. Coast Guard when it comes to performing health and safety inspections, as such measures rarely are taken in foreign ports.[90] Although cruise ships are governed generally by the laws of the flag state, particularly in the context of labor and employment regulation and tort liability, United States sanitation regulations will be enforced whenever a vessel is docked domestically.[91]

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[85] Klein, *supra* note 19, at 178; CDC, Facts about Norovirus on Cruise Ships, http://www.cdc.gov/nceh/vsp/pub/Norovirus/Norovirus.htm (last visited Mar. 28, 2009).
[86] Klein, *supra* note 19, at 178.
[87] CDC, *supra* note 82.
[88] Klein, *supra* note 19, at 48.
[89] *Id.*
[90] *Id.*
[91] Klein *supra* note 19, at 48.; *Cruise Ship Safety: Hearing Before the H. Subcomm. On Coast Guard and Maritime Transportation of the Comm. on Transportation and Infrastructure*, 106th Cong. 106-45 (1999) (statement of Rep. Gilchrest).

It is not mandatory for the cruise ship industry to comply with VSP, and participation is on an entirely voluntary basis.[92] However, the industry has great incentive to do so for two important reasons. The first reason is the effect that publicity regarding gastrointestinal disease outbreaks has on the reputations and marketability of the affected lines. The second reason is that, even though CDC does not have the authority to enforce compliance with VSP, the PHS has several legal tools at its disposal to prevent outbreaks from occurring and contain them in the event that those efforts should fail, most of which would seriously constrain the affected vessel and its associated cruise line.[93]

The first of these tools is the authority vested in the U.S. Public Health Service Commissioned Corps, which is a uniformed service of the United States providing disease prevention and response services.[94] The CDC is a subsidiary of the Public Health Service, which operates within the Department of Health and Human Services.[95] Under the Public Health Service Act, 42 U.S.C. § 264, the Surgeon General, through the Public Health Service, is charged with "preventing the introduction, transmission, or spread of communicable diseases from foreign countries into the States…or from one State…into any other State."[96] The Surgeon General reserves discretion to take whichever actions that he or she deems necessary "for the purposes of carrying out and enforcing" this mission, including but not limited to the following: "inspection, fumigation, disinfection, sanitation, pest extermination," and "destruction of animals

[92] Centers for Disease Control and Prevention, VESSEL SANITATION PROGRAM OPERATIONS MANUAL 3 (2005), *available at* http://www.cdc.gov/nceh/vsp/operationsmanual/OPSManual2005.pdf.
[93] *Id.*
[94] U.S. Public Health Service Commissioned Corps, Public Service, Disease Prevention, and the Commissioned Corp, http://www.usphs.gov/aboutus/questions.aspx (last visited Mar. 26, 2009).
[95] Office of the Director – Epidemiological Program, CDC. *Historical Perspectives History of the CDC*, MORBIDITY AND MORTALITY WKLY. REP., Jun. 28, 1996, *available at* http://www.cdc.gov/mmwr/preview/mmwrhtml/00042732.htm; U.S. Department of Health and Human Services, Office of Public Health and Science (OPHS), http://www.hhs.gov/ophs/ (last visited Mar. 28, 2009).
[96] 42 U.S.C. § 264(a) (2002).

or articles."[97] Although this authority resides with the PHS and not with the CDC specifically, the threat of financial and reputational harm arising from the quarantine of a vessel due to unsanitary conditions or illness aboard is a strong incentive to comply with the VSP and its relatively lenient consequences for failing inspection, to be discussed later in the paper.

Section 269(c) of the Public Health Service Act also grants authority to the Surgeon General to promulgate regulations "for the purpose of preventing the introduction into the States or possessions of the United States of any communicable disease by securing the best sanitary condition of such vessels, their cargoes, passengers, and crews."[98] The statute also requires that each vessel receive a certificate from its quarantine officer certifying that it has complied with all applicable regulations before it will be granted entry into a United States port.[99] The penalty for violating the parameters of this regulation is a fine of no more than $5,000. [100]

i. *U.S. port sanitary inspection requirements.*

Federal law requires each vessel arriving from a foreign port to undergo a sanitation inspection upon its arrival in a domestic port.[101] The purpose of the inspection is to prevent the transmission of communicable disease to United States soil through pest infestation, contaminated comestibles, or "other insanitary conditions."[102] Vessels arriving at United States ports from foreign ports will not be detained for health inspection unless the Director of the CDC believes that "a failure to inspect will present a threat of introduction of communicable diseases into the United States," usually triggered by the presence of ill passengers aboard the ship.[103] The regulation defines "ill person" as follows:

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[97] *Id.*
[98] 42 U.S.C. § 269 (c) (2002).
[99] 42. U.S.C. § 269(e) (2002).
[100] 42 U.S.C. 271(b) (
[101] 42 C.F.R. § 71.41 (1985).
[102] *Id.*
[103] 42. C.F.R. § 71.31 (1985).

> (1) Has a temperature of 100 °F. (or 38 °C.) or greater, accompanied by a rash, glandular swelling, or jaundice, or which has persisted for more than 48 hours; or
> (2) Has diarrhea, defined as the occurrence in a 24-hour period of three or more loose stools or of a greater than normal (for the person) amount of loose stools.[104]

Should the Director suspect that an "ill person" is aboard a cruise ship, he or she is entitled to "require detention, disinfection, disinfestation, fumigation, or other related measures" in order to prevent the spread of the illness into the United States.[105]

Understandably, cruise lines wish to avoid this result if at all possible, as the economic impact would be fairly damaging. For example, during the sharp increase in norovirus outbreak incidents in 2002, the media turned its attentions to the cruise ship industry to the point that new outbreaks became lead stories both on local news channels and on national outlets such as CNN and NBC, and the situation even began to appear in the punchlines of late-night comedians' jokes.[106] The cruise ship industry was forced to expend significant resources on media campaigns and political lobbying efforts to counteract the reputational damage done by the negative publicity.[107] Additionally, for each passenger that cannot sail on any given voyage because the ship is quarantined, the line loses an average of $1,000 profit.[108] For a ship with 3,000 passengers, each quarantine requiring cancellation of a week's voyage could cost the cruise line a significant amount of revenue on top of the required fines it must pay, supplies it must purchase, and contracts with workers and vendors that it must service in spite of the absence of passengers.[109] The cruise line likely also would feel compelled to offer vouchers for a free future cruise, which essentially doubles the revenue loss per passenger. It therefore is eminently understandable why cruise lines would wish to comply with the voluntary VSP and, in

[104] 42 C.F.R. § 71..1 (1985).
[105] 42 C.F.R. § 71.32 (1985).
[106] KLEIN, *supra* note 19, at 180 (discussing the treatment of cruise ship norovirus outbreaks by news outlets such as Inside Edition, CNN, and NBC and television personalities such as Jay Leno and David Letterman).
[107] *Id.*
[108] BOB DICKINSON & ANDY VLADIMIR, SELLING THE SEA: AN INSIDE LOOK AT THE CRUISE INDUSTRY 126 (2007).
[109] *Id.*

doing so, reduce their exposure to quarantine and other related consequences of maintaining insanitary conditions aboard a vessel.

d. The Current Vessel Sanitation Program Operations Manual.

As previously discussed, the current version of the Manual was published in 2005.[110] The Manual begins with a description of the program and the Manual, and goes on to establish the authority under which the program operates and to provide an extensive definitional section, which informs the reader's understanding of the remainder of the document.[111] The Manual includes a section defining what qualifies as a "reportable case" of gastrointestinal illness, and includes procedures that cruise ship personnel must follow when a reportable incident occurs.[112] It also contains sections that prescribe the safe and sanitary management of potable water systems, common swimming and bathing pools, food, pest control, housekeeping, and childcare centers.[113] The Manual concludes by specifying the inspection protocol and other procedures related to the execution of the Program.[114]

i. *Differences between the 2000 Manual and 2005 Manual.*

Many of the changes made to the 2005 Manual involve the addition of new definitions of items, technical equipment, or procedures. The "Definition" section includes a variety of new and amended terms relating to potable water, food safety, and gastrointestinal illness outbreaks, most of which appear to be attempts to clarify unclear information from the previous manual or include technological or industrial advancements not yet in existence at the publication of the

[110] *See* page 11, *supra*.
[111] CDC, *supra* note 92, at 1-22
[112] *Id.* at 23-30.
[113] *Id.* at 31-120. Due to the limited scope of this paper, only the gastrointestinal illness surveillance, and potable water and food safety provisions will be discussed in depth.
[114] *Id*. at 121-132.

2000 version.[115] For instances, the "Potable Water" section includes a new definition for "Spa pool," most likely in response to the advent of the ever-popular spa facilities aboard vessels, while the "Food Safety" section defines "blast chiller" and "hand antiseptic," which exemplify food preservation and public health improvements.[116] The 2005 edition of the Manual also clarifies the symptoms that qualify as a "reportable case of gastrointestinal illness" and clarifies which symptoms cruise ship personnel must record in the required logs when an incident occurs.[117]

ii. *Sources of information.*

This latest version of the Manual, like the 2000 version that came before it, relies heavily on FDA's *Food Code,* particularly in the area of food safety.[118] In fact, the "Food Safety" chapter of the Manual is based almost entirely on the *Food Code.* [119] The Manual also looks to various World Health Organization's *Guidelines for Drinking-water Quality* as well as relevant literature published by the American Water Works Association and American Society of Sanitary Engineers, respectively, to inform its section on potable water safety and sanitation.[120] The "Swimming Pools and Whirlpool Spas" primarily uses publications by the National Pool and Spa Institute, and by NSF International, formerly the National Sanitation Foundation, a not-for-profit organization that provides consultations in the areas of food, water, and air quality.[121]

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[115] CDC, CHANGES AND ADDITIONS TO THE VSP OPERATIONS MANUAL FROM 2000 TO 2005 1-7 (2005), *available at* http://www.cdc.gov/nceh/vsp/operationsmanual/opsmanualchanges2005.pdf.
[116] *Id.* at 2-3.
[117] *Id.* at
[118] Cramer, *supra* note 39, at 15.
[119] CDC, *supra* note 92, at 204.
[120] CDC, *supra* note 92, at 200-01.
[121] CDC, *supra* note 92, at 202-03; NSF International, About NSF, http://www.nsf.org/business/about_NSF/ (last visited Mar. 30, 2009).

iii. *Record-keeping and notification requirements*

1. *Protocol under normal conditions.*

A ship must make a report of each day's incidences of gastrointestinal illness.[122] The daily log must include all incidents of reportable illness among passengers and crewmembers, and, additionally, the names of passengers or crewmembers who have been given anti-diarrheal medication from the ship's medical facility.[123] Each entry must include identifying information about the affected individual, the symptoms he or she has experienced, whether or not he or she has used anti-diarrheal medication, and whether or not he or she has an "underlying medical condition" that may affect the way that symptoms manifest themselves.[124] Each entry must also be accompanied by a questionnaire to be completed by the affected passenger which details foods consumed and activities performed by him or her prior to and after boarding the vessel.[125]

The VSP requires each vessel to submit a standardized report of the presence or lack thereof of gastrointestinal illness aboard the ship twenty-four to thirty-six hours prior to arriving in a domestic port from a foreign port.[126] The CDC has clarified that, even under circumstances where the vessel is traveling without passengers, a report must be submitted.[127] This information must be retained by the ship for twelve months and provided upon request to VSP personnel during outbreak investigations.[128]

2. *Protocol for special conditions, or outbreaks.*

A passenger vessel that experiences a significant increase in gastrointestinal illness events must submit a "special report" along with the routine report required upon each entry into

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[122] CDC, *supra* note 92, at 24.
[123] *Id.*
[124] *Id.* at 24-25.
[125] *Id.* at 25, 164-65.
[126] *Id.* at 26.
[127] CDC, *Clarifications to the VSP Operations Manual 2005* 1 (2005), *available at* http://www.cdc.gov/nceh/vsp/operationsmanual/clarifications.pdf.
[128] CDC, *supra* note 92, at 25.

a domestic port, accompanied by a telephone call to VSP officials informing them of the situation aboard.[129] This special reporting requirement is triggered when the "cumulative percentage of reportable cases…reaches 2% among passengers or 2% among crew."[130] Distinct from the routine reporting requirement, special reports must be submitted regardless of whether the ship is arriving from a domestic or a foreign port.[131] Like routine reports, special reports must be maintained for presentation to VSP inspectors on demand for twelve months.[132]

The Manual also requires clinical specimens to be collected and submitted when an outbreak occurs. The ship's medical facility must always maintain an adequate supply of specimen containers in case of an outbreak, and when such an outbreak occurs, the ship's medical staff must collect and submit stool samples from the affected passengers or crewmembers.[133] The Manual provides specific procedures for the safe and sanitary collection, maintenance, and submission of these specimens.[134] VSP also requires the cruise ship to submit food samples in the event of an outbreak, according to the procedures outlined in the Manual.[135]

iv. *Potable water and food sanitation.*

The Manual draws heavily from outside sources in developing its potable water and food sanitation practices. VSP potable water standards map closely onto those promulgated by the World Health Organization.[136] Ships are required to draw their drinking water supplies from shore-side water sources that have been certified as sanitary via microbiologic testing within the past thirty days, and must maintain records of these test results for twelve months.[137] A ship may

[129] *Id.* at 27.
[130] *Id.* Henceforth, this situation will be referred to as an "outbreak."
[131] *Id.*
[132] *Id.*
[133] *Id.* at 28.
[134] *See id.* at 165-67.
[135] *Id.* at 176.
[136] *Id.* at 31. *See also* WORLD HEALTH ORGANIZATION, GUIDELINES FOR DRINKING-WATER QUALITY (1997).
[137] *Ids*

use a reverse osmosis filtration system to purify its drinking water supplies, but only in certain locations that are less likely to be contaminated; however, "technical" water may be purified through reverse osmosis in any location as long as the system meets certain technical specifications.[138] The Manual also provides for the halogenation of potable water supplies, which is a process by which water systems are disinfected through the use of chlorine and bromine.[139] The Manual also includes specifications for the construction and maintenance of potable water storage and delivery systems, as well as procedures for disinfection should the water supply become contaminated.[140] Storage and delivery implements must also be inspected and cleaned regularly, either whenever the ship is in dry dock or every two years, whichever occurs first, and this process is less stringent than the process required when a contamination event occurs, as it eliminates the requirement of flushing the system with potable water and decreases requisite halogenation conditions.[141]

The food handling and sanitation section of the Manual is based on FDA's *Food Code.*[142] Published in 2005, the *Food Code* establishes standards for food safety with the intent of "safeguarding the public health and ensuring food is unadulterated and honestly presented."[143] Stated thusly, FDA's goals in publishing the *Food Code* align with the CDC's goal in promulgating the VSP's protocol, and therefore, the Manual tracks FDA's publication almost exactly. For instance, as in the *Food Code*, the Manual requires personnel responsible for food

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[138] CDC, *supra* note 92, at 32. "Technical" water is defined in the Manual as "fresh water NOT intended for 1) drinking, washing, bathing, or showering: 2) use in the vessel's hospital: 3) handling, preparing, or cooking food: and 4) cleaning food storage and preparation areas, utensils, and equipment." *Id.* at 8.
[139] *Id.* at 32. For more information on halogenation and chlorination, *see* WHO, *supra* note 136, and BETZDEARBORN, CHEMICAL WATER TREATMENT RECOMMENDATIONS FOR REDUCTION OF RISKS ASSOCIATED WITH LEGIONELLA IN OPEN RECIRCULATING COOLING WATER SYSTEMS (2000), *available at* http://www.uwatech.com/technical/betzlegionella.pdf.
[140] CDC, *supra* note 92, at 33-37.
[141] *Id.* at 36-37.
[142] *See supra* notes 118-19.
[143] U.S. FOOD AND DRUG ADMINISTRATION, FOOD CODE (2005), available at http://www.cfsan.fda.gov/~dms/fc05-toc.html.

operations to demonstrate competency to VSP inspectors, including knowledge of safe food handling and preservation practices, equipment handling practices, and symptoms of diseases typically spread through food handling and consumption.[144] The Manual also hews to the *Food Code'*s strict guidelines for employee management and supervision, as well as consumer notification of food safety issues such as the risks involved in eating undercooked meat and at buffet-style food service establishments.[145] However, the Manual does not include references to FDA regulations as does the *Food Code,* since the program is voluntary and FDA does not exercise jurisdiction directly over cruise ship dining facilities.[146] The Manual also adopts the *Food Code*'s guidelines for monitoring employee health and dealing with those employees who exhibit symptoms of communicable food-borne illness.[147]

The Manual contains extensive instructions regarding sources of food, the conditions under which food should be received and then stored and protected aboard the vessel, preparation of food by kitchen employees including avoidance of cross-contamination of allergenic ingredients, the use of ice both as coolant and as food itself, and the use, maintenance, and sanitization of food service and storage equipment.[148] The Manual also provides directives on safe cooking practices that maximize protection against pathogens and parasites, mostly having to do with the temperatures at which food must be cooked, served, displayed, stored, and reheated.[149]

The Manual lays out specifications for the equipment that may be used in a cruise ship galley, including materials that may or may not be used in constructing utensils, restrictions on

[144] CDC, *supra* note 92, at 53-54.
[145] *Id.* at 54-56.
[146] *See, e.g.,* FDA *supra* note 143 at 27.
[147] CDC *supra* note 92, at 56-58.
[148] *Id.* at 59-70.
[149] *Id.* at 71-87.

multipurpose use of particular equipment, and requirements for durability, "cleanability," and accuracy, particularly with regard to equipment that measures food temperature.[150] It also includes extensive guidelines for the construction of galley facilities, food preservation units, liquid and solid waste storage and disposal systems, and laundry, handwashing and toilet facilities.[151] The Manual also acknowledges the importance of cleaning multi-use equipment and supplies by including a "warewashing" section that specifies equipment and practices for sanitizing food service and dining implements.[152] The *Food Code*'s provisions in these areas are significantly more extensive, and the Manual appears to distill the *Code*'s aspects that are most relevant to the operation of cruise ship galleys and dining facilities.

v. *Inspection and investigation protocol.*

The Manual mandates two unannounced sanitation inspections each year, provided that the ship is available.[153] The Manual does not define "available," but presumably a ship is available as long as it is located in a domestic port where the CDC's authority reaches it. The inspections are conducted by Environmental Health Officers, or "EHOs," employed by the VSP.[154] The Manual instructs the EHO to board the vessel and announce to ship's master or another officer designated as an agent for the purposes of the program.[155] The Manual leaves significant discretion to the EHO with regard to how the inspection is to be conducted, specifying only that the officer should follow a "logical sequence" that covers the designated areas.[156] The Manual

[150] *Id.* at 77-87.
[151] *Id.* at 98-108.
[152] *Id.* at 87-97.
[153] *Id.* at 121.
[154] *Id.*
[155] *Id.*
[156] *Id.* For a listing of the designated areas, see page 17, *supra*.

also specifies that the inspection must be completed in one visit unless it is impossible to do so, in which case, the inspection must be rescheduled and conducted anew.[157]

Following a complete inspection, the EHO must draft a report to be submitted both to master of the ship and to the VSP. The report contains descriptions of deficiencies found during the course of the inspection, as well as information obtained from the gastrointestinal illness log and the ship's sanitation score.[158] The sanitation score is determined on a scale of 100, with each deficiency subtracted from that total. Deficiencies are given different weights, in accordance with the relative contribution to the risk of outbreak that each represents.[159] Those deficiencies assigned a value of three to five "credit points" are designated as "critical items" and must also be notated with a red-colored C on the inspection report, while "noncritical items" count for one or two inspection points and do not require extra notation.[160] Minor violations do not necessarily detract from the total score; therefore, a ship may still receive a perfect sanitation score even if minor deficiencies are observed.[161] In the event that a critical deficiency is identified, the ship must remedy it immediately as well as devise a "corrective-action plan" with an eye toward preventing recurrence.[162] However, if the deficiency is serious enough to be classified as an "imminent health hazard," the EHO may recommend that the ship not sail until it is corrected. Imminent health hazards include inadequate halogenation of the potable water supply, poor maintenance of food preservation and sanitizing equipment, malfunctioning waste disposal

[157] *Id.* at 122.
[158] *Id.*
[159] *Id.* at 123.
[160] *Id.*
[161] *See, e.g.,* Cruise Ship Inspection Details for the Royal Caribbean vesselAdventure of the Seas, *available at* http://wwwn.cdc.gov/InspectionQueryTool/Forms/InspectionSummaryView.aspx?chrViolationItemNum=19. This inspection resulted in a score of 100 in spite of the EHO's notation that "one pan of cooked pasta was stored uncovered" in a walk-in refrigerator in one of the ship's galleys.
[162] CDC, *supra* note 92, at 123.

systems, and disease outbreaks that carry the potential of spreading to oncoming passengers.[163] If a ship scores below an eighty-six, a complete, unannounced follow-up inspection is required within a "reasonable period," dependent in part on where and when the ship is in a domestic port.[164] Where the ship scores between eighty-six and one hundred, a partial follow-up inspection must be conducted for the purpose of ensuring that deficiencies identified during the prior inspection have been corrected.[165]

The EHO also must conduct a "closing conference" with the ship's master or designated agent at the conclusion of the inspection.[166] There is also an appeals procedure in place that allows for review of deficiencies identified during the inspection if the master or agent believes that the EHO has made recommendations outside of his or her authority.[167] The VSP publishes inspection reports annually in the *Summary of Sanitation Inspections of International Cruise Ships*, which is housed on the program's website.[168]

III. Legal Challenges Arising from Unsanitary Food Service Practices.

Although the cruise lines conduct the majority of their business domestically, virtually all cruise ships are registered in other countries under what is known as a "flag of convenience."[169] This allows the cruise lines to take advantage of regulations that are significantly more lax than those imposed upon United States-registered vessels. For the most part, cruise lines are able to escape comparatively stringent United States labor and employment regulations by flying flags of convenience.[170] However, United States maritime law allows American courts to exercise

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[163] *Id.* at 127.
[164] *Id.* at 128.
[165] *Id.*
[166] *Id.*
[167] *Id.* at 124-25.
[168] *Id.* at 127. The VSP website is located at http://www.cdc.gov/nceh/vsp, and the databse of inspection reports may be accessed at http://wwwn.cdc.gov/InspectionQueryTool/Forms/InspectionSearch.aspx.
[169] ROSS A. KLEIN, CRUISE SHIP BLUES 139 (2002)
[170] *Id.* at 140.

jurisdiction over foreign-flagged vessels with regard to tort liability claims.[171] Therefore, a claim by a passenger who falls victim to a gastrointestinal illness outbreak is likely to be governed by state or federal courts applying admiralty law.[172]

In maritime cases, in what has been termed the "reverse Erie" doctrine, federal courts, and particularly the Eleventh Circuit where Florida is located, have held that federal maritime law applies to all substantive issues.[173] In order for admiralty law to apply, the two prongs of the "maritime situs/nexus test" must be satisfied, which consists of showing that the injury was caused aboard a ship on navigable waters, and that the incident has a "substantial relationship" to maritime activity and poses the risk of a "potentially disrupting impact on maritime commerce."[174] Because the cruise ship industry has its most significant presence in the state of Florida, the way that Florida state and federal courts interpret federal maritime law becomes particularly relevant in the context of cruise line tort liability.[175] Additionally, because of the Admiralty Extension Act, cruise lines may be liable for injuries resulting from illnesses that do not manifest themselves until the passenger debarks the vessel, as long as the source of the illness was found aboard the cruise ship.[176]

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[171] There are particular laws which allow cruise ship employees to recover damages from their cruise line employers under the doctrine of "maintenance and cure" as well as the Jones Act; however, these claims are outside of the scope of this paper. For more information on employee claims arising from illness, *see* George W. Healy III, *Remedies for Maritime Personal Injury and Wrongful Death in American Law: Sources and Development*, 68 TUL. L. REV. 311 (1994).

[172] *See* Kermarec v. Compagnie, 358 U.S. 625, 627-30 (explaining that "it is a settled principle of maritime law that.a shipowner owes the duty of exercising reasonable care towards those lawfully aboard the vessel who are not members of the crew," and that states apply admiralty law in deciding such claims).

[173] *See, e.g.,* Everett v. Carnival Cruise Lines, 912 F.2d 1 1358 (holding that federal admiralty law governs the substantive issues in a maritime tort claim); *see also* Galentine v. Holland Am. Line – Westors, Inc., 333 F. Supp. 2d 991,995 (2004),

[174] Grubart v. Great Lakes Dredge & Dock Co., 513 U.S. 527, 534 (establishing the two prongs of the maritime situs/nexus test).

[175] William E. Adams, Jr, *Tort Law: 2005-08 Review of Florida Case Law*, 33 NOVA L. REV 21, 21 (2008).

[176] Healy, *supra* note 171, at 351.

A trend that has developed recently in Florida state law is a shift to holding cruise lines liable for negligence by shipboard doctors.[177] This trend could prove fairly significant in tort cases involving claims arising from gastrointestinal illness outbreak, since presumably, such outbreaks result in an increased number of passengers seeking the services of the shipboard medical staff. Therefore, if this course holds true, cruise lines may see increased exposure to liability arising from outbreaks aboard their vessels.

Currently, there is only limited case law that directly addresses the question of cruises line liability for food-borne illness arising from the ship's sanitation practices.[178] It appears that whether or not a claim sounds in tort or contract impacts the likelihood that a cruise line will be held liable for injuries arising from food-borne illness contracted aboard one of its vessels. For example, in 2005, the Southern District of Florida heard a contract claim against Celebrity Cruise lines for injuries suffered by a passenger who contracted gastroenteritis aboard one of its ships.[179] The contract of carriage stated that "No undertaking or warranty shall be given or shall be implied as to the seaworthiness, fitness or condition of the Vessel or any food or drink supplied on board;" however, the plaintiff sought liability for the cruise line based on negligence, breach of the implied warranty of merchantability, and strict products liability.[180] The court found that shipboard food service "certainly bears a 'substantial relationship to traditional maritime activity" and thus applied substantive federal admiralty law to the plaintiff's claim.[181]

However, the court found in favor of the cruise line, holding that admiralty law does not imply a warrant of merchantability with regard to safe food products, especially since the "clear

[177] Maggie O. Tsavaris, *Calming Troubled waters for Cruise Ship Owners and Their Passengers: Carlisle v. Carnival Corp.*, 35 U. MIAMI INTER-AM. L. REV. 153, 156 (2003-04).
[178] There is also a line of cases regarding Legionnaire's Disease and other respiratory illness outbreaks. However, because they pertain more so to the ship's ventilation rather than its food-handling practices, they are outside of the scope of this paper.
[179] Bird v. Celebrity Cruise Line, 428 F. Supp. 2d 1275 (2005).
[180] *Id*. at 1277.
[181] *Id.* at 1279.

contractual language disavow[ed] any warranty as to the food and drink supplied on board."[182] Since one would expect a well-drafted contract of carriage to include such a disclaimer, this result suggests that such a hurdle would be exceedingly difficult for a plaintiff to overcome. With regard to the plaintiff's tort claims, although the plaintiff's strict liability claim failed because only negligence is available to passengers injured unintentionally aboard a cruise ship, the plaintiff's negligence allegation did survive summary judgment, and the case presumably settled.[183]

In a similar case in the Western District of Washington, the plaintiff found similar success in withstanding the cruise line's motion for summary judgment. In *Paul v. Holland Am. Line, inc.,* the plaintiff contracted a food-borne illness that resulted in heart failure requiring emergency surgery and the implantation of a permanent defibrillator.[184] The cruise line seized on the plaintiff's ingestion of food and drink during shore excursions, claiming that, as a result, she could not establish proximate cause as necessary to prove the cruise line's negligent failure to extend reasonable duty of care.[185] The fact that there was not a mass outbreak aboard the ship when Mrs. Paul was aboard further bolstered the cruise line's defense.[186] However, the court found in Mrs. Paul's favor, acknowledging that she had demonstrated that passengers had contracted similar viruses aboard the same ship and that the virus was likely to have been transmitted in the way that she alleged, and thus holding that "a reasonable trier of fact could conclude that the [Holland America vessel] was the source of Mrs. Paul's infection, and that the

[182] *Id.* at 1280-81.
[183] *Id.* at 1282, 1285.
[184] Paul v. Holland Am. Line, Inc., No. C05-2016RSM 2006 U.S. Dist. LEXIS 92551, at *3 (W. D. Wash. Dec. 21, 206).
[185] Id. at *10-13
[186] Id. at *11-12.

infection was transmitted as a result of defendants' negligent sanitization practices."[187] This result suggests that courts may subscribe to a fairly deferential evidentiary standard with regard to plaintiffs claiming injury as a result of outbreak.

Passengers stricken by gastrointestinal illness during shipboard outbreaks have also found a degree of success in pursuing class action litigation against cruise lines, particularly when the outbreak affected a significant number of the ship's passengers.[188] Under such circumstances, the four prerequisites to class action dictated by the Federal Rules of Civil Procedure are likely to be satisfied due to the number of passengers affected and the similarity of the claims that they present.[189] Particularly where poor sanitation practices lead to norovirus-type gastrointestinal illness outbreaks, cruise lines are likely to find themselves increasingly exposed to class action liability, especially in the event that VSP recommendations are not followed scrupulously. This, however, presumes that plaintiffs conduct adequate discovery. In *Faraci v. Regal Cruise Line,* the court denied class certification because the plaintiff passengers failed the first prong of the test by lacking specificity both in the number of voyages and the number of passengers that they alleged to have been affected.[190]

IV. Conclusion

The size and scope of the cruise ship industry, combined with the necessity of serving vast amounts of food to an ever-changing population of guests, exposes the cruise lines to great financial risk, both in terms of lost revenue from inoperable vessels and liability arising from

[187] Id. at *14-15. But see Dinklage v. Holland Am. Line-Westours, No. C06-0018-JCC, 2007 U.S. Dist. LEXIS 21919 (W. D. Wash. 2007) (disagreeing with the result in Paul in deciding a negligence action against a cruise line).
[188] Nathaniel G. W. Pieper and David W. McCreadie, *Cruise Ship Passenger Claims and Defenses,* 21 J. MAR. L. & COM. 151, 159 (1990) (citing Hernandez v. Motor Vessel Skyward, 61 F.R.D. 588 (S.D.Fla. 1973) (certifying a class action where most of the ship's 655 passengers took ill as a result of food-borne illness aboard the ship).
[189] *Id.* at 159.The four prerequisites are as follows: "(1) the class is so numerous that joinder of all members is impracticable; (2) there are questions of law and fact common to the class; (3) the claims of the plaintiffs as representative parties are typical of the claims of the class; and (4) the representative parties will fairly and adequately protect the interests of the class."
[190] Faraci v. Regal Cruise Line, No. 93 Civ. 4032, 1994 U.S. Dist. LEXIS 14817 *6-7 (S. D. N. Y. Oct. 18, 1994).

suits filed by injured passengers. Fortunately, the industry's adherence to the Vessel Sanitation Program has avoided crippling outbreaks, the fear of which motivated the inception of the program when the industry began to develop into its modern form. For each voyage that endures a newsworthy norovirus event, there are hundreds of others sailing on that date with nary a food-borne illness complaint. This is a testament to the overall success of the program in promoting sanitation conditions aboard vessels that deter the proliferation of gastrointestinal diseases.

During the more than thirty years that comprise the history of the Center for Disease Control's Vessel Sanitation Program, the Manual has been continually revised to reflect the evolution not only of the cruise ship industry, but also on food sanitation, preparation, and preservation advancements that play such a significant role in the central focus of shipboard programming. Recent updates to the Manual reflect the close attention paid by VSP personnel to developments in the industry and their impact on the maintenance of health on board the ships.

Scrupulous adherence to the Vessel Sanitation Program may not in and of itself insulate the cruise lines from liability arising from injuries sustained by passengers who are affected by outbreak. However, by following the guidelines carefully, the cruise industry places itself in an advantageous position, as the strict specifications laid out by the manual make it exceedingly unlikely that sanitation conditions will be friendly to the spread of disease. Even beyond avoiding liability, careful implementation of the VSP guidelines is not only a public relations boon but also a necessity. Given the negative publicity associated with norovirus outbreaks in the early part of the decade, combined with current fears about global pandemics, cruise lines may and should turn the focus of their efforts and of their advertising to the cleanliness of their facilities and the safety of the food served on board their ships. Particularly in these precarious economic times, when discretionary vacation dollars are sparingly and carefully spent, it is even

more critical for the cruise lines to dedicate resources toward implementing and maintaining the suggestions offered by the Vessel Sanitation Program in order to avoid a needlessly negative impact on their financial viability.