Testimony of Ross A. Klein, PhD
Before the
Senate Committee on Commerce, Science, and Transportation

Hearings on "Oversight of the Cruise Industry"

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ORAL TESTIMONY

It is an honor to be asked to share my knowledge and insights with the U.S. Senate Committee on Commerce, Science, and Transportation. In my brief oral remarks I will identify some of the key points in my written submission.

First, I will discuss safety and security issues relating to cruise ships. There are a number of issues:

One issue is onboard crime – between October 1, 2007 and September 30, 2008, the cruise industry reported 421 incidents of crime to the FBI. These include 115 simple assaults, 16 assaults with serious bodily injury, 101 thefts, and 154 sex related incidents. The data was accessed through a request under the Freedom of Information Act. Unfortunately, given the wording of the Cruise Vessel Security and Safety Act of 2010, comparable data is not available for subsequent years, so it is impossible to judge whether things are getting better or worse. An analysis of these crimes is in Appendix B.

A second issue is whether cruise ships, as the industry often claims, are the safest mode of commercial transportation. Appendix A presents various events at sea: ships that have sunk, 1980 – 2012 (n=16); ships that have run aground, 1973 - 2011 (99); ships that have experienced fires, 1990 – 2011 (n=79); ships that have had collisions, 1990 – 2011 (n=73); and ships that have gone adrift or have had other issues that could be seen to pose a safety risk, 2000 – 2011 (n=100). These events speak for themselves.

A third set of issues comes directly from the Costa Concordia disaster: the challenge of abandoning a ship within the thirty minute period after an abandon ship call, as dictated by the Convention on Safety of Life at Sea (a large cruise ship in 1974 when the regulation was established accommodated less than 3,000 passengers and crew, one-third the number on the largest ships today; the ability to comply with the requirement that lifeboats can be deployed on a ship listing up to 20 degrees (reports I have seen are that the Costa Concordia was listing 20 degrees and that lifeboats on one side could not be used); and changes in the manner in which muster drills are run today as compared to earlier times – there is still question whether industry commitments are adequate. Other issues worthy of comment are the fact that the Costa Concordia did not have a functioning black box when it experienced its tragic accident and thus much objective data is lacking; that crew training for dealing with crime scenes is inadequate and that onboard security (as cruise ship employees) is not in a position to objectively investigate crimes onboard cruise ships; and that passengers on cruise ships are treated differently by the Death on the High Seas Act than passengers on aircraft – an anomaly that appears unwarranted. In my written testimony I discuss several changes that need to be considered to the Cruise Vessel Security and Safety Act, including the need for public reporting of all alleged crimes on cruise ships.

The second area I discuss in my written testimony is environmental concerns. I compliment the U.S. Congress for its endorsement of the North American Emission Control Area and I applaud the U.S. Environmental Protection Agency for its plan to extend regulations pertaining to

discharge of grey water in U.S. waters. However, I express concern that the U.S. is an anomaly in the world by allowing discharge of treated sewage within three miles of the coast; untreated sewage between three and twelve miles. I also address shortcomings of Advanced Wastewater Treatment Systems (AWTS) and of marine sanitation devices (MSDs), both of which discharge "treated sewage" so can discharge in areas where discharge of grey water is prohibited; the problem posed by permitting sewage sludge dumping at sea (which is also often considered treated sewage); the lack of adequate regulation of onboard incinerators; and problems associated with dumping at sea of solid waste (including incinerator ash). Finally, I discuss the patchwork of widely varying environmental regulations across coastal states in the U.S. and I advocate for reconsideration of the previously-introduced Clean Cruise Ship Act in order to bring consistency across jurisdictions in the U.S.

The third area I discuss in my written testimony is qualifications of medical care staff and the medical care provided on cruise ships, and illness on cruise ships. There are four issues. One relates to the qualifications of onboard medical staff, something that was supposed to be addressed by the Cruise Vessel Security and Safety Act, however the provisions are inadequate and leave less protection to passengers and to victims of sexual assault than I believe was the intent of the legislation's authors. A second issue is medical malpractice and liability – that a cruise ship is not fully responsible or liable for improper medical care provided by its medical personnel; a loophole in U.S. law that should be addressed. The third issue is norovirus and how the industry can more effectively deal with the problem – with greater transparency, and without creating incentives that indirectly encourage spread of the illness. Finally, I discuss a case where potable water on as many as 50 cruise ships was potentially contaminated, leaving many U.S. passengers at risk. Unfortunately, information about the situation was sealed in 2006 by the High Court in the UK, making it near-impossible to gain full and complete knowledge about the problem; it is still difficult to secure reliable information.

I wish I could go into greater detail in these oral comments. I invite questions to allow me to expand further on any of these issues.

WRITTEN TESTIMONY

It is an honor to be asked to share my knowledge and insights with the U.S. Senate Committee on Commerce, Science, and Transportation. My testimony focuses on the parameters I was given when I was invited to testify:

- safety and security issues relating to cruise ships (i.e., onboard crime; persons overboard; abandoning ship in an emergency, including muster drills and crew training; shipboard black boxes; crime reporting; and the Death on the High Seas Act (DOHSA)).

- environmental issues related to cruise ships (i.e, the North American Emission Control Area; regulation of grey water, sewage, sewage sludge, and limitations of marine sanitation devices (MSDs) and advanced wastewater treatments systems (AWTS); incinerator air emissions; solid waste; oily bilge; and the patchwork of regulations around the U.S. and the not-enacted Clean Cruise Ship Act).

- medical care and illness on cruise ships (i.e., medical malpractice and liability, norovirus and other illness outbreaks, and issues relating to potable water).

- Labor issues (i.e., the absence of labor laws governing hours of work and remuneration, and the use of arbitration clauses to truncate worker rights to use U.S. courts to address injuries and onboard injustice).

I. SAFETY AND SECURITY ISSUES

The *Costa Concordia* disaster has refocused attention on cruise ship safety and security. Following this tragic event, the cruise industry predictably repeated its mantra that cruise ships are the safest mode of commercial transportation. They often cite a 1996 Coast Guard "comprehensive safety study that concluded the cruise industry is the safest form of commercial transportation."[1] The study was based on Bureau of Transportation statistics and compared accidents involving occupants of cruise ships with those involving motor vehicles (including occupants, pedestrians, and pedacyclists), and U.S. air carriers; it compared fatalities (natural deaths and those caused by injury), injuries requiring more than first aid, and "accidents /incidents" (left undefined). The study apparently did not consider sexual assaults. Since the study period (1990 – 1994), the number of cruise ships and cruise passengers has more than tripled and the industry has undergone considerable change.

Rather than accept the industry's claim at face value, it is important to consider the history of accidents and occurrences on cruise ships. Appendix A provides a list of known incidents where cruise ships have sunk; run aground; experienced onboard fires; collided with other ships, quays, or objects; and other significant problems such as loss of power and going adrift, severe lists, encounters with storms, etc. The Appendix does not include the many cases where ships operate

[1] See CLIA website, "Safety Standards, April 2006." <www2.cruising.org/industry/safety.cfm>, Accessed April 11, 2011.

with engines that are not functioning or have "mechanical issues" such that ports are missed and itineraries changed. The reader can judge, after reviewing Appendix A, whether cruise ships are truly as safe a mode of transportation as the cruise industry claims.

Onboard Crime

There have previously been hearings on onboard crime, particularly sexual assaults and disappearances. I will not rehash what has already been presented to these esteemed committees, however I call your attention to my previous testimony before the Senate Subcommittee on Surface Transportation and Transportation and Merchant Marine Infrastructure, Safety, and Security on June 19, 2008. I have also attached Appendix B, which presents analysis of reported crimes to the FBI from October 1, 2007 to September 30, 2008. The data speaks for itself: 115 simple assaults, 16 assaults with serious bodily injury, 101 thefts, and 154 sex related incidents.

Perhaps the most distressing findings is the number of onboard sexual assaults – more than 17 percent against children under the age of 18 – a rate that on Carnival Cruise Lines in 2007-08 is 50 percent higher than the rate for sexual assault in Canada (using the same definition for sexual assault for ships as on land). Royal Caribbean International in the period 2003 – 2005 had a rate comparable to Carnival Cruise Lines, but reduced the onboard rate by about half between 2003 – 2005 and 2007 – 2008. They are to be complemented.[2]

When one thinks about what can be done it is still timely to refer to two reports completed by consultants for Royal Caribbean in 1999. They had been charged with making recommendations for preventing sexual harassment and assault. The problem was obvious. As one report stated, "… improper activity occurs frequently aboard cruise ships, but goes unreported and/or unpunished."[3] The other report acknowledged: "crew members generally understand that if they commit an offence and are caught they are most likely going to lose their job and be returned home, but not spend time in jail."[4] (Greenwood, 1999: 4).

The reports make a range of recommendations, including:

- increased video surveillance of high risk areas (including the disco bar and dance area, main service corridors on crew decks and key intersections on passenger decks, and youth activity areas);
- cameras already in place be monitored periodically, at least on a random basis, and be recorded at all times;
- an increase in the number of security staff by two per ship;
- increased training and education of staff and crew members;
- responses to sexual harassment and assault be standardized across brands and ships;
- training for medical personnel include an interview protocol for sexual assault incidents;

[2] Klein, Ross A. and Jill Poulston. 2011. "Sex at Sea: Sexual Crimes Aboard Cruise Ships," *Tourism in Marine Environments*, 7:2, pp. 67–80.
[3] Krohn, Kay. 1999. Unpublished consultant's report examining current efforts of Royal Caribbean Cruises Ltd. In the area of preventing sexual harassment and assault. May 26.
[4] Greenwood, Don. 1999. "Reducing Sexual Assaults on Cruise Ships: Risk Assessment and Recommendations." Unpublished consultant's report. June 7.

- that a staff member be identified and assigned responsibility to serve as an advocate for the target of sexual harassment or assault;
- that a shore side hotline be established to receive telephone reports of wrongdoing and that investigations be consistent and evenly handled.
- better educating passengers and better signage onboard demarcating areas that are "off limits" to passengers.

These recommendations are great, but many had not been implemented before passage of the *Cruise Vessel Security and Safety Act of 2010*, and many have still not been fully implemented.

In addition to sexual assaults, Appendix B shows there is a fair number of assaults and thefts. Admittedly, many assaults are between traveling companions and can be considered a case of domestic violence; but not all. Take the case of San Diego grocer Scott Boney who in September 2007 went on Carnival Cruise Lines' *Elation* to celebrate his fiftieth birthday with his wife and a number of friends. On the first night of the cruise, he was pushed down a flight of stairs by a twenty-one year old fellow passenger. When he was found he was nonresponsive. Seven months later he still couldn't speak or write, couldn't stand on his own, was fed through a stomach tube, and didn't appear to recognize many family members and friends who visit or help care for him.[5]

I mention the Boney case because two relevant issues are highlighted. One is the question of whether there is adequate security personnel on cruise ships. This is a theme that has repeatedly been raised as concerns incidents of sexual assault.

Of particular note in those cases is not just the number of security staff, but the training of those personnel. Several cases indicate security personnel may not be adequately trained to deal with crimes and with crime scenes. A model course on "Crime Prevention, Detection, Evidence Preservation and Reporting," developed by the U.S. Coast Guard, FBI, and Maritime Administration in July 2011, and recently implemented, devotes a total of 3.5 hours to actions to preserve crime scenes and crime scene reporting and documentation, considerably less than the 40 hour course advocated by International Cruise Victims Association. The course is taught online; not in-person. This might be sufficient as a refresher for already-trained individuals, but not for those who appear to serve those roles on cruise ships. As related by Laurie Dishman after her 2007 testimony before the House of Representatives:

> I didn't know who to call, because my rapist was supposedly "security". I told [my friend] what had happened, and we decided to call the Purser's desk, which prompted two officers to come to our cabin. Instead of securing the cabin, they sat on the bed, where the rape occurred. Eventually, I was permitted to go to the ship's doctor, but he told [my friend] and I to go back to our cabin and collect the sheets & clothing from the incident and to place then in plastic bags, which they had provided.[6]

[5] See Boney v Carnival Corporation, Case No. 08-22299-CIV , U.S> District Court, Southern district of Florida, Miami Civil Division; Darce, Keith. 2008. "Rehabilitation Slow, Uncertain for Grocer Hurt in Cruise Ship Fall," San Diego Union Tribune, April 9.

[6] Dishman, Laurie. 2007. "Laurie Dishman." International Cruise Victims Association. <www.internationalcruisevictims.org/LatestMemberStories/Laurie_Dishman.html>

The other issue is the responsible serving of alcohol. The bar tab of Mr. Boney and one of his friends shows the purchase of 24 drinks (at a cost of more than $250) and several bottles of wine between ten people over dinner from the time they boarded the ship to 11:00 PM. Depositions taken in the court case indicate Mr. Boney was intoxicated. There are other cases where intoxication has been a factor in grave events. Take the case of Lyndsay O'Brien, an Irish 15-year-old who on January 2, 2006, fell overboard from the *Costa Magic* after being served a lethal amount of alcohol. Also consider page 10 of Appendix B, which shows alcohol is involved in at least 62.5 percent of onboard assaults with serious bodily injury, 35 percent of simple assaults, and 36 percent of sexual assaults. While this data suggests greater concern with responsible serving of alcohol and curtailing alcohol misuse, some cruise lines now offer "all you can drink" packages at flat rates for the duration of a cruise. Bar sales is one of the top sources of onboard revenue for cruise ships.

There is a third issue with regard to shipboard security. Unlike police in a community setting, who are objective and are a disinterested party in their investigation, shipboard security personnel are compromised by the fact that they must investigate crimes onboard a ship where their own employer may be complicit in, or party to the crime. Can these security personnel truly act in a disinterested, objective manner that places the interests of the victim above those of the organization from which they receive their paycheck and continued employment? It is difficult to imagine that onboard security can reasonably be viewed as parallel to the quality and objectivity of a land-based, community police force. This is a disservice to crime victims on a cruise ship.

Persons Overboard

The issue of persons overboard has already been discussed at previous Congressional hearings in December 13, 2005, March 7, 2006, March 27, 2007, September 19, 2007, and June 19, 2008. While the cruise industry tends to view these incidents as comprising accidents and suicides, this is not supported by the 177 incidents recorded since 2000.[7] Admittedly, many incidents are intentional suicides – the 15 year old child who leaves a note after fighting with his parents, the 82 year old man who goes missing in the North Atlantic, and cases where a spouse jumps overboard after an argument – and some are accidents, such as the 23-year-old man who fell overboard while urinating over the side as the ship steamed away from San Juan (he swam to shore), or a 19-year-old man who climbed over a railing and threatened to kill himself after an argument with his girlfriend; when his girlfriend pleaded with him to climb to safety he complied but slipped and fell overboard. However, there are at least two known murders (and a third where a body was thrown overboard to hide a murder), a number of cases where a severely intoxicated person bent over a railing to vomit, and many incidents that are mysterious.

It is the mysterious incidents that raise the most concern. These are people who have given no sign of being suicidal, are happy and enjoying the cruise (often with family members along), and then go missing. Congressional hearings have already heard about some of these cases: Merrian Carver, Annette Mizener, and Hue Pham and Hue Tram, to name a few. In these cases, video surveillance footage was not made available – in the case of Annette Mizener the camera had been covered with a map or newspaper. Interestingly, video surveillance footage is readily available when it confirms the incident is a suicide or accident, but is not available in these

[7] See www.cruisejunkie.com/Overboard.html

incidents that remain a mystery. The situation suggests there is need for better video coverage of deck areas and that video feeds be monitored in real time, at least on a random basis and at times when these incidents most frequently occur.

Another issue is the cost borne by U.S. taxpayers when the U.S. Coast Guard is enlisted to search for a missing passenger. This expense is not trivial. In just one case – that of Michelle Vilborg who went missing 70 miles southwest of Pensacola, Florida on June 15, 2009 – the total cost incurred during the search was estimated by the Coast Guard to be $813,807.[8] This is on a not-cost-recovery basis. It would seem that the cruise corporation (Carnival Corporation in this case) could be held liable for a portion these costs. In 2009 the corporation earned $1.790 billion in net income. Despite the U.S. corporate tax rate of 35 percent, Carnival Corporation's corporate tax paid in the U.S. in 2009, as a Panamanian-register corporation, was 0.9 percent.

One additional issue is proper detection of persons overboard. The Cruise Vessel Security and Safety Act requires that ''the vessel shall integrate technology that can be used for capturing images of passengers or detecting passengers who have fallen overboard, to the extent that such technology is available."[9] The degree to which the cruise industry has complied with this requirement is entirely unclear. There may be additional camera surveillance (but no indication that this is the case), however there has not been adoption of any of the active measures recommended by the International Cruise Victims Association in discussions with the industry prior to the legislation being passed. There are many systems available, many manufactured and marketed in the U.S., but none of these appear to be under consideration for adoption, no doubt because of the cost involved.[10] In addition, the U.S. Coast Guard posted a Federal Register Request for Input from the Industry, and received a number of proposals, but there is no indication that these have been acted upon.[11]

Abandoning Ship in an Emergency

The *Costa Concordia* disaster brought to the forefront concerns about the ability for a ship to be abandoned within the requisite 30 minutes from an abandon ship call, as required by the Convention of Safety of Life at Sea (SOLAS). While the cruise industry might argue that larger ships cannot meet the 30-minute requirement and the period of time should be extended, this gets at the crux of the matter. A catastrophic event, such as seen with the *Estonia*, which in 1994 sunk in 30 minutes with loss of 852 lives, does not allow for a luxury of time. On some large ships today it could conceivably take a passenger, especially one with mobility issues, 30 minutes to get to a lifeboat station.

There are two issues at play. First, how large can a ship become before it is no longer feasible for the number of people onboard to be offloaded within a reasonable timeframe. When the SOLAS requirement was promulgated a large ship accommodated 2,000 passengers and crew. The *Costa*

[8] The figure is in a response to a FOIA request, #09-4707: Linda Griesman Christopherson; Requesting the Coast Guard cost that was incurred in the search for Michelle Vilborg, letter dated October 15, 2009.
[9] See §3507(a)(1)(D)
[10] For a description of systems available see "Man-Overboard Devices," *Motor Boating*, April 11, 2011. <www.motorboating.com/electronics/man-overboard-devices>
[11] It appears proposals were received from Seafaring Security Systems and Radio Zealand DMP Americas, along with supporting documentation, as posted on the U.S. Coast Guard website.

Concordia had more than twice that number, and the largest ships afloat today have more than four times that number – more than 6,200 passengers and 2,500 crew members. There need to be drills and tests to determine whether current systems for abandoning ship can meet the SOLAS requirement; they should be required by the U.S., given that otherwise compliance with SOLAS is left with the country where the ship is registered, most commonly Panama or the Bahamas.

Second, related to the issue of increasing size is ship design. There needs to be consideration for width of passageways, width of stairwells, and the ease with which passengers can make their way from cabins and entertainment areas to their muster stations. That which is practical when people are calm and orderly is quite different, as can be seen in video from the *Costa Concordia*, than what is possible in the frenzy of an emergency.

A related issue also follows from SOLAS requirements. They dictate that lifeboats can be deployed when a ship is listing by 20 degrees or less. This did not appear to be the case with the *Costa Concordia.* If this requirement cannot be met, then consideration needs to be given to alternative methods of evacuation and that there be sufficient life-saving equipment on both sides of the ship for the full complement of passengers and crew. While the Captain of the *Costa Concordia* has shouldered responsibility for the cause of the accident, it has not been sufficiently acknowledged that he likely saved 100s or 1000s of lives by maneuvering the ship to run aground close to shore, making evacuation by helicopter practical.

Three other issues are brought to the forefront by the *Costa Concordia*: crew training, muster drills, and functionality of life-saving equipment.

Crew training. There is no basis on which to say that crew was not adequately trained on the *Costa Concordia*. However, what can be said is that the multiple languages used on board led to increased confusion and messages were not always clearly available to all passengers. This suggests the U.S. Coast Guard pay particular attention to the ability for all crew to speak and understand English on cruise operating out of U.S. ports of call.

While there are conflicting reports, it also appears that crew members (some at least – there were many others who were notably heroic in their efforts) forgot their training and their responsibility by failing to keep passengers calm and by not providing sufficient assistance with getting to muster stations and getting off the ship. It isn't just a matter of some senior officers not remaining onboard until all passengers and crew were safely evacuated, but also that there are some reports of crew members trading priority on lifeboats for money, and others leaving the ship before they had completed all of their responsibilities. This underlines the need for additional training and additional drills for how to respond when an emergency occurs.

Muster drills. Cruise ships have appeared to become complacent about lifeboat drills. When I was cruising in the 1960s, 1970s, and early 1990s there was always a lifeboat drill at the muster station (lifeboat) before a ship left port. A senior officer (usually the captain) would inspect whether each passenger properly wore their life vest (pulling straps tighter and fixing those that had been worn improperly), attendance was taken by roll call, and clear instructions were given about what to do in an emergency. Often the lifeboat would be lowered and a demonstration given on how the boat would be boarded and in what order. In the case of the *Costa Concordia*,

the muster drill was planned the afternoon after the cruise began, which isn't inconsistent with SOLAS requirements, but in hindsight not a good decision.

By the mid-to-late 1990s, roll calls were taken less frequently and the inspections became less vigilant. Undoubtedly, with 3,000 or more passengers, officers could no longer complete inspections in a reasonable period of time, and there may have been a reaction to increasing complaints from passengers who didn't see the need for the drills. By the late-1990s I began to see virtual lifeboat drills. Passengers would muster in a lounge or a bar and be instructed on procedures to follow in an emergency. They were instructed how to put on a life vest, but there were no longer inspections to ensure they wore them correctly. And there were no longer demonstrations on how a lifeboat was lowered or boarded, or instruction on the order of boarding (children and women first, assist those with mobility issues, and able-bodied men last).

The Cruise Lines International Association (CLIA) and some cruise lines have now announced there will be mandatory life boat drills before a ship leaves port. However, it is still unclear whether these will be virtual drills or real drills, whether passengers will be inspected as to whether they properly wear a life vest, and whether there will be demonstration of life-saving equipment. It appears, based on a cruise director's blog, that attendance will not be taken.

> …once guests are gathered at the muster stations then the staff will walk around with clickers to count the number of guests at the muster stations … These numbers are then given to each muster station supervisor who will then tell the bridge … the cruise director will let guests know this is happening, it will be very obvious and should take approximately five minutes to accomplish as the line has multiple staff assigned to this new task.[12]

The "old-fashioned" lifeboat drills normally took 30 minutes or more.

While I applaud CLIA's requirement for a mandatory muster drill, I have to ask what will happen to those members who do not comply. The Association has had mandatory environmental standards since 1999, however no cruise line has knowingly been sanctioned for violations, numbering in the hundreds and leading to more than $50 million in fines in the U.S.

Functionality of Life-Saving Equipment. Reports from the *Costa Concordia* indicate some lifeboats did not easily deploy given corrosion and rust. I wasn't there, so I can't say what was the case. However, these reports, if accurate, underline the importance for U.S. Coast Guard inspections to include a determination that each and every lifeboat on a cruise ship freely lowers.

I also understand from news reports following the accident that some cruise ships no longer place life vests in passenger cabins, but leave them on the deck where passengers muster to their lifeboat. The wisdom of this practice might be worth reconsidering in the aftermath of the *Costa Concordia* accident. What if passengers can't get to their muster station? Will there be a sufficient supply on each side of the ship to outfit all passengers in the case that one side of the ship isn't accessible? These questions need to be seriously considered.

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[12] Young, Susan. 2012. "Carnival Cruise Lines Adjusts Muster Drill," Travel Agent Central, February 16. < www.travelagentcentral.com/ocean-cruises/carnival-cruise-lines-adjusts-muster-drill-33701>

Shipboard Black Boxes

Like airplanes, modern cruise ships have black boxes that record critical information about the ship and conversations on the bridge. Following the *Costa Concordia* accident the captain reported the black box on the ship had been broken for more than two weeks; that he had notified the company and it had yet to be repaired or placed.[13] Without a black box there is limited objective data about the accident. Just as an airplane is likely not allowed to knowingly operate without an operating black box, the same should be legislated for cruise ships.

Crime Reporting

The data in Appendix B was received from the FBI in response to a Freedom of Information request. A similar request was made in 2011 for data after October 2008. The material returned in response was totally unhelpful. All useful information was redacted. As well, the FBI says they are not required to keep track of or report crimes committed on cruise ships unless they have opened a file of investigation and subsequently closed the file. That means that allegations of crime are no longer available for analysis (including crimes where the FBI has judged a sexual assault to be a "he said, she said" situation, and thefts of less than $10,000 given that these are not treated as worthy of prosecution). One obvious problem is that it is impossible to measure whether cruise ships are doing better or worse than the 2007-08 baseline. Another problem is that it is impossible to compare onboard crime rates with crimes on land. On land crime rates are based on the number of allegations; these can't reliably be compared to only the number of incidents opened for investigation and subsequently closed. While this absence of data may serve the interest of the cruise lines, which prefer incidence of crime to remain hidden, it is not in the interest of the public or in the spirit of the Cruise Vessel Security and Safety Act of 2010.

Unfortunately, the Cruise Vessel Security and Safety Act of 2010 (CVSSA) was amended from what was proposed to what was passed. Here is the text of the Act as introduced:

> (4) AVAILABILITY OF INCIDENT DATA VIA INTERNET-
> `(A) WEBSITE- The Secretary shall maintain, on an Internet site of the department in which the Coast Guard is operating, a numerical accounting of the missing persons and alleged crimes recorded in each report filed under paragraph (1)(A). The data shall be updated no less frequently than quarterly, aggregated by cruise line, and each cruise line shall be identified by name.
> `(B) ACCESS TO WEBSITE- Each cruise line taking on or discharging passengers in the United States shall include a link on its Internet website to the website maintained by the Secretary under subparagraph (A)

The Act as passed reads:

[13] Kenna, Armorel. 2012. 'Concordia Captain Says Black Box Wasn't Working, Repubblica Says, January 22. < http://www.bloomberg.com/news/2012-01-22/concordia-captain-says-black-box-wasn-t-working-repubblica-says.html> and Hoskins, Paul and Himanshu Ojha. 2012. "How the Cruise Ship Industry Sails Under the Radar," Reuters, January 24. < www.reuters.com/article/2012/01/24/uk-italy-ship-regulation-idUSLNE80N02M20120124>

(4) AVAILABILITY OF INCIDENT DATA VIA INTERNET-
'(A) WEBSITE- The Secretary shall maintain a statistical compilation of all incidents described in paragraph (3)(A)(i) on an Internet site that provides a numerical accounting of the missing persons and alleged crimes recorded in each report filed under paragraph (3)(A)(i) that are no longer under investigation by the Federal Bureau of Investigation. The data shall be updated no less frequently than quarterly, aggregated by cruise line, each cruise line shall be identified by name, and each crime shall be identified as to whether it was committed by a passenger or a crew member.
'(B) ACCESS TO WEBSITE- Each cruise line taking on or discharging passengers in the United States shall include a link on its Internet website to the website maintained by the Secretary under subparagraph (A).

The change was made in Committee before it was reported back to the full Congress and my understanding is that the sponsors of the bill missed this. As you can see, there is a huge difference between reporting alleged crimes versus reporting crimes no longer under investigation. I encourage the Committee to change the language back to the original so the public has accessible accurate information about crime onboard cruise ships, and so researchers have access to reliable data that can be used to accurately measure the industry's progress in dealing with crime.

Death on the High Seas Act (DOHSA)

Cruise ship passengers are treated differently than airline passengers under the *Death on the High Seas Act* (DOHSA) The Act, originally passed in 1920, presently does not allow non-pecuniary and punitive damages to families of someone who has died while at sea. These limits were deemed to be unfair in the context of aviation cases and were removed, but they were not changed for passenger ships. House Resolution 2989, introduced by Representative Doggett July 11, 2007, intended to correct this inconsistency, but it was not approved. Two bills were introduced in the 111th Congress, HR 5803 (Conyers and 26 co-sponsors) and S 3600 and S 3755 (Rockefeller/Schumer), but they also didn't go beyond Committee. Given the obvious unfairness that American citizens on cruise ships are treated different on a cruise ship than when traveling by airplane, I hope amendments to DOHSA are revisited.

II. Environmental Issues

Environmental issues and the cruise industry were brought to the forefront in the late 1990s after Royal Caribbean International was fined more than $30 million for illegal discharges into U.S. and Alaska state waters of oil, hazardous chemicals, and for making false statements to the U.S. Coast Guard. The incidents date back to the early 1990s.[14] The U.S. General Accounting Office subsequently reported in 2000 that between 1993 and 1998 the federal government confirmed 87

[14] See Klein, Ross A. 2002 *Cruise Ships Blues: The Underside of the Cruse Industry*, Gabriola Island, BC: New Society, pp. 88–89.

illegal discharges from cruise ships (81 involving oil, 6 involving garbage or plastic). Seventeen "other alleged incidents" were referred to the countries where the cruise ships were registered.[15]

It wasn't only Royal Caribbean. Holland America Line was fined $2 million in 1998 for pumping oily bilge into Alaska's Inside Passage, in addition to other violations,[16] Then in April 2002, Carnival Corporation entered a plea agreement, pleading guilty to numerous pollution incidents from 1996 through 2001 – discharging oily waste into the sea from their bilges by improperly using pollution prevention equipment and of falsifying the Oil Record Book on six ships to conceal its practices. Part of the plea agreement, in addition to an $18 million fine, was that the company was required to have environmental officers on all its ships; it was also required to file compliance reports with the court, which was later found to not comply with.

A few months later, in July 2002, Norwegian Cruise Line signed an agreement with the U.S. Department of Justice pleading guilty to having discharged oily bilge water for several years and to having falsified discharge logs. The company was fined $1 million and ordered to pay $500,000 toward environmental service projects in South Florida. Federal prosecutors considered the sentence lenient. There have been other fines since, but it is overkill to list them here.[17]

North American Emission Control Area

Governments have recently taken action to curtail air pollution from ships. The European Community issued Directive 2005/33/EC requiring all ships while in European ports to use fuel with sulfur content of 0.1 percent or less effective January 1, 2010. Six months later, provisions in Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL) regarding Sulfur Dioxide Emissions Control Areas (Baltic Sea, North Sea, and English Channel) placed a limit of 1.0 percent sulfur content; the limit reduces to 0.1 percent in 2015. Following developments in Europe, the U.S. and Canada partnered to establish the North America Emission Control Area (extending 200 miles from the coast), which was ratified by the International Maritime Organization on March 26, 2010.[18] It limits sulfur content in fuel to 1.0 percent effective August 1, 2012 and 0.1 percent by 2015.[19]

The cruise industry argued against the emission control areas (ECA) in Europe. It also voiced concern about increased fuel costs associated with the North American ECA and asked that consideration be given to "…alternative means, such as scrubbers, that ships could use to meet emissions goals, and to take a piecemeal, rather than blanket approach. 'The ECA area should be

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[15] See U.S. General Accounting Office. 2000. *Marine Pollution: Progress Made to Reduce Marine Pollution by Cruise Ships, But Important Issues Remain*, February. (Doc #GAO/RCED-00-48)

[16] See Klein, Ross A. 2009. *Getting a Grip on Cruise Ship Pollution*, Washington, DC: Friends of the Earth. See also Klein, Ross A. 2005. *Cruise Ship Squeeze: The New Pirates of the Seven Seas*, Gabriola Island, BC: New Society.

[17] See Klein, Ross A. 2008. Paradise Lost at Sea: Rethinking Cruise Vacations, Halifax, NS: Fernwood. Also see Pollution and Environmental Violations and Fines, 1992 – 2010 <www.cruisejunkie.com/evirofines.html>

[18] Lagan, Christopher. 2010. "IMO adopts 200-mile North American Emissions Control Area," Coast Guard Compass, March 26.

[19] See Klein, Ross A. 2011. "Responsible Cruise Tourism: Issues of Cruise Tourism and Sustainability," *Journal of Hospitality and Tourism Management*, 18, pp 107–116. See also Klein, Ross A. 2010. "The Cruise Sector and Its Environmental Impact," *Tourism and the Implications of Climate Change: Issues and Actions Bridging Tourism Theory and Practice Volume 3* (ed. Christian Schott), London:Emerald Group Publishing, pp. 113–130.

tuned to prioritize those areas where urgency exists and the greatest health and environmental benefits can be achieved.'"[20] Ironically, while saying they support the health and environmental goals behind the creation of the ECA, cruise industry associations questioned the research on which the regime is based and warned it could hurt the Canadian and North American cruise sector insofar as ships relocating elsewhere.

The North American Emission Control Area is an important step in dealing with air emissions from cruise ships. The U.S. needs to stand its ground under pressure from the cruise industry to delay implementation or to "water down" the measure. With air emissions from fuel dealt with, it is possible to now shift to other sources of pollution from cruise ships.

Regulation of Grey Water

Except for the Great Lakes, Maine, and Alaska, gray water was until 2009 largely unregulated. However, effective February 6, 2009, pursuant to a Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) Vessels General Permit issued by U.S. EPA (VGP), cruise ships must meet treatment standards for gray water as well as 25 other types of incidental vessel discharges – from ballast water to deck runoff. Operational limits in the permit prohibit the discharge of untreated gray water within one nautical mile (nm) of shore. Gray water discharges are only allowed within one nm if they meet specific effluent limits and can not be discharged in waters of marine sanctuaries, units of the National Park System, units of the National Wildlife Refuge System, National Wilderness areas, and national wild and scenic rivers system components. Discharges of untreated gray water are allowed between one nm and three nm of shore if the vessel is traveling at a speed of six knots or more. The EPA is proposing for 2013 extending the present grey water treatment standards (the same standards that currently exist in Alaska) for large ships out to three nautical miles. The extension is to be complemented and encouraged.

The VGP is a positive step. However, there is room for improvement because the VGP only regulates gray water out to three nautical miles. As indicated by the U.S. EPA, untreated gray water falls woefully short of National Recommended Water Quality Standards and the Title XIV Standard for Continuous Discharge in Alaska Waters, in particular for fecal coliform, chlorine, biological oxygen demand, suspended solids, ammonia, copper, nickel, zinc, and tretrachloroethylene.[21] This suggests the need for upgrading and regular testing of systems treating gray water, and for further extending the area in which gray water discharges are prohibited. As well, it is necessary to perform system inspection and monitoring more frequently than required in the NPDES VGP, which only requires annual inspection and evaluation by the U.S. Coast Guard or the ship's classification society.

[20] Steuk, Wendy. 2010. "Clean-fuel Rules May prompt Cruise Line to Bypass Canada, *Globe and Mail*, July 9. Page A4.

[21] See United States Environmental Protection Agency. 2008. *Cruise Ship Discharge Assessment Report*, Washington, DC: EPA. (Report #EPA842-R-07-005)

Regulation of Sewage

A cruise ship produces more than eight gallons of sewage per day per person. The cumulative amount per day for a ship such as Royal Caribbean's *Explorer of the Seas* (4,190 passengers and 1,360 crew) is more than 40,000 gallons; almost 300,000 gallons on a one-week cruise. These wastes contain harmful bacteria, pathogens, disease, viruses, intestinal parasites and harmful nutrients. If not adequately treated they can cause bacterial and viral contamination of fisheries and shellfish beds. In addition, nutrients in sewage, such as nitrogen and phosphorous, promote algal growth. Algae consume oxygen in the water that can be detrimental or lethal to fish and other aquatic life.[22]

Sewage from cruise ships is a critical problem, compounded by the fact that it is excluded from the Clean Water Act's (CWA) National Pollutant Discharge Elimination System (NPDES) permitting requirements and ignored beyond three nautical miles from shore. The Clean Water Act's provision for sewage discharges from vessels sets treatment standards that are inadequate, and now outdated, and does not require permits or reporting. Further, the discharge of untreated sewage from vessels in coastal waters beyond three miles is not regulated.

It is worth note that the U.S. is one of the few coastal nations in the developed world that has not signed Annex IV of the International Convention for the Prevention of Pollution from Ships (MARPOL). While its neighbors ban the discharge of treated sewage within four nautical miles of shore, and untreated sewage within twelve nautical miles of shore, the U.S. permits sewage treated with a Type II Marine Sanitation Device to be discharged between zero and three miles of shore, and untreated sewage to be discharged anywhere beyond three nautical miles. This anomaly in national regulations around the world has led a number of jurisdictions to request the EPA for "no discharge areas" within three miles of shore (such as Maine, New Hampshire, Michigan, Rhode Island and California), has led to state legislation (as in the case of California and Alaska), and has made necessary Memoranda of Understanding in other jurisdictions (such as Washington).

Sewage Treatment

Marine Sanitation Devices. Sewage from a cruise ship traditionally has been treated by a Type II marine sanitation device (MSD). Under Section 312 of the U.S. Clean Water Act, commercial and recreational vessels (including cruise ships) with installed toilets are required to have a MSD. Type II MSDs are the most common type of wastewater treatment systems on cruise ships and consist of flow-through devices that break up and chemically or biologically disinfect waste before discharge. Within three nautical miles of shore vessels must treat sewage with an approved Type II MSD prior to discharge. Beyond three nautical miles, discharge of raw sewage is allowed. The U.S. Environmental Protection Agency's (EPA) regulations governing MSDs have not been updated since they were instituted in 1976.

[22] See United States Environmental Protection Agency. 2008. *Cruise Ship Discharge Assessment Report*, Washington, DC: EPA. (Report #EPA842-R-07-005)

Type II MSDs are supposed to produce effluent containing no more than 200 fecal coliform for 100 milliliters and no more 150 milligrams per liter of suspended solids.[23] Whether MSDs achieve that standard was called into question in 2000 when the state of Alaska found that 79 of 80 samples from cruise ships were out of compliance with the standard. According to the Juneau port commander for the Coast Guard, the results were so extreme that it might be necessary to consider possible design flaws and capacity issues with the Coast Guard-approved treatment systems.[24] A 2008 report from the U.S. EPA suggests problems identified in 2000 with MSDs continue today.

Advanced Wastewater Treatment Systems (AWTS). The cruise industry in recent years has adopted the use of AWTS (an advanced form of Type II Marine Sanitation Device) on many ships – most often ships visiting Alaska's Inside Passage where such systems are required for continuous discharge in state waters. A ship with an AWTS avoids the need to travel outside Alaska state waters to discharge treated sewage. Installation of AWTS for ships visiting other waters with less stringent or no regulations has been at a much slower pace. For example, Carnival Corporation (which includes Carnival Cruise Lines, Holland America Lines, and Princess Cruises) had AWTS installed on slightly less than one half of its fleet at the end of 2008. But Carnival Cruise Lines, which sends only one ship to Alaska per season, has installed an AWTS on only one of its twenty-three ships. The corporation's spokesperson says they try to make sure AWTS are included on ships that go to Alaska and to other sensitive areas.

AWTS are a vast improvement over MSDs — yielding what the industry refers to as drinking-water quality effluent. However this terminology must be treated with skepticism. Such water cannot be recycled for onboard human consumption nor can it be used in the laundry because sheets and towels apparently turn gray. Both the EPA and Alaska have found that even the best systems still had difficulty with a number of constituents. A key problem is the AWTS do not adequately address nutrient loading, which means they pose similar problems as MSDs with regard to nitrogen and phosphorous. In addition, tests in Alaska have shown levels of copper, nickel, zinc, and ammonia that are higher than the state's water quality standards. The EPA has also found that AWTS exceed permitted concentrations of chlorine and tetrachlorethylene. As a result, 12 of 20 (60%) ships permitted to discharge in Alaska waters violated discharge limits in 2008, logging 45 violations involving 7 pollutants. These include ammonia, biological oxygen demand, chlorine, copper, fecal coliform, pH, and zinc. The year 2009 was even worse, with 13 of 18 (72%) ships permitted to discharge in Alaskan waters violating Alaska discharge limits during the season, racking up 66 violations involving 9 pollutants. Comparable data is not available for 2010 or 2011; the state lowered its limits for waste from AWTS under pressure from the industry, so there is no way to reliably measure improvement by publicly available data. It is noteworthy that nearly 30 percent of ships discharging in Alaska in 2008 and 2009 were able to meet the water quality standards.[25]

[23] 33 C.F.R. § 159.3 (2008); 40 C.F.R. § 140.3(d) (2008).
[24] See McAllister, Bill. 2000. "A Big Violation on Wastewater: Some Ship Readings 100,000 Times Allowed Amount," The Juneau Empire, August 27 <www.juneauempire.com/stories/082700/Loc_wastewater.html>
[25] See Klein, Ross A. 2009. *Getting a Grip on Cruise Ship Pollution*, Washington, DC: Friends of the Earth.

Sewage Sludge. Most Type II MSDs and AWTS filter solids from sewage as part of treatment. This yields on average 4,000 gallons of sewage sludge per day;[26] cumulatively, it adds up quickly. It is estimated that 4.2 million gallons of sewage sludge are produced every year by ships as they pass through Washington State waters on their way to Alaska[27] – this is small compared to what cruise ships generate outside Washington state waters. In some cases (about one in sixteen ships with an AWTS), sewage sludge is dewatered and then incinerated. In other cases sludge is dumped at sea. Most jurisdictions permit sludge to be dumped within three miles of shore; in California a ship must be beyond three miles from shore and in Washington beyond twelve miles. In either case, these sludges have a high oxygen demand and are detrimental to sea life. Sewage sludge poses the same problem as sewage, but in a more concentrated form.

A report issued in August 2003 by the California Environmental Protection Agency and the California State Water Resources Control Board said "it found 'particularly troubling' the discharging of sludge twelve miles out to sea."[28] This concern is in stark contrast to regulations elsewhere that define sewage sludge as treated sewage and permit its discharge within three miles of the U.S. shoreline. The need for minimum regulations applicable to the entire U.S. coastline is obvious.

One option is to require sewage sludge to be dewatered and incinerated onboard, however incineration creates an air quality problem and the ash must be disposed of somewhere. Dumping the ash overboard raises new problems. Another option is to require sewage sludge to be held onboard and offloaded for treatment in port. Washington State has in recent years explored the commercial use and value of sewage sludge as a fertilizer, but no clear plans have yet been made.[29] Clearly, a workable solution to the huge volume of sludge being dumped into the waters of the U.S. – 28,000 gallons per week on an average-sized cruise ship – must be identified and implemented.

Incinerators

Cruise ships incinerate and burn a variety of wastes, including hazardous wastes, oil, oily sludge, sewage sludge, medical and bio-hazardous waste, outdated pharmaceuticals, and other solid wastes such as plastics, paper, metal, glass, and food.[30] A cruise ship may burn 1 to 2.5 tons per day of oily sludge in these incinerators and boilers.[31] The emissions from onboard incineration and its ash can include furans and dioxins, both found to be carcinogenic, as well as nitrogen

[26] National Marine Sanctuaries. 2008. Olympic Coast Marine Sanctuary: Condition Report 2008, Washington, DC: NOAA. p. 43
[27] King County Wastewater Treatment Division. 2007. Cruise Ship Wastewater Management Report. Seattle: Department of Natural Resources and Parks
[28] Weiss, Ken. 2003. "Cruise Line Pollution Prompts Legislation," *Los Angeles Times*, August 18. Also see: *Report to the Legislature: Regulation of Large Passenger Vessels in California*, Cruise Environmental Task Force, August 2003 <www.swrcb.ca.gov/publications_forms/publications/legislative/docs/2003/cruiseshiplegrpt.pdf>
[29] See Port of Seattle. 2008. *Cruise Vessel Biomass Management Study, Phase 1A (Draft): Data Compilation and Initial Assessment*, Port of Seattle, Nov. 18.
[30] California Cruise Ship Environmental Task Force. 2003. *Report to the Legislature: Regulation of Large Passenger Vessels in California*, August, p. 54
[31] California Cruise Ship Environmental Task Force. 2003. *Report to the Legislature: Regulation of Large Passenger Vessels in California*, August, p. 56

oxide, sulfur oxide, carbon monoxide, carbon dioxide, particulate matter, hydrogen chloride, toxic and heavy metals such as lead, cadmium and mercury, and hydrocarbons.[32]

In contrast to incinerator use on land, which is likely to be strictly monitored and regulated, incinerators at sea operate with few limits. MARPOL Annex VI bans incineration of certain particularly harmful substances, including contaminated packaging materials and polychlorinated biphenyls (PCBs). There are no national standards limiting emissions from ship incineration.

The State of California has established that air emissions from incineration, generated between 27 and 102 miles off the coast, could negatively impact the air quality of the state.[33] The state initially introduced legislation in 2003 to prohibit ships from using onboard waste incinerators while within 20 miles of the coast, but subsequently passed legislation applicable only to waters over which the state had jurisdiction. The final California law prohibits incinerator use when a ship is within three miles of the coast.

Clear parameters are needed for operational requirements for onboard incinerators, much like on land. In addition, it is wise to do as California has done and ban the use of incinerators within a specific distance from the coast. Any such law must take into account the potential for onshore winds and ocean currents to move incinerator pollutants on-shore.

Solid Waste

A cruise ship produces a large volume of non-hazardous solid waste. This includes huge volumes of plastic, paper, wood, cardboard, food waste, cans, glass, and the variety of other wastes disposed of by passengers. It was estimated in the 1990s that each passenger accounted for 3.5 kilograms of solid waste per day. With better attention to waste reduction this volume in recent years has been cut nearly in half. But the amount is still significant, more than eight tons in a week from a moderate sized cruise ship. Twenty-four percent of the solid waste produced by vessels worldwide comes from cruise ships.[34] Glass and aluminum are increasingly held onboard and landed ashore for recycling, but only when the itinerary includes a port with reception facilities.

Food and other waste not easily incinerated is ground or macerated and discharged into the sea. These "… food waste can contribute to increases in biological oxygen demand, chemical oxygen demand, and total organic carbon, diminish water and sediment quality, adversely effect marine biota, increase turbidity, and elevate nutrient levels."[35] They may be detrimental to fish digestion and health and cause nutrient pollution.[36] An additional problem with discharging food waste at sea is the inadvertent discharge of plastics. Under MARPOL, 38 throwing plastic into the ocean

[32] Bluewater Network's EPA petition on cruise ship incineration, April 2000.
[33] California Cruise Ship Environmental Task Force. 2003. Report to the Legislature: Regulation of Large Passenger Vessels in California, August, p. 66
[34] Copeland, Claudia. 2008. Cruise Ship Pollution: Background, Laws and Regulations, and Key Issues. Washington, DC: Congressional Research Service (Report #RL32450)
[35] United States Environmental Protection Agency. 2008. Cruise Ship Discharge Assessment Report, Washington, DC: Environmental Protection Agency (Report #EPA842-R-07-005), p. 5-11
[36] See John Polglaze. 2003. "Can We Always Ignore Ship-Generated Food Waste," Marine Pollution Bulletin 46:1, pp. 33-38

is strictly prohibited everywhere. Plastic poses an immediate risk to sea life that might ingest or get caught in it. It poses a longer-term risk as it degrades over time, breaking down into smaller and smaller pieces, but retaining its original molecular composition. The result is a great amount of fine plastic sand that resembles food to many creatures. Unfortunately, the plastic cannot be digested, so sea birds or fish can eventually starve to death with a stomach full of plastic.[37]

Solid waste and some plastics are incinerated on board, with the incinerator ash being dumped into the ocean. Incinerator ash and the resulting air emissions can contain furans and dioxins, both found to be carcinogenic, as well as heavy metal and other toxic residues. For this reason Annex V of MARPOL recommends, but does not require, that ash from incineration of certain plastics not be discharged into the sea.[38] At the very least, incinerator ash should be tested before each overboard discharge. This would include analysis and accounting of the contaminants typically found in cruise ship incinerator ash to determine whether it should be categorized as solid waste or hazardous waste.

Under MARPOL 44 and U.S. law,[39] no garbage can be discharged within three miles of shore. Between three and twelve miles garbage can be discharged if ground-up and capable of passing through a one-inch screen. If not ground-up and capable of passing through a screen, most food waste and other garbage can be discharged at sea when a ship is more than twelve miles from shore.

Although cruise ships have reduced their volume of solid waste, the total amount is still significant. Royal Caribbean's stated commitment in 2003 to not dump any trash overboard is admirable and should set a standard for all cruise ships operating from U.S. ports and in U.S. waters. If it is achievable by Royal Caribbean, then there is no reason why it is not practical for all cruise lines. This should be incorporated in legislation in order to ensure cruise ships can be held accountable for any unnecessary dumping of solid waste in the waters of the U.S.

Oily Bilge

A typical large cruise ship will generate an average of eight metric tons of oily bilge water for each twenty-four hours of operation;[40] according to Royal Caribbean's 1998 Environmental Report its ships produce an average 25,000 gallons of oily bilge water on a one week voyage. This water collects in the bottom of a vessel's hull from condensation, water lubricated shaft seals, propulsion system cooling and other engine room sources. It contains fuel, oil, wastewater from engines and other machinery, and may also include solid wastes such as rags, metal shavings, paint, glass, and cleaning agents.

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[37] Reid, David. 2007. "Earth's Eighth Continent." The Tyee Nov. 21. <thetyee.ca/News/2007/11/21/PacificGarbagePatch/>

[38] See MARPOL Annex V, Appendix B, Section 5.4.6.2, referenced in United States Environmental Protection Agency. 2008. Cruise Ship Discharge Assessment Report, Washington, DC: Environmental Protection Agency (Report #EPA842-R-07-005), p. 5-12

[39] See 33 C.F.R. parts 151.63, 151.65, 151.67, 151.69, 151.71, 151.73,

[40] National Research Council. 1995. Clean Ships, Clean Ports, Clean Oceans: Controlling Garbage and Plastic Wastes at Sea. Washington, DC: National Academy Press.

The risks posed to fish and marine organisms by oil and other elements in bilge water are great. In even minute concentrations oil can kill fish or have numerous sub-lethal effects such as changes in heart and respiratory rates, enlarged livers, reduced growth, fin erosion, and various biochemical and cellular changes.[41] Research also finds that by-products from the biological breakdown of petroleum products can harm fish and wildlife and pose threats to human health if these fish and wildlife are ingested.

Oily bilge water in U.S. waters is regulated by the Clean Water Act. The Act prohibits the discharge of oil or hazardous substances, in such quantities as may be harmful within 200 miles of the coast. In addition, Coast Guard regulations specifically prohibit discharges within 12 nautical miles of shore unless it has been passed through a fifteen parts per million (ppm) oily water separator and does not cause a visible sheen.[42] The NPDES VGP reinforces the 15 ppm standard and it requires large vessels (over 400 gross tons) to discharge oily bilge beyond 1 nautical mile from shore if the vessel is underway and the discharge is technologically feasible and safe. Beyond 12 nautical miles, oil or oily mixtures can be discharged while a vessel is proceeding en route so long as the undiluted oil content is less than 100 ppm. The oil extracted by the separator can be reused, incinerated, and/or offloaded in port. Vessels are required to document the disposal of oil, oily bilge water or oily residues in an Oil Record Book.[43]

To address the deleterious effect of oil to marine life, even in minute quantities, the discharge of oily bilge water should be prohibited in sensitive areas and in coastal zones out to 12 nautical miles. Additionally, consistent minimum water quality standards for oily bilge should be set across all waters under U.S. control either at the Coast Guard's current level of 15ppm or as low as 5 ppm. The reduction to 5 ppm is achievable.[44]

Patchwork of Regulations and the Clean Cruise Ship Act

There is a patchwork of different regulations in the U.S. Cruise ships are permitted to legally discharge waste in one place but not another. On the west coast for example, enforceable regulations have had a positive effect in Alaska, Washington, and California, but leave open for greater environmental harm in neighboring jurisdictions such as Oregon and British Columbia. In fact, British Columbia is a good illustration of the problem with a patchwork approach. In some circles it is referred to as the toilet bowl of the Alaska cruise industry. This is because a ship may not discharge wastes in certain areas in Washington State (such as sewage sludge, untreated gray water, and sewage treated with a MSD) and it is restricted in the waste permitted for discharge in Alaska, but it can discharge those same wastes in Canada. The reason is weaker Canadian regulations (except for sewage) and Canada's failure to enforce the regulations it has.

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[41] Copeland, Claudia. 2008. Cruise Ship Pollution: Background, Laws and Regulations, and Key Issues. Washington, DC: Congressional Research Service (Report #RL32450), November 17, p. CRS-5

[42] See 33 C.F.R. §151.10.

[43] Copeland, Claudia. 2008. Cruise Ship Pollution: Background, Laws and Regulations, and Key Issues. Washington, DC: Congressional Research Service (Report #RL32450), November 17, p. CRS-14

[44] An example of current technology that demonstrates the achievability of 5 ppm is a system manufactured by North Carolina-based EnSolve Biosystems. The company's PetroLiminator oily water separator "is a green technology that consistently achieves effluent levels of less than 5 parts per million (PPM)." See "EnSolve Biosystems Launches Operating Cost Guarantee Program For Bilge Water Treatment Program ," EnSolve Biosystems Inc. News, Volume 1, Issue 1, October 2008.

The same scenario operates on the east coast where gray water cannot be discharged in the waters of Maine, but can be discharged in the waters of Canada, and until the extension of the NPDES comes into effect every other coastal state.

Inconsistent regulations permit the cruise industry to argue that it meets or exceeds all environmental regulations while at the same time showing relatively different regard for environmental protection from one place to the next. These differences are even seen in the fuel ships use. It was reported in 2007 that when Holland America Line's *Zaandam* operated on the west coast of North America (British Columbia and Alaska) it used fuel with a sulfur content of about 1.8 percent; while operating during the winter months in the Caribbean the sulfur content was as much as 3 percent.[45] The North American Emission Control Area addresses this problem directly.

These variations raise to the forefront the need for comprehensive, minimum national regulations that maintain uniformly high standards for protection of the marine environment. One approach was the *Clean Cruise Ship Act of 2008* (CCSA) sponsored by Durbin in the Senate (S 2881) and Farr with 20 cosponsors in the House of Representatives (HR 6434). This was the third session of Congress in which this legislation was introduced. In the 109th Congress Farr had 47 cosponsors; Durbin had 5 cosponsors, and in the 108th Congress there were 42 cosponsors in the House and 9 cosponsors in the Senate. Key provisions of the CCSA include:

- Prohibits the discharge of sewage, graywater, and bilge water out to 12 miles and in nodischarge zones such as marine protected areas;

- Prohibits the discharge of sewage sludge, incinerator ash, and hazardous waste within 200 miles of the U.S. coastline. Sludge, incinerator ash, and hazardous waste must be offloaded at an appropriate land-based facility;

- Requires EPA to establish effluent standards for sewage, graywater, and bilge water discharges from 12 to 200 miles. These effluent limits must be consistent with best available technology. The ship must be traveling at not less than 6 knots;

- Establishes a monitoring, sampling, reporting and inspection program with unannounced annual inspections and samples;

- Establishes an observer program for monitoring discharges (one observer per ship), similar to the "Ocean Ranger" program in Alaska;

- Establishes the Cruise Vessel Pollution Control Fund to carry out the programs in the Act. The fund is comprised of reasonable and appropriate fees collected from cruise vessels for each paying passenger. This, too, is modeled after how Alaska pays for its monitoring and enforcement program.

[45] Montgomery, Christina. 2007. "Setting Out to Sea in an Eco-Friendly Ship." *The Province*, May 31.

III. Medical Care and Illness

International maritime law surprisingly does not require a cruise ship to provide medical services. The only legal requirement is under the Standards of Training, Certification and Watchkeeping for Seafarers (SCTW) Convention, which requires certain crew members to have various levels of first aid and medical training. Regardless, all modern cruise ships maintain an infirmary. Those dispensing medical care are concessionaires for whose actions the cruise line assumes no liability. Their precise qualifications can vary widely. Some small cruise ships may have a nurse but no doctor. Some large ships have two physicians as well as two or more nurses.

In 1996, the International Council of Cruise Lines (ICCL) adopted industry guidelines for medical facilities and personnel on cruise ships. The guidelines were a response to pressure from the American Medical Association (AMA) which had that year called on the U.S. Congress for the development of medical standards for cruise ships. Based on a number of cases of disease, including a recent outbreak of gastroenteritis on Carnival Cruise Line's *Jubilee* in which 150 passengers became ill and one person died, the AMA also called for greater awareness of the limited medical services available aboard ships. The AMA position was supported by a survey administered by two Florida doctors to eleven cruise lines.

> [T]he doctors found that 27 percent of doctors and nurses did not have advanced training in treating victims of heart attacks, the leading killer on ships, and 54 percent of doctors and 72 percent of nurses lacked advanced training for dealing with trauma. Fewer than half of shipboard doctors – 45 percent – had board certification, an important credential that is granted after three to seven years of residency and a written examination in a specialty or its equivalent ... As for equipment, the survey found that 63 percent of ships did not have equipment for blood tests for diagnosing heart attacks, and 45 percent did not have mechanical ventilators or external pacemakers. "What we found was that the quality of maritime medical care was less than adequate, from the medical facilities to nurse and physician credentials..."[46]

The American Medical Association has continued to lobby for government regulation of health care on cruise ships, but with no success.

Some have suggested that Section 3507 (d) (3) of the *Cruise Vessel Security and Safety Act of 2010* addresses this matter. The section states that in the case of a sexual assault the owner of a vessel to which the section applies shall make available on the vessel at all times medical staff who have undergone a credentialing process to verify that he or she—

> (A) possesses a current physician's or registered nurse's license and—
>
> (i) has at least 3 years of post-graduate or postregistration clinical practice in general and emergency medicine; or
>
> (ii) holds board certification in emergency medicine, family practice medicine, or internal medicine;

[46] Frantz, Douglas. 1999. "Getting Sick on the High Seas: A Question of Accountability," *New York Times*, October 31.

(B) is able to provide assistance in the event of an alleged sexual assault, has received training in conducting forensic sexual assault examination, and is able to promptly perform such an examination upon request and provide proper medical treatment of a victim, including administration of anti-retroviral medications and other medications that may prevent the transmission of human immunodeficiency virus and other sexually transmitted diseases; and
(C) meets guidelines established by the American College of Emergency Physicians relating to the treatment and care of victims of sexual assault.

While this section requires a doctor or nurse to be onboard for the treatment of a victim of sexual assault, it does not dictate where the person has received their training, license, and board certification, so there can still be wide variation in the nature and quality of care (the original proposals made by the International Cruise Victims Association were that these personnel be board certified in the U.S.). In addition, the American College of Emergency Physicians' guidelines are general enough that they provide little assurance, especially given that they are not easily transferable to the setting of a cruise ship.[47] It is relatively easy to comply with this section of the Act, however there is less protection to victims than is apparent at first blush.

Malpractice and Liability

No doubt there are cases of malpractice on cruise ships. Most Americans and Canadians assume they have the same rights and the same protections as they would on land when something happens. But that is not the case. Even though a physician wears the uniform of a senior-ranked officer, is introduced to passengers onboard as the ship's physician (implying he, like the Captain, is an employee of the cruise line), and like other senior officers may host a dinner table for invited guests, the cruise lines without exception say the physician is a private concessionaire and as such the cruise line accepts no liability for mistakes made. It is a hard concept to get one's head around given that the service is offered by the cruise ship and the cruise ship collects the fees, but one that was supported by the Florida Supreme Court in February 2007 and by the U.S. Supreme Court in October 2007.

The case began ten years before in March 1997. Fourteen-year-old Elizabeth Carlisle was on a Caribbean cruise on *Carnival Destiny* with her family. On the second night out of Miami she developed severe abdominal pain. She consulted the ship's physician, Dr. Mauro Neri – he had finished medical school in his native Italy in 1981, had held nine medical jobs in Italy, Africa, and England in the fifteen years before joining Carnival Cruise Lines and was earning $1,057 a month from the cruise line. Dr. Neri advised that Elizabeth was suffering from the flu and sent her on her way. But her pain became worse. On the third visit to the infirmary, after Elizabeth's parents specifically asked whether the problem could be appendicitis, Dr. Neri conducted his first physical exam. He responded that he was sure the problem was not the girl's appendix.

When the pain continued to grow worse Elizabeth's parents called their family physician in Michigan and he advised they return home. The family took the advice and shortly after arriving home Elizabeth underwent emergency surgery to remove her ruptured appendix. The infection

[47] See American College of Emergency Physicians. 2012. Policy Compendium, 2012 Edition. Dallas, TX: ACEP. Pages 124-125. <www.acep.org>

had rendered the fourteen-year-old sterile and caused lifelong medical problems. Elizabeth sued Carnival Cruise Lines in Florida state court, a case she lost on Carnival's motion for summary judgment. The cruise line claimed it was not responsible for the medical negligence of the doctor on board and pointed to the fine print in the passenger cruise contract to support its position.

The family appealed the Circuit Court's decision to Florida's Third District Court of Appeal where the parents argued the cruise line was vicariously liable for the doctor's negligence. Judge Joseph Nesbitt agreed and reversed the lower court's decision. The judge held that the cruise line had control over the doctor's medical services for agency law purposes; the doctor was to provide medical services to passengers and crew in accordance with the cruise line's guidelines. And as it was foreseeable that some passengers at sea would develop medical problems (and that the only realistic alternative for such a passenger was treatment by the ship's doctor) the cruise line had an element of control over the doctor-patient relationship. As such, the cruise line's duty to exercise reasonable care under the circumstances extended to the actions of a ship's doctor placed on board by the cruise line. The doctor was an agent of the cruise line whose negligence was imputed to the cruise line. This invalidated the cruise ticket's purported limitation of the cruise line's liability for the negligence of its agents.

Judge Nesbitt's decision was groundbreaking. It was likely the very first case where a cruise line was held responsible for the care provided by a ship's physician. Not surprisingly, Carnival appealed the case to the Florida Supreme Court. While the court almost agreed with the lower court's assertion that times had changed and that a doctor's negligence at sea also shows negligence by the cruise line, it ultimately found in favor of Carnival. Justice Peggy Quince wrote in her opinion,

> We find merit in the plaintiff's argument and the reasoning of the district court. However, because this is a maritime case, this Court and the Florida district courts of appeal must adhere to the federal principles of harmony and uniformity when applying federal maritime law.[48]

The case was appealed to the U.S. Supreme Court and the court refused to hear it. The Florida Supreme Court's decision was the final word. If the Carlisle family wanted to pursue the case they would have to sue the physician directly. But this is difficult in their case, and in most involving medical malpractice on cruise ships, given that they'd first have to locate the physician in his or her present home, something with which cruise lines historically have not provided assistance. Malpractice cases involving treatment in international waters must be filed in the courts of the physician's country of origin, which is both difficult and expensive.[49]

The bottom line is that cruise lines escape liability for the medical errors committed (on a daily basis) of its employed staff and it's independent contractor staff/doctors. The decisions are all based on a relatively old 5th Circuit Court case, Barbetta.[50] The court in Barbetta said that the cruise line is not in the business of providing medical care and that the passenger has alternatives. Neither is correct. The cruise lines are in the business of providing medical care

[48] Supreme Court of Florida. 2007. *Carnival Corporation vs. Darce Carlisle*, Case No. SC 04-393, February 15.
[49] Chen, Stephanie. 2007. "Trouble at Sea: Free-Agent Doctors," *Wall Street Journal*, October 24.
[50] See *Barbetta v. S/S Bermuda Star*, 848 F.2d 1364 (5th Cir. 1998)

because (1) they attract passengers by representing that they have medical staff onboard, and (2) by having onboard medical care they avoid the obligation of diverting the course of the vessel every time there is a medical situation onboard. The passenger has no alternative for medical care when the vessel is at sea and the passenger gets sick or injured. Even when the ship is at or near port, the port is usually in a developing world country with developing world medical care. Cruise lines know that an overwhelming majority of their business is from Americans who expect and deserve first world medical care.

It is worth noting here that emergency medical evacuations from cruise ships are not uncommon. Here again we have the U.S. taxpayer often footing the bill for these endeavors, supporting a cruise industry that doesn't fall under many U.S. laws and regulations and that does not pay corporate income tax to the U.S. Government.

Norovirus and Other Illness Outbreaks

The complexion of illnesses found on cruise ships has shifted over the past two decades. In the 1980s and 1990s outbreaks were commonly caused by food borne bacteria such as shigella, salmonella and E coli, but these gave way to norovirus as it increased in incidence in 2001. Also in 2001 the Food Standards Agency in the United Kingdom announced that it would give health officials the statutory right to enter and inspect cruise ships (similar to the Vessel Sanitation Program in the United States). It was reacting to a report from the Consumers' Association which indicated an increase of food poisoning cases among cruise ship passengers. The Consumers' Association had received complaints about fourteen ships in 2000 and 2001, with illnesses ranging from salmonella poisoning to the potentially fatal Legionnaires' disease.[51]

With better food processing and refrigeration, and more careful testing and treatment of drinking water loaded from shore, incidents caused by bacteria have reduced significantly. In fact, from 2002 through 2011 there are only four known outbreaks caused by salmonella and seven caused by E coli. There were four reports of Legionnaires' disease during the same 9 year period.[52] During the same time there were 378 outbreaks involving norovirus, plus another nine in 2012.

As bacteria-caused illness has decreased, the incidence of illness caused by norovirus increased significantly. Between 1999 and 2001, there were four or five illness outbreaks per year on cruise ships recorded by the U.S. Centers for Disease Control (CDC) that were attributed to norovirus (to be considered an outbreak, three percent of passengers or two percent of crew members must report illness). In 2002, the CDC's reported numbers jumped to twenty-nine illness outbreaks (most of which were caused by norovirus); in total there were forty-four cases of gastrointestinal illness reported on cruise ships in 2002. The CDC's rate of outbreaks increased from 0.65 per 1000 cruises in 2001 to 6.45 per 1000 cruises in 2002 – a ten-fold increase.[53] The number of outbreaks has fluctuated since 2002 with a high of fifty-four in 2006 and a low of twenty-three in 2011. The number of passengers reporting ill has ranged from a low of 1,970 in a year to 7,215. Thus far in 2012, 1,725 passengers and crew have reported illness.

[51] Gadher, Dipesh. 2001. "Cruise Liners Face Tougher Hygiene Tests," *Sunday Times*, May 6.
[52] See www.cruisejunkie.com/outbreaks2012.html, and other years listed.
[5353] Cramer, Elaine H., David X. Gu, and Randy E. Durbin. 2003. "Diarreal Disease on Cruise Ships, 1990-2000," *American Journal of Preventive Medicine* 24, 3 (April).

While the industry, since 2002, has characterized norovirus as something passengers bring onboard with them, this is not entirely accurate.[54] Rather than debate this point there are two points to be made here.

First, a cruise ship is a perfect incubator for the spread of norovirus and once it takes hold it is difficult to eradicate. A common practice is that crew members reporting ill are taken off work (often two days) while they are symptomatic, however this is contraindicated given that the virus continues to be shed (and thus a person is potentially contagious) for up to two weeks. Because crew members are often not paid when they are off work, there is an obvious disincentive to report when they are ill, increasing the likelihood that the virus will be transmitted to others (NB: the virus follows a fecal-oral route and is most commonly transmitted by poor personal hygiene: people not washing their hands after using the toilet). This needs to be confronted in a more vigilant manner.

Second, most passengers learn that if they report being ill they will be quarantined to their cabin until they are asymptomatic – reportedly a very unpleasant experience. As a result, there are many cases where ill passengers do not report their illness in order to avoid being quarantined. In other words, there is a disincentive to behaving in ways that minimize the spread of the disease. These disincentives need to be removed. As well, the cruise lines can do a better job of educating passengers about the nature of norovirus and steps to be taken to avoid contracting the illness, and its spread if one becomes ill. Rather than engaging in media campaigns that attempt to state how common the illness is and that it isn't a cruise ship virus, the industry can do a better job of accepting the illness as a problem they must deal with and confront norovirus as a problem that manifests itself on cruise ships (as is the case in many institutional settings).

Potable water

While I don't wish to raise alarm, it is necessary to raise one other health concern because it gives some insight into how problems may be dealt with by the cruise industry. This is concern based on a case about which there is incomplete information (it has been sealed by the British courts), about which those involved are not permitted to comment for fear of fine or incarceration and about which the lack of transparency suggests there is a real basis for fear. Information available in October 2005 at <www.logacomplaint.com> provided a body of information about toxicity in potable water aboard certain cruise ships. But that material disappeared, as has all information about the case that followed (the case, Hempel A/S v B Bradford [2006] EWHC 2528*,* is cited at the website of the attorney for the industry, but otherwise no information may be found anywhere).

Gleaning from what was on the website, and from recent appeals filed with the High Court of Justice in the UK and European Court of Human Rights, we can extrapolate that a paint coating used in potable water tanks on a series of cruise ships built in Pappenburg, Germany (at least four ships owned by two major companies serving North America and Europe, but perhaps as many as 50) was found to be defective. It could purportedly break down and potentially release toxins

[54] For a fuller discussion of the causes of norovirus and how the industry has characterized the illness and its response see Klein, Ross A. 2008. *Paradise Lost at Sea: Rethinking Cruise Vacations*, Halifax, NS: Fernwood.

(acrylonitrile, a known carcinogen) into the water system of these vessels. The problem was apparently discovered and repairs undertaken. Drinking water on these ships could not be certified as safe until repairs were completed.

Rather than take the ships out of service for proper repair, the work was done while ships were in service with passengers and crew onboard. The work required sanding the interior surface of water tanks and then applying a new, safe coating. If done properly, repairs would also address contamination that had already occurred and was now part of the water delivery system. Regardless, while the problem coating was being "solved", the repair may have itself produced another set of problems. There is no certainty that fine dust produced from sanding potable water tanks did not make its way into other areas of the ship, including air ventilation and food preparation areas. On one ship the fine dust clogged vent pipes that allowed air to escape as water tanks were filled, creating a serious and dangerous situation when one of the tanks was put back into use.

The lack of transparency about the case, and the way in which the information has been sealed from public knowledge, gives good reason for a passenger on any cruise ship to be cautious. The purportedly defective paint coating was manufactured by a large-scale provider (Hempel A/S) to shipyards building cruise ships and it is hard to know, without adequate testing for chemical contamination, on which ships there is reason for concern. This isn't a matter of opinion or conjecture – there are apparently affidavits admitting to the problem of toxicity, but these too are sealed. The cruise lines involved suggest there was never any danger to passengers and crew, and that the problem has been fully ameliorated. However, given the effective silencing of Mr. Bradford and the information he had, it is difficult to be confident in those assurances.[55]

IV. Labor Issues

Workers on foreign flag vessels generally work without union protection and their pay is determined by the employer. They may even have to accept arbitrary cuts in pay in order to keep their jobs. In the view of Paul Chapman, a Baptist minister who founded the Centre for Seafarer's Rights in New York in 1981, the typical cruise ship is a sweatshop at sea. "A ship owner can go any place in the world, pick up anybody he wants, on almost any terms. If the owner wants to maximize profit at the expense of people, it's a piece of cake."[56] Though the requirement to pay minimum wage was extended to ships registered in the United States in 1961, Congress left intact the exemption for foreign ships. This exemption was further defined in a 1963 Supreme Court decision that held that U.S. labour laws, including the right to organize, do not apply to foreign vessels engaged in American commerce, even if the owners of these ships are from the United States. This is the context in which the modern cruise ship industry developed and took hold. Foreign labour, whose first language is not English, may be a factor in cruise ship safety and security, especially in an emergency situation.

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[55] See Foggo, Daniel. 2011. "Gag Hid Cancer Threat to Cruise Ship Passengers," *Sunday Times*, November 13. Page 4

[56] Reynolds, Christopher and Dan Weikel. 2000 "For Cruise Ship Workers, Voyages Are No Vacations," *Los Angeles Times*, May 30.

U.S. Congressional Interest

Working conditions on cruise ships emerged as a momentary concern in late 1980s and early 1990s. William Clay, Chairman of the House Labor-Management Subcommittee of the Education and Labor Committee of the House of Representatives introduced legislation to extend the National Labor Relations Act (NLRA) and the Fair Labor Standards Act (FLSA) to vessels foreign-flagged cruise ships operating primarily in the United States.[57] At hearings in October 1989, the Committee was told of exploitation of sailors, who had no redress for grievances about their working conditions. Reverend James Lingren, the Director of the New England Seaman's Mission, specifically described conditions in the cruise ship industry:

> We have discovered that on several of the largest cruise ship lines calling in U.S. ports a typical seafarer works 100 hours each week with no days off during his one year of employment. Many of them work without benefit of anything resembling a true contract of employment. They often earn less than 75 cents an hour … I personally saw the contract of ... [a] seafarer who signed for $192 a month to work for seven days a week for one year. He was to be paid overtime for any hours over eight hours a day, and while he was required to work 12 hours a day, the company refused to pay the overtime. This meant he was effectively making 53 cents an hour. When he complained he was relieved of his duties and sent home."[58]

The subcommittee approved the bill in the summer of 1990 though it never went any further. It was reintroduced in the next Congress on February 27, 1991 and again died in committee.

On March 30, 1993 Clay introduced H.R. 1517, another version of the same legislation. Hearings were again held; they yielded no new information. However, for the first time the cruise industry, through its main lobbyist, the International Council of Cruise Lines (ICCL), threatened that if the House of Representatives passed the legislation the cruise industry would be forced to relocate to non-U.S. ports. In testimony before the Subcommittee on Labor Standards on May 13, 1993 the president of the ICCL, John Estes, stated:

> Some have told you that we will not relocate. I am here to tell you that this industry will relocate if the Bill is passed. It won't happen all at once, but it will happen."[59]

He pointed out the ease with which cruise ships can be moved from one homeport to another and that:

> … in order to keep international costs competitive we do in fact on occasion move from country to country. International shipping will always seek a hospitable economic and political climate from which to operate...It would be an unfortunate

[57] See House of Representatives, 1994 *Coverage of Certain Federal Labour Laws to Foreign Documented Vessels* (House Report #103-818), Washington, DC: GPO, 1994, page 1

[58] House of Representatives, 1994 *Coverage of Certain Federal Labour Laws to Foreign Documented Vessels* (House Report #103-818), Washington, DC: GPO, 1994, page 3

[59] Estes, John. 1993. *Testimony Before the Subcommittee on Labor Standards, Occupational Health, and Safety of the Committee on Education and Labor of the House of Representatives*, May 13. Washington, DC: GPO. (Document # Y4 ED8/1 103-9)

failure of United States policy not to recognize that homeports are unimportant to passengers.[60]

The legislation this time made its way to the floor of the House of Representatives, but it failed to be heard by the full House and died with the end of the Congress.

Pro-industry legislation introduced in 1995 by Representative Don Young had much greater success. He attached a tort reform measure to the Coast Guard Reauthorization bill passed on May 9, 1995. The amendment, referred to by Young as a 'noncontroversial manager's amendment;' was for the most part written by the International Council of Cruise Lines.[61] It passed the House by a vote of 406 to 12. Only afterwards did people read the final print.

For one thing, the amendment limited the rights of foreign seafarers to sue in US courts for grievances against foreign cruise lines. This went against the stream of court cases taken up by the U.S. Government several years earlier. In 1991, the U.S. Equal Employment Opportunity Commission (EEOC) won two cases against foreign flag cruise vessels. In one, the court enjoined a foreign cruise line from discriminating on the basis of sex against any actual or potential job applicant. In the other, Norwegian Cruise Line (NCL) was charged with sex discrimination by an assistant cruise director who alleged she lost her job after becoming pregnant, and with discrimination by race and national origin by a bar manager who says he was forced to resign. NCL disregarded two subpoenas claiming the EEOC lacked jurisdiction. It won in the US District Court in Miami but the decision was reversed by the U.S. Court of Appeals in Atlanta, which affirmed the EEOC's jurisdiction. This was a dangerous precedent for the cruise industry and Young's amendment gave them an out. Another provisions in the amendment was designed to protect ship owners from unlimited liability in suits brought by passengers or crew members who were harmed by medical malpractice at a shore side facility.

The final version of the legislation followed intense lobbying by opponents to the amendments and by the cruise industry. In the end, a cruise line sued by one of its workers in regard to treatment at a U.S. health facility or doctor's office can invoke an award cap allowed medical practitioners under the laws of the state in which the care is provided. The provision limiting seafarer's use of U.S. courts was replaced with a provision that seafarer employment contracts can block the worker from seeking legal remedies in U.S. courts.[62] This provision has crept into seafarer employment contracts and has thus far been ruled enforceable by U.S. courts.

US Courts and Labor

There is a long history of court cases where cruise ship workers have successfully sought relief in cases of, among other things, breach of contract, injury and death. Claims have often been under the Merchant Marine Act of 1920 (Jones Act) or the federal Seaman's Wage Act. But

[60] Estes, John. 1993. *Testimony Before the Subcommittee on Labor Standards, Occupational Health, and Safety of the Committee on Education and Labor of the House of Representatives*, May 13. Washington, DC: GPO. (Document # Y4 ED8/1 103-9)
[61] Glass, Joel. 1996. "Compromise on US Cruise Tort," *Lloyd's List*, October 1. Page 1.
[62] Glass, Joel. 1996. "Compromise on US Cruise Tort," *Lloyd's List*, October 1. Page 1.

access to the U.S. courts appears to be waning for seafarers on foreign-flagged cruise ships that operate out of U.S. ports.

A Federal court decision issued in October 2003, and upheld on appeal in January 2005, ruled that the families of Filipino cruise ship workers injured and killed during a 2003 boiler explosion aboard NCL's *Norway* had to resolve claims in the Philippines per their employment contract. The decision meant that death claims for the eight crew members killed in the accident were limited to $50,000. The U.S. National Transportation Safety Board subsequently ruled that the accident, which also severely injured about 20 crew members, was the result of "… deficient boiler operation, maintenance, and inspection practices of Norwegian Cruise Line, which allowed material deterioration and fatigue cracking to weaken the boiler."[63]

The court's ruling had more far reaching consequences. It upheld the enforceability of employment contracts that require disputes to be resolved through arbitration and only in particular places – for Filipino workers the place is Manila. It also lent support to Carnival Cruise Lines' desire to have a new clause inserted in its new crew member contracts requiring all claims against the employer to be arbitrated internationally in London, Manila, Panama City, or Monaco, whichever is closer to the crew member's home.

Arbitration Clauses

Arbitration clauses are now commonplace in cruise ship worker contracts. These clauses have dire consequences for crew members. The fact is that foreign seaman have no rights to sue in U.S. Courts. Because a cruise line can have foreign law apply thereby circumventing the Jones Act, it has a disincentive to hire American workers. The arbitration clauses, and the opinions enforcing them, are therefore job killers for Americans, and they circumvent long standing U.S. Law – the Merchant Marine Act of 1920.

For those who are not familiar with the Jones Act, it provides to the worker the right to sue for pain and suffering damages for job related injuries. The general maritime law that was inherited from the English also provides for the obligation to pay the seaman maintenance (expenses of daily living) and cure (prompt and adequate medical care) until the seaman reaches maximum medical improvement. Historically, the seaman was viewed as a ward of the court because typically s/he is in a place where s/he does not know anyone and s/he has little resources. Thus the law says that if the shipowner/employer does not pay maintenance and cure properly, punitive damages can be awarded. The shipowner/ employer escapes these obligations with the arbitration clauses that apply foreign law.

This was seen in a case brought by a Filipino worker with Holland America Line, filed in U.S. federal court in Seattle, Washington on April 27, 2007 (Case #C07-0645) and which sought class action status. The suit claimed the company illegally forced crew members to pay back the cost of airfare to and from the ships and fired them if they failed to do so. The worker was a bartender who had signed a standard twelve-month contract with the cruise line, working a mandatory 77 hour workweek. He received a monthly guaranteed salary of $442 per month (inclusive of

[63] NTSB. 2007. *Marine Accident Brief: Boiler Rupture on Bahamian Cruise Ship S.S. Norway, Port of Miami*, May 25, 2003. NTSB Report Number MAB 07/03, November.

overtime, vacation and allowances) and was required to repay $212 per month for "deployment costs" – leaving a net income of $230 per month. Deployment costs include round trip air far to/from the ship, uniforms, medical exams, visas, recruiting costs, and union dues.

The U.S. court refused to hear the case given terms of the employment contract between the crew member and the cruise line; it referred the case to the Philippines for arbitration. The arbitration board ruled in favor of the individual claimant, but there was no basis on which it could certify a class action claim. The cruise line benefits because the penalties assessed by an arbitration board are small by comparison to those historically garnered through the U.S. courts, and it avoids a payout to other workers in the same situation.

Crew Member Work Conditions

There are many work conditions I could discuss, but there are only three worthy of mention here. The first relates to the normal contract from cruise ship employees. The typical workweek is a mandatory 77 hours – 11 hours a day, seven days a week. The length of a contract generally varies by work role (officers typically work four months; laborers work six to twelve months, depending on whether they work on a European contract or a Filipino, Central American, or Asian contract), and salary also varies by the worker's national origin within the same job category. Whether this is fair is a matter of vantage point; it is a matter of fact. With these hours, worker fatigue may also be an issue in emergency situations.

A second issue is the common use of recruiting agents. Though International Labor Organization (ILO) regulations prohibit agents from collecting fees from the worker – they are supposed to be paid by the employer – workers are often required to pay to secure a position. These can range as high as $4,000. According to the International Transport Workers Federation, Filipinos normally pay $1,500 to join a ship.[64] A 1997 story in the *Wall Street Journal* cites a Croatian worker who paid $600 to an agent to confirm his employment. In addition, he started work with a $1,400 debt to Carnival Cruise Lines, which had advanced the cost of his transportation to the ship.[65] In February 2000, an article in the *Miami New Times* described a cook on Carnival Cruise Line's Paradise who had given a Bombay agency $2,000, which included airfare. That sum, much of which he borrowed from relatives, is almost one-third of the $7,000 he will make during his ten-month contract.[66] And in 2001 it was reported that an agent in Rumania was charging $500 to interview for a position with Norwegian Cruise Line; if the person is hired s/he paid an additional $1,000 to secure the position.[67]

The final issue is unpaid overtime. This matter was successively resolved with each of the major cruise lines through class action suits between 2002 and 2006. However the problem re-emerged recently with NCL America, a U.S. registered carrier. The company agreed to pay $526,602 in back wages to 2,059 employees in Hawaii after a federal labor investigation found that the

[64] ITF. 2000. "The Dark Side of the Cruise Industry," Seafarers' Bulletin, no. 14. Page 17.
[65] Prager, Joshua Harris. 1997. "For Cruise Workers, Life Is No 'Love Boat'" Wall Street Journal, July 3. Page B1.
[66] Nielsen, Kirk. "The Perfect Scam: For the Workers Life Is No Carnival, Believe It or Not," Miami New Times, February 3-9, 2000
[67] Klein, Ross A. 2002. *Cruise Ship Blues: The Underside of the Cruise Industry*, Gabriola Island, BC: New Society. Page 128.

company had violated minimum wage, overtime (many employees were working 60 hours a week), and record-keeping provisions for employees on *Pride of America* between July 2009 and November 2011. The investigation also found that because NCL Amereica took large meal and lodging credits, some employees were paid less than the federal minimum wage of $7.25 per hour, and that the cruise line failed to record and pay the housekeeping staff for cleaning the cabins between cruises. Following the investigation, the cruise line agreed to bring its pay practices into compliance with the law.[68]

V. In Closing

Thanks again for the opportunity to share my observations and insights generated from my 16 years as an academic whose research has focused on the cruise industry. I welcome your questions.

[68] Gale, Kevin. 2012. "Norwegian Cruise Lines Settles Overtime Investigation," South Florida Business Journal, February 16.

APPENDIX A: EVENTS AT SEA*

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* Source: Cruise Junkie dot Com
http://www.cruisejunkie.com/Sunk.html
http://www.cruisejunkie.com/Aground
http://www.cruisejunkie.com/fires.html
http://www.cruisejunkie.com/collides.html
http://www.cruisejunkie.com/Disabling.html

A.1 - Cruise Ships That Have Sunk, 1980 - 2012

Year	Ship (Cruise Line)	Incident
2012	Costa Concordia (Costa Cruises)	Hit submerged rock off Giglio, Italy, partially sunk after taking on water and severely listing. **~4,200 evacuated; 32 deaths**
2007	Explorer (GAP Adventures)	Ship abandoned near the South Shetland Islands after it hit an unidentified object (likely ice). Environmental impact. **154 evacuated; no deaths**
2007	Sea Diamond (Louis Cruises)	Ship abandoned after hitting a reef a half mile from shore in Santorini. **1524 evacuated; 2 deaths**
2004	Wilderness Adventurer (Glacier Bay Cruise Line)	Ship evacuated after striking ice and taking on water in Tracy Arm, AK. **All evacuated safely.**
2003	Safari Spirit (American Safari Cruises)	Ship hit some rocks about 80 miles in SE Alaska. Sank in 30 feet of water. **All evacuated safely to lifeboats.**
1999	Sun Vista (Sun Cruises)	Engine room fire – Sinks of Malaysia. **1,090 evacuated safely**
1998	Fantome (Windjammer Cruises)	Sinks trying to outrun Hurricane Mitch. **30 crew deaths**
1995	Club Royale	Gambling ship sinks off Florida coast trying to outrun Hurricane Erin. **8 crew rescued; 3 crew deaths**
1994	Estonia (Estline)	The passenger cruise ferry sunk in a storm in the Baltic Sea. Sunk in 30 minutes. **~852 deaths**
1992	Royal Pacific (Greek cruise ship)	Collided with a fishing trawler in the Straits of Malacca with **500 rescued; more than 30 deaths**
1991	Oceanos (Greek cruise ship)	Sunk in a storm off South Africa. **All 571 people onboard were saved**
1988	Jupiter (Greek cruise ship)	Sank within 40 minutes after a collision with a car carrier outside Piraeus. **581 safely rescued; 4 deaths.**
1986	Admiral Nakhimov (Russian cruise ship)	Sank in seven minutes after colliding with a large bulk carrier. **811 safely rescued; 423 deaths**
1986	Mikhail Lermontov (Baltic Shipping Company)	Ran aground on rocks off New Zealand and sank within 3 hours. **More than 1,000 rescued safely; 1 death**
1984	Sundancer (Sundancer Cruises)	The ship declared a total loss after hitting a rock north of Vancouver. Investigators found that crew were disorganized and evacuation was largely coordinated by passengers. **All evacuated safely.**
1980	Prinsendam (Holland America Line)	An engine room fire forced evacuation to lifeboats while 140 miles from Alaska. **All evacuated safely.**

A.2 Ships Running Aground (but not sinking), 1972 - 2011

Year	Ship (Cruise Line)	Incident
2012	Poesia (MSC Cruises)	Ran aground near Freeport, Bahamas. Waited for tide to get high.
2011	Polar Star (Polar Star Cruises)	Sustained a minor breach of its outer hull by grounding on a rock near Antarctica's Detaille Island. **Cruise terminated**
2010	Clipper Adventurer (Clipper Cruises)	Ship evacuated after it ran aground 55 nautical miles from Coppermine, Nunavut. **Cruise terminated**
2009	Zenith (Pullmantur Cruises)	Ship went aground on the approach to Copenhagen having cruised too close to a wind farm of twenty-four turbines in the Oresund Strait.

2009	Ocean Nova (Quark Expeditions)	Ran aground about one mile from the San Martin base (Antarctica), pushed by "extremely high winds" into craggy rocks. 64 passengers and 41 crew members aboard. **Cruise terminated.**
2009	Richard With (Hurtigruten)	Ran aground at the port of Trondheim on the west coast of Norway. Suffered propeller damage and took on board water through a leak in a seal. 53 passengers on board evacuated. **Cruise terminated**
2008	Ushuaia (Fathom expeditions)	Ran aground on a rock close to Wilhelmina Bay in Antarctica causing a hull breach, and possibly fuel leak. All 130 aboard safely evacuated. **Cruise terminated**
2008	QEII (Cunard Line)	Ran aground at the Brambles sandbank near Calshot, Southampton, with three tugs attached to her stern. Five tugs were sent out to assist her getting off the sandbank.
2008	Antarctic Dream (Antarctic Shipping)	Ran aground off Svalbard, just east of the island of Spitsbergen, with 130 passengers on board. Freed after six hours.
2008	Queen Victoria (Cunard Line)	Ran aground while leaving port. Freed in about an hour.
2008	Spirit of Glacier Bay (Cruise West)	Grounded in Tarr Inlet near Glacier Bay. Refloated the next day and towed to port. Crack in hull.
2008	EasyCruise Line (EasyCruise)	Ran aground inside the port of the Aegean island of Syros with 353 passengers and 105 crew on board. Freed by tug.
2008	Spirit of Alaska (Cruise West)	Touched bottom in Tracy Arm, AK. It did not take on water and did not have interior damage but is having a problem with its propulsion system Towed to Juneau for inspection and repairs; passengers disembarked. **Cruise terminated**
2008	Mona Lisa	Ran aground on a sandbank about 10 miles from the Latvia coast. Attempts to free itself were unsuccessful; almost 1000 passengers needed to be evacuated . **Cruise terminated**
2008	Sky Wonder (Pullmantur)	Ran aground in port of Kusadasi (Turkey). All 1,029 passengers evacuated. **Cruise terminated**
2007	Spirit of Nantucket (Cruise West)	Ran the vessel aground in Virginia Beach **to prevent it from sinking**. It began taking on water while passing through the Intercoastal Waterway after striking something that left a 2 inch by 12 inch gash in the hull near the end of the ship. None of the 61 passengers or five crew members were as injured. **Cruise terminated**
2007	Spirit of Columbia (Cruise West)	Ran aground in Prince William Sound. Refloated when tide came up.
2007	Royal Express 4 (SunCruz)	Ran aground as it was returning to shore. Several passengers injured.
2007	Millenium (Celebrity Cruises)	Drifted onto submerged rocks while at Villefranche, France, damaging propulsion system. **Cruise terminated next day**
2007	Disko II (Albatros Travel)	Ran aground off Greenland and more than 50 people evacuated. **Cruise terminated**
2007	Empress of the North (Majestic America Line)	Ran aground off Alaska coast and began taking on water. 281 of 320 aboard evacuated. **Cruise terminated**
2007	Regal Princess (Princess Cruises)	Sustained damage after touching bottom. Out of service for three weeks for repairs.
2007	Nordkapp (Hurtigruten)	Touched ground near Deception Island in the Antarctic. The ship sustained an 82 foot long gash to its outer hull – environmental damage. All evacuated. **Cruise terminated**
2007	Sky Wonder (Pullmantur)	Ran aground in Rio de la Plata. Freed at high tide.
2006	Lyubov Orlova (Quark Expeditions)	Ran aground in Whalers' Bay while visiting Deception Island in the South Shetland Islands with 150 passengers onboard. Towed free after eight hours.
2006	Statendam (Holland America Line)	Touched bottom in Port of Melbourne with 1,700 persons onboard. Found to be travelling too fast. Minor damage.
2006	Grand Princess (Princess Cruises)	Ran aground while heading out of Livorno harbor. Freed after 30 minutes.
2006	Norwegian Crown (NCL)	Ran aground in Bermuda. Freed after 10 hours.

2006	Columbus (Hapag-Lloyd)	Scraped bottom during her visit to Sault Sainte Marie, sustaining no damage.
2006	Celebration (Carnival Cruise Lines)	A propeller struck bottom while approaching the dock at Nassau spilling an estimated 200 liters of lubricating oil and affecting the operation of the engine.
2006	Yorktown Clipper (Clipper Cruises)	Ran aground at Matia Island in Washington state. Company fined $1000 for placing passengers at risk because company officials did not report a dent the ship sustained on its bottom.
2006	Regal Princess (Princess Cruises)	Became stuck on a sandbar in the Amazon. Freed after 1.5 hours, "by using its bow thrusters, emptying the pools and probably grey water and some ballast."
2006	Empress of the North (American West Steamboat)	Ran aground on the Columbia River with 250 people onboard. Refloated two days later. **Cruise terminated**
2006	Queen Mary 2 (Cunard Line)	Touch a submerged object, damaging propulsion system. Departure delayed 41 hours.
2005	Pacific Sky (P&O Princess)	Suffered engine problems and drifted onto a reef. Ship freed one day later by tugs.
2005	Hanseatic (Hapag-Lloyd)	Ran aground near the island of Luroy off the Norwegian, causing a 5 meter hole in the ships hull. **Cruise terminated**
2004	Sapphire Princess (Princess Cruises)	Lost power and out of control for about 5 minutes, which caused it touching the coral reef at Moorea. Damage to thrusters.
2004	Clipper Odyssey (Clipper Cruises)	Ran hard aground on rocks in the Aleutian Islands, forcing 153 passengers and crew to transfer to other ships and spilling an undetermined amount of fuel from a ruptured tank. **Cruise terminated**
2004	Mona Lisa (Holiday Kreuzfahrten)	Got stuck in the mud close to St. Mark's Square in Venice, Italy with 1000 passengers onboard. Freed.
2004	Astor (Transocean Cruises)	Grounded in the shipping channel after leaving Townsville port. Detained for two hours.
2004	Empress of the North (American West Steamboat)	Hit the gate at Ice Harbor Dam and became stuck in the navigational lock. 200 passengers bussed back to Portland. **Cruise terminated**
2003	Empress of the North (American West Steamboat)	Went aground on the Oregon side of the Columbia River. Two crew and one passenger suffered minor injuries.
2003	Mona Lisa (Holiday Kreuzfahrten)	670 passengers were evacuated after the ship ran on to rocks near Sptisbergen. Both propellers and the hull damaged. **Cruise terminated**
2003	Summit (Celebrity Cruises)	Hull damaged when the ship hit a rock leaving Hubbard Glacier. The result was a 10-foot-long hole in the ballast tank midway along the hull, and a 140-foot-long crease.
2003	Spirit of Columbia (Cruise West)	Hit bottom and possibly bent port shaft and propeller in Prince William Sound.
2003	Vistamar (Plantours & Partners	Collided with underwater rocks near the port of Ibiza. Towed by tugs to Ibiza and all passengers and crew evacuated. **Cruise terminated**
2003	Safari Spirit (American Safari Cruises)	Hit rocks in SE Alaska. All evacuated to lifeboats. **Cruise terminated**
2002	Olympic Voyager (Royal Olympic Cruises)	Grounded and experienced minor damage. Passengers evacuated. **Cruise terminated**
2002	Clipper Adventurer (Clipper Cruises)	Ran aground in the vicinity of Deception Island. Freed by a Chilean icebreaker.
2002	Holiday (Carnival Cruise Lines)	Lodged on a sandy bottom of the Caribbean Sea, a quarter mile off the coast of Playa del Carmen. Passengers evacuated. Freed three days later. **Cruise terminated**
2002	Clipper Odyssey (Clipper Cruises)	Went aground on St. Matthew Island in the Bering Sea in favorable conditions with 184 persons onboard.
2002	Clipper Adventurer (Clipper Cruises)	Ran aground on a sand-bank in the Essequibo River (Guyana's major waterway). Stuck for more than a day.
2002	Black Prince (Fred Olsen Cruises)	Ran aground on a sand bank while leaving Casilda, Cuba. Passengers evacuated. **Cruise terminated**

2001	Costa Tropicale (Costa Cruises)	Grounded at Venice, towed free by tugboats.
2001	Costa Tropicale (Costa Cruises)	Grounded at Mykonos, towed free by Costa Atlantica
2001	Wilderness Explorer	Grounded in Alaska
2001	Regal Princess (Princess Cruises)	Grounded in Cairns. Freed and continues.
2001	Mistral (Festival Cruises)	Grounded off Nevis. Stuck for a day.
2000	World Discoverer	Hit rock or reef and holed – Forced to beach. 100 passengers rescued - Solomon Islands. **Cruise terminated**
2000	Carousel Sun (Sun Cruises)	Ran over rocks causing propeller damage and oil leak (50 ton spill) – Abandon ship at Calica. **Cruise terminated**
1999	Norwegian Sky (NCL)	Grounded in St. Lawrence Seaway. Out of service for eight weeks. **Cruise terminated**
1999	Radisson Diamond (Radisson Seven Seas Cruises)	Grounded near Stockholm – Refloated
1999	Spirit of '98	Grounded in mouth of Tracy Arm (SE of Juneau) – Holed. Evacuated. **Cruise terminated**
1999	Wilderness Explorer (Glacier Bay Cruise Line)	Grounded west of Juneau – Refloated
1998	Monarch of the Seas (RCCL)	Strikes charted reef at St. Maarten – holed. 27,000 sq feet of coral reef damaged. Out for four months. **Cruise terminated**
1997	Leeward (NCL)	Collides with Great Mayan Reef near Cancun – damages 460 sq yard swath of coral
1997	Noordam (Holland America Line)	Soft grounding off Mexican coast – Propeller damage. Passengers sent home. **Cruise terminated**
1997	Hanseatic (Hapag Lloyd)	Grounded in Norwegian Arctic - Evacuated, refloated, continues.
1997	Albatross (Phoenix Horizon)	Holed while leaving Isles of Scilly – Out for 2 weeks. **Cruise terminated**
1996	Hanseatic (Hapag Lloyd)	Grounded in Northwest passage – refloated after being evacuated.
1996	Gripsholm (Cunard Line)	Grounded 2 miles from Swedish port. **Cruise terminated**
1996	Royal Viking Sun (Cunard Line)	Collision with reef in Red Sea – Holed. Out for 2 months. **Cruise terminated**
1996	Tropicale (Carnival Cruise Lines)	Grounded while leaving Tampa – Freed. Harbor pilot complains that ship failed to respond to 3 different orders to turn.
1995	Sovereign of the Seas (RCCL)	Grounded in mud bank in San Juan Harbour – Freed after 80 minutes; Towed to port, leaves 24 hours late.
1995	America Queen (Delta Steamboat)	Grounded in Ohio River for 1 day – Refloated
1995	Star Princess (P&O Cruises)	Grounded in Alaska – 40' long, 8" wide gash + 100' gash,modest pollution. Evacuated by tender. **Cruise terminated**
1995	Royal Majesty (Majesty Cruise Line)	Grounded off Nantucket - 17 mi off course.
1995	Renaissance Six (Renaissance Cruises)	Grounded, eastern Aegean – Evacuated. **Cruise terminated**
1994	Royal Odyssey (Royal Cruises)	Grounded leaving Rome. **Cruise terminated**
1994	Starward (NCL)	Grounded in St. John, VI – oil spill of 100 gallons.

1994	Nieuw Amsterdam (Holland America Line)	Grounded in SE Alaska – 200 ft crease in hull, damaged propeller, puncture in ballast tank, 260 gallon spill. Refloated in 30 minutes. **Cruise terminated**
1994	Sally Albatross (Silja Line)	Grounded in Gulf of Finland – Half-sunk. **Cruise terminated**
1993	Yorktown Clipper (Clipper Cruises)	Grounded in Glacier Bay -- Spills 28,000 gallons of fuel 45 west of Juneau Evacuated. **Cruise terminated**
1993	Ocean Princess (Pacquet Cruises)	Grounded near Belem – Life boat evacuation Declared a total loss. **Cruise terminated**
1992	Nantucket Clipper (Clipper Cruises)	Aground off Maine - 4 minor injuries. Refloated 3 hours later – Damage to hull and diesel tank
1992	QEII (Cunard Line)	Grounded off Cape Cod – 74 foot gash. **Cruise terminated**
1992	Mermoz (Pacquet Cruises)	Grounded off Scandinavia. **Cruise terminated**
1992	Tropic Star (Starlite Cruises)	Ran aground in Freeport.
1991	Seaward (NCL)	Runs aground near Miami after plastic bag caught in an air intake and engine shut down.
1990	Regent Star (Regency Cruises)	Fire and grounded while approaching Philadelphia – Evacuated. **Cruise terminated**
1990	Bermuda Star (Bahamas Cruise Line)	Grounded off Nova Scotia – evacuated. Freed after 13 hours. **Cruise terminated**
1986	Dolphin (Dolphin Cruises)	Grounded in Bahamas
1985	Amerikanis (Fantasy Cruise Line)	Grounded off Mexico – 5 days to free. **Cruise terminated**
1985	Bermuda Star (Bahamas Cruise Line)	Grounded off Key West
1984	Yankee Clipper (Clipper Cruises)	Grounded after tearing from anchorage at St. Martin.
1984	Rhapsody	Grounded off Cayman Islands – Evacuated after 4 days; freed after 12 days**. Cruise terminated**
1982	Alaskan Majestic Explorer (Exploration Cruises)	Grounded – Evacuated 1 dead; 2 injured. Captain charged with negligence. **Cruise terminated**
1978	Kungsholm	Aground for 5 days at Martinique
1973	Mardi Gras (Carnival Cruise Lines)	Maiden Voyage – runs aground leaving Miami Harbour. Stuck for 24 hours.

A.3 - Fires Onboard Cruise Ships, 1990 - 2011

Year	Ship (Cruise Line)	Incident
2011	Amsterdam (Holland America Line)	Fire in hydraulic unit in incinerator room. Put out in 35 minutes.
2011	Ocean Princess (Princess Cruises)	Fire in one of the generators, contained without serious damage.
2011	Queen Mary 2 (Cunard Line)	Fire in gas turbine rendering it useless. Passengers told to get their children and stay in cabins.
2011	Nordlys (Hurtigruten)	Fire in engine room. 100 passengers and crew evacuated by lifeboat; 162 evacuated when towed to port. **2 deaths. Cruise terminated**
2011	Ocean Star Pacific (Ocean Star Cruises)	Generator fire knocked out power to the ship, forcing the evacuation of nearly 800 passengers and crew off Mexico's coast. **Cruise terminated**
2011	Thomson Dream (Thomson Cruises)	A starboard engine fire early in the cruise that departed Barbados. No impact on itinerary and no reported injuries.

2010	Musica (MSC Cruises)	Fire in engine room knocked out air conditioning and the water supply. **Cruise terminated**
2010	Carnival Splendor (Carnival Cruise Lines)	Engine room fire disabled the ship's electrical system (3,299 guests, 1,167 crew). Towed to San Diego. **Cruise terminated**
2010	Infinity (Celebrity Cruises)	Electrical fire caused loss of power for several hours while in Alaska.
2010	Deutschland (Peter Deilmann Cruises)	Fire in engine room while docked. Passengers evacuated. **Cruise terminated**
2009	Zenith (Pullmantur Cruises)	All passengers were evacuated when the ship had a major fire while docked at Stockholm. Sailed one day late.
2009	Crown Princess (Princess Cruises)	Fire in passenger cabin. Contained.
2009	Royal Princess (Princess Cruises)	Fire in engine room. Passengers called to muster stations. **Cruise terminated**
2009	Sea Cloud (Sea Cloud Cruises)	Fire extinguished by fire brigade before returning to port.
2009	Golden Princess (Princess Cruises)	Fire in main engine room. Contained within 1.5 hours.
2009	Costa Romantica (Costa Cruises)	Fire in the generator room causes brief blackout. 1,429 passengers and 590 crew members evacuated. **Cruise terminated**
2009	Ecstasy (Carnival Cruise Lines)	Fire in passenger cabin at 2:30 AM – several cabins damaged.
2008	Zuiderdam (Holland America Line)	Small electrical fire reported overnight – No injuries or known damage.
2008	Eurodam (Holland America Line)	Passengers awakened at 4AM by fire alarm. Fire in engine room.
2008	Norwegian Dream (NCL)	At about 2:45 a.m. an electrical fire broke out on deck three in an electrical locker of the ship.
2008	Azamara Quest (Azamara Cruises)	While docked in Chios (Greece) there was a fire in the ship laundry room. The fire was contained quickly and it did not affect the schedule.
2008	Fantasy (Carnival Cruise Lines)	Fire (or smoke) caused by welder. Embarkation suspended; passengers onboard moved to Lido Deck. Contained.
2008	Zuiderdam (Holland America Line)	Onboard fire while docked at Dubrovnik. Firefighters called from city. Under control within 45 minutes.
2008	Queen of the West (Majestic America Line)	Fire broke out in the engine room while the ship was near Maryhill, WA. Passengers evacuated. **Cruise terminated**
2008	Star Princess (Princess Cruises)	Fire in incinerator room. Contained.
2007	Norwegian Spirit (NCL)	Fire in engine room. Contained.
2007	Jewel of the Seas (Royal Caribbean International)	Fire in laundry room at 2:30AM. Contained.
2007	Pacific Star (P&O Australia)	Small fire in an electrical panel; mustering of crew to prepare for a possible emergency. Contained.
2007	Enchantment of the Seas (Royal Caribbean International)	Fire in closet of unoccupied cabin. Contained in less than an hour.
2007	Mariner of the Seas (Royal Caribbean International)	Incinerator fire. Contained.
2007	Norwegian Star (NCL)	Escorted into the Prince Rupert harbor by the a Canadian Coast Guard vessel following a small fire in the engine room.
2007	Disney Magic (Disney Cruise Line)	Fireworks mishap caused fire by Palo's restaurant. Contained.

2006	Seabourn Spirit (Seabourn Cruises)	Small fire in Verandah Café. Contained.
2006	Radiance of the Sea (Royal Caribbean International)	Fire at 2AM in Windjammer Café. Contained in less than an hour.
2006	Oosterdam (Holland America Line)	Engine room fire disables one of the Azipod propulsion systems. Contained.
2006	Jewel of the Sea (Royal Caribbean International)	Fire in trash can. Contained. Seven staterooms evacuated and passengers moved.
2006	Statendam (Holland America Line)	At 5:30AM fire alarm went off. Fire in stack of incinerator contained.
2006	Calypso (Louis Cruises)	Disabling fire off UK coast. 462 passengers and 246 crew were at muster stations, but evacuation was not necessary. Towed to port. **Cruise terminated**
2006	Seabourn Pride (Seabourn Cruises)	Serious fire in engine room. Contained
2006	Star Princess (Princess Cruises)	Fire in passenger accommodations. About 150 cabins damaged. **1 death; cruise terminated**
2005	Costa Classica (Costa Cruises)	Escorted back to Athens after a fire broke out in mooring area, aft side. **Cruise terminated**
2005	Carnival Legend (Carnival Cruise Lines)	Heavy smoke from engine room. Passengers mustered to lifeboats. All clear given an hour later.
2005	Infinity (Celebrity Cruises)	Fire in stateroom 7067 that gutted the room.
2005	Seven Seas Navigator (Radisson Seven Sea Cruises)	Electrical fire in generator room at 1AM caused temporary blackout and propulsion problems. **Next cruise canceled**
2004	Carnival Destiny (Carnival Cruise Lines)	Fire in trash incinerator while at St. Thomas. Embarkation delayed 45 minutes.
2004	Sun Cruz V (Sun Cruz)	Engine room fire extinguished. Towed back to port with 160 passengers onboard.
2004	Majesty of the Sea (Royal Caribbean International)	Passengers directed to muster stations when a galley fire broke out at 5 AM in the Windjammer Cafe. Contained in less than an hour.
2003	Explorer of the Sea (Royal Caribbean International)	A minor fire at the aft end of Deck 13 extinguished within 15 minutes, causing damage to the inline skating facility and the top of the waterslide on Deck 12.
2002	Statendam (Holland America Line)	Five tugs boats tow ship back to Vancouver after a small fire knocked out four generators and two main propulsion motors. **Cruise terminated**
2002	Disney Magic (Disney Cruise Line)	Smoke stack fire; extinguished within an hour. Passengers were awakened at 5:00 AM and told to go to their assembly stations with their life jackets.
2001	Arkona	Runs into dock after engine room fire causes loss of power. **Cruise terminated**
2001	Nordic Prince (Royal Caribbean International)	Engine room fire, loss of power. Passengers flown home from Bermuda. **Cruise terminated**
2000	Nieuw Amsterdam (Holland America Line)	Fire in crew quarters while in Glacier Bay – Delayed 12 hours until given clearance by US Coast Guard.
2000	Celebration (Carnival Cruise Lines)	Fire in generator -- Adrift for 6 hours until power restored. No toilets or air conditioning.
1999	Tropicale (Carnival Cruise Lines)	Engine fire – Disabled. Arrives in port 2 days late. **Next 6 cruises canceled**
1999	Sun Cruz	Engine room fire before it left port – Evacuated. **Cruise canceled**
1999	Norway (NCL)	Fire in turbocharger room while in Barcelona mid-cruise. **Cruise terminated**

1999	Sun Vista (Sun Cruises)	Fire in engine room – Sinks off Malaysia.
1999	Enchantment of the Sea (Royal Caribbean International)	Engine fire/failure 60 miles from St. Thomas. **Cruise terminated**
1998	Ecstasy (Carnival Cruise Lines)	Fire in laundry room while leaving Miami – 54 injured and 4 hospitalized. **Cruise terminated**
1997	Romantica (New Paradise Cruises)	Fire 10 mi off Cypress (total loss) – Evacuated. **Cruise terminated**
1997	Vistafjord (Cunard Line)	Fire while in Straits of Magellan - disabled for two days.
1997	Vistafjord (Cunard Line)	Fire in ship's laundry room. **1 death; cruise terminated.**
1997	Fair Princess (P&O Cruises)	Fire in casino - passengers called to muster stations - fire contained.
1996	Universe Explorer (Commodore Cruises)	Laundry room fire, 67 crew and 6 passengers injured. **5 deaths; cruise terminated**
1996	Golden Princess (Princess Cruises)	Fire in engine room – Towed to Victoria. **Cruise terminated**
1996	Sagafjord (Cunard Line)	Fire – Stranded off coast of Manila (listing) – Towed to dock. **Cruise terminated**
1995	Regent Star (Regency Cruises)	Engine room fire while in Prince William Sound– Disabled. Passengers transferred to Rotterdam. **Cruise terminated**
1995	Celebration (Carnival Cruise Lines)	Engine room fire when 370 miles south of Miami – Adrift for more than 2 days. No a/c or hot food or elevators. Passengers transferred to Ecstasy. **Cruise terminated**
1994	Regal Empress (International Shipping)	Fire when 30 min from NYC – Evacuated.
1994	Pallas Athena (Epirotiki)	Fire while berthed in Piraeus – Total loss.
1992	Star Majestic	Fire – Evacuated
1991	Pegasus (Epirotiki)	Fire while berthed in Venice – Total loss
1991	Eurosun (Europe Cruise Line)	Fire off Canary Islands
1991	Sovereign of the Seas (RCCL)	Fire in lounge while in port at San Juan – Evacuated. Cruise resumed.
1990	Crystal Harmony (Crystal Cruises)	Temporarily disabled from fire in auxiliary engine room – Drifted for 16 hours. Evacuated at port. **Cruise terminated**
1990	Regent Star (Regency Cruises)	Fire – put under control. Possible arson.
1990	Scandinavian Star (International Shipping)	Fire while in North Sea – Evacuated. **159 deaths; cruise terminated**
1990	Fairstar (Sitmar Cruises)	Engine room fire – Not disabled. **1 death**

A.4 - Collisions Involving Cruise Ships

Year	Ship (Cruise Line)	Incident
2011	Veendam (Holland America Line)	A container derrick tore off a 50 foot section of railing on deck 12 and cracked a window in the Crows Nest while leaving Buenos Aires.
2011	Avalon Tranquility (Avalon Waterways)	Danube cruise abandoned after vessel struck by a cargo ship. **Cruise terminated**

2011	Oriana (P&O Cruises)	Ship dented after bashing into quay at Kristiansand, Norway. Ship's stern stoved in.
2011	Emerald Princess (Princess Cruises)	Sustained considerable damage to several lifeboats when a fuel loading barge collided with the side of the ship while in the port of St Petersburg, Russia.
2011	Westerdam (Holland America Line)	Collision between the ship and ice in the vicinity of Yakutat Bay, Alaska. Sustained damage approximately 15 feet below the water line.
2011	Opera (MSC Cruises)	Collided twice with the pier as it was leaving Buenos Aires, damaging several cabins. Detained in port for 10 hours.
2010	Costa Classica (Costa Cruises)	Collided with a cargo ship near the deep water channel of the Yangtze River. News images show a scrape or gash stretching about 20 meters along the starboard side of Deck 5 midships. Passengers disembarked. **Cruise terminated**
2010	Sergei Kirov (Russian ship)	The cruise ship, carrying hundreds of U.S. and German tourists, collided with a barge on the Volga River. **Cruise terminated**
2010	Black Watch (Fred Olsen Cruises)	The ship's port bow collided with an iceberg off Greenland resulting in a significant impact. Superficial damage.
2010	Caribbean Princess (Princess Cruises)	The ship hit the gangway structure and was delayed several hours in departure.
2010	Columbus (Hapag-Lloyd_	Ship bumped a cargo vessel and hit a steel bar while docking at the Iloilo International Port in Loboc, La Paz (Philippines). The front part of the cruise ship was damaged. Departure delayed for repairs.
2010	Costa Europa (Costa Cruises)	Crashed into a pier in the Egyptian resort town of Sharm el-Sheikh. **3 deaths; cruise terminated**
2010	Ecstasy (Carnival Cruise Lines)	While docking at Galveston, hit the elevated gangway used to embark & disembark guests. Little damage to the ship, but several window panels fell out of gangway. The $1.8 million structure was out of commission for 30 days or more for repairs.
2009	Carnival Splendor (Carnival Cruise Lines)	Collided with the pier at Puerto Vallarta causing damage to the stern. Departure delayed 20 hours for repairs.
2009	Saga Ruby (Saga Holidays)	Hit a concrete bollard while berthing in New York, and had to have emergency repairs to a hole in the bow before setting off back to the UK. One day delayed departure.
2009	Carnival Legend (Carnival Cruise Lines) & Enchantment of the Seas (Royal Caribbean International)	Two ships collided in Mexican port in an incident that left both vessels with minor damage.
2009	Antarctic Dream	While coming alongside the quay in Longyearbyen the ship collided with a smaller passenger vessel. Damage repaired.
2009	Avalon Tranquility (Avalon Waterways)	Collided with the tall ship Schoenbrunn while it was maneuvering in Linz on the Danube River. Damage to the Schoenbrunn was extensive; damage to the riverboat was minimal.
2009	Golden Princess (Princess Cruises)	A 31-foot-long fishing vessel "erratically" crossed within about 30 feet of the front of the cruise ship as it entered Los Angeles harbor. Near miss.
2008	Costa Concordia (Costa Cruises)	Ship hit the dock in Palermo harbor. The bow was damaged. Repairs were undertaken after the ship was firmly docked.
2008	Imagination (Carnival Cruise Lines)	A minor crash that left a huge dent and needing some paint touch up on the front side of the ship.
2008	Boudicca (Fred Olsen Cruises)	Sustained minor damage to bow whilst in Barbados. The damage caused a 7ft dent which needed to be repaired. Held in port for a day.
2008	Seven Seas Voyager (Regent Seven Seas Cruises)	Hit the quay in Rhodes with her stern, no injuries but minor damage done to the ship.
2008	Spirit of Adventure (Saga Holidays)	In Kepez, Turkey the ship hit the quay after tug failed and gashed hull. It was repaired and continued cruise.
2008	Crystal (Louis Cruises)	Collided with a ferry at Piraeus port. There were 955 passengers on board the cruise ship. Only material damage was caused to both vessels.

2008	Zenith (Pullmantur) and Aegean Pearl (Louis Cruises)	Ships collided in Greece's main port of Piraeus causing damage but no injuries. *Aegean Pearl's* cruise canceled.
2008	Costa Classica (Costa Cruises) and Poesia (MSC Cruises)	Collided in the Adriatic Sea near the Croatian tourist town of Dubrovnik, but no one was injured.
2008	Norwegian Spirit (NCL)	While docking in NYC the ship rammed into Pier 90 at 50th St. and 12th Ave. The city Buildings Department said the accident damaged beams supporting upper-level parking lots.
2008	Queen Victoria (Cunard Line)	Hit the quay of the Valletta Waterfront, denting the stern of the ship. Malta Maritime Authority officially attributed the incident to a mechanical failure in the ship. Detained for repairs.
2008	Aquamarine (Louis Cruises)	Scraped against a pier as it was leaving Iraklion (Crete) causing damage to the hull.
2007	QEII (Cunard Line)	A cross-channel ferry had to slam on the brakes when the cruise liner failed to give way at sea off the Dover coast and sailed into the passenger ferry's path.
2007	Fram (Hurtigruten)	Had engine failure and was without power for about two hours while near Brown Bluff on the northern tip of the Antarctic Peninsula. Drifted into a towering wall of ice; bent the railing and a lifeboat was completely crushed.
2007	Norwegian Dream (NCL)	Collided with a barge being pulled by a tug in Uruguay's main port, sending several cars and containers off the barge and shutting the port down. The ship received damages above the water line, which did not appear serious. Detained for repairs.
2007	Lirica (MSC Cruises)	Damaged in Civitavecchia when it scraped the pier. An area between the bow and portside bulwarks was damaged.
2007	Thomson Celebration (Thomson Cruises) and Ocean Majesty (Page and Moy)	Collided in the Greanger fjord (Norway) as the two were berthing. The damage was reported as slight with some lifeboats and davits taking the brunt of the slow collision. *Ocean Majesty's* **cruise terminated.**
2007	Spirit of Yorktown (Cruise West)	Collided with a Seattle-based fishing vesssel, leaving the seiner "dead in the water" with a disabled steering mechanism. The cruise ship appeared undamaged.
2007	Serenade (Louis Cruises)	Slightly damaged when it grazed the pier while docking at the Greek island of Tinos, leaving a small hole on the left side of the ship's bow above the water line. Repaired.
2007	Kristina Regina (Kristina Cruises)	Collided with a timber loaded deck barge in dense fog south of Gedser. Only slight damage and continued to Helsinki .
2007	Fantasy (Carnival Cruise Lines)	A barge struck the ship on the Mississippi River near New Orleans, leaving a 30 foot gash (about 5 feet above the waterline) in its hull. **Cruise canceled**
2006	Enchantment of the Seas (Royal Caribbean International)	Ship dragged its anchor 300 metres before it ran into a moored barge off Pageant Beach Georgetown , Cayman Islands . Other than two dents in the port side and a long 100-foot scrape, there was no damage to the ship.
2006	Pride of America (NCL America)	Struck a 2,800 pound navigational buoy as it left Honolulu and dragged the buoy chain all the way to Maui . Remained in Maui an extra day for inspections and repairs of the propeller, to which the chain became attached.
2006	Freedom of the Seas (Royal Caribbean International)	Collided with a refueling ship as it was leaving Montego Bay. Damage was not significant.
2006	River Empress (Uniworld)	Hit a bridge on the Danube near Melk at 6 AM. All passengers (111) were evacuated. **Cruise terminated**
2005	Norwegian Spirit (NCL)	Collided with the pier as it docked at Juneau , breaking out windows in 3 or 4 rooms and making a large dent in the side.
2005	Norwegian Majesty (NCL)	As the ship moored at St. George's, Bermuda, it knocked into three yachts moored in Powder Hall anchorage and almost sucked one yacht under. The ship's propeller appears to have been damaged.

2005	Grandeur of the Seas (Royal Caribbean International)	Struck the pier in Costa Maya, Mexico while docking causing a puncture 42 feet long and 5 feet wide at its widest point. The puncture was in the first deck, approximately five feet above the waterline. Delayed two days for repairs.
2005	River Duchess (Uniworld)	Crashed into a dockside restaurant in Amsterdam on Sunday. Police said the ship — owned by US firm Uniworld — went off course due to technical reasons.
2004	Enchantment of the Seas (Royal Caribbean International)	While docked at Key West, struck by a barge leaving an 8 foot hole in the vessel's hull. Repaired.
2004	Holiday (Carnival Cruise Line)	Lost engine power and collided with some pilings along the Mobile River before dawn.
2004	Van Gogh (Travelscope)	Collided with an oil tanker in foggy conditions off the southern coast of Spain. **Cruise terminated**
2004	Viking Europe (Viking River Cruises)	The ship (135 passengers; 39 crew) hit a bridge in Vienna , injuring 19 passengers.
2004	Diamond Princess (Princess Cruises)	Ship pushed into pier at Victoria, BC, while docking. Damage minor, except for bent propeller blade tips, which caused altered itineraries and missed ports.
2004	American Glory (American Cruise Lines)	Destroyed a 40 foot section of the Downtown Marina dock in Beaufort, SC (and damaged two yachts) when a strong current and tide combination forced the stern into the pier. One of the cruise ship's doors was damaged and two windows shattered.
2004	Stena Nautica (Stena Line)	Collided with a cargo ship (the Jamaican registered Joanna) en route from Denmark to Varberg in Sweden. 91 passengers and 37 crew were evacuated to another ship. The collision caused an 11-metre hole in the ship's hull. **Cruise terminated**
2003	Royal Princess (Princess Cruises)	Collided with the pier when it was docking, causing an 8 foot rent in the bow of the vessel and delaying its departure until repairs were completed.
2003	Opera (Silja Line)	Collided with a Yermak icebreaker stationed at the exit of a St. Petersburg port. The ship's lifeboats were damaged but the ship remained capable of traveling.
2003	Sundream (Sun Cruises)	Collided with the pier. It required repairs at Tenerife and returned early to Southampton for further repairs.
2003	Opera (Silja Line)	Collided with several ships and a crane at St. Petersberg. Damage not sufficient to delay itinerary.
2003	Melody (MSC Cruises)	Ran into the pier at Kusadasi harbor. Ship had to wait several days for repairs to be completed.
2003	Star Flyer (Star Clippers)	Sustained minimal damage and a small section of the wharf collapsed at Port Klang, Malaysia after it collided with the wharf.
2001	Asuka	Collision with cargo ship off coast of Kobe.
2001	Royal Princess (Princess Cruises)	Broke loose from mooring at Port Said; drifted into the path of a cargo ship.
2000	Island Breeze (Premier)	Collision w/ tugboat – damaged propeller; Tug sinks. **2 cruises cancelled**
2000	Carnival Destiny (Carnival Cruise Lines)	Propulsion problems – Adrift for 27 hours.
1999	Norwegian Dream (NCL)	Collision with cargo ship in English Channel – Out for 2 months.
1998	Rhapsody of the Seas (Royal Caribbean International)	Hits pier in Curacao causing a 7 meter hole above water line --Repaired and continues.
1997	Island Princess (Princess Cruises)	Collision with unmarked obstruction at Civitavecchia – **2 cruises cancelled**.
1996	Statendam (Holland America Line)	Near miss with barge carrying 80,000 liters of propane and pallets of dynamite in the Discovery Passage, British Columbia. Collision averted by barge's action.
1993	Noordam (Holland America Line)	Collision with freighter in the Gulf of Mexico.
1992	Europa (Hapag-Lloyd)	Collision with freighter 180 miles off Hong Kong.

1991	Regent Sea (Regency Cruises) Island Princess (Princess Cruises)	2 ships collide in strong winds at Skagway – Regent Sea had its steel hull plating on the stern ripped; Island Princess had a 50' gash 30 ft above water line and 11 cabins were exposed.
1990	Azure Seas	Struck while moored by container ship in LA harbor.

A.5 Other Significant Events Involving Cruise Ships, 2000 - 2012

Year	Ship (Cruise Line)	Incident
2012	Independence (America Cruise Line)	The starboard engine drive shaft broke on leaving Savanah. Returned to port where the problem was determined. Left port with blessing of the CG. On one engine cruised to Brunswick, GA where the CG withdrew its approval to continue with the passengers. **Cruise terminated**
2011	Disney Magic (Disney Cruise Line)	Loss of power and adrift at sea for more than 90 minutes.
2011	Balmoral (Fed Olsen Cruises)	Ship detained by Maritime and Coastguard Agency after finding fault with life boats and inconsistent record keeping of crew hours of rest.
2011	Opera (MSC Cruises)	Detained in Southampton following an inspection by Maritime and Coastguard Agency. The MCA said: "The ship was not fully compliant with international maritime safety regulations."
2011	Opera (MSC Cruises)	Suffered a failure to an electric panel, causing an initial low power and afterwards a total loss while the ship was near Wisby in Baltic Sea. It was adrift for more than 9 hours.
2011	Radiance of the Seas (Royal Caribbean International)	The ship is currently operating under USCG Captain of The Port Order (COTP) due to one of two main propulsion azipods being inoperative for maneuver and requires a tractor tug tethered escort every arrival & departure from Tampa Bay to insure safe transit should the one remaining azipod propulsion fail.
2010	Clelia II (Travel Dynamics International)	A large wave slammed into the ship with 88 passengers and 77 crew members aboard, but the ship's crew overcame minor damage and is heading safely back to its scheduled port (Ushuaia). The ship declared an emergency yesterday, reporting it had suffered engine damage amid heavy seas and 90 kph winds when it was northeast of the South Shetland Islands and about 845km from Ushuaia. The International Association of Antarctica Tour Operators issued statement saying the wave that hit the Clelia II caused a broken bridge window and some electrical malfunctions that temporarily knocked out some communications and affected engine performance.
2010	Costa Atlantica (Costa Cruises)	The ship experienced steering problems minutes after leaving Bermuda. The Bermuda Maritime Operations received a distress call. The duty officer said: "The ship departed Dockyard at 1:10pm. She reported problems with her steering. The pilot immediately stopped the ship and ordered two tugs to come out to assist. The tugs came alongside and took her to an area with more sea room and then the engineers were able to fix the problem."
2010	Celebrity Century (Celebrity Cruises)	Passengers were offloaded in Villefranche after the ship's rudders were damaged. **Cruise terminated**
2010	Queen Mary 2 (Cunard Line)	The ship was approaching Barcelona when one of 12 capacitors in a harmonic filter failed, accompanied by a loud explosion. The explosion resulted in extensive damage to the surrounding electric panels and caused the vessel to black out. The ship was adrift for an hour.
2010	Atlantic Star (Pullmantur)	An electrical problem meant no air conditioning and problems with toilets. **Cruise terminated**
2010	Clelia II (Travel Dynamics International)	The ship lost all power, apparently the result of human error.
2010	Pacific Dream (Pullmantur Cruises)	Experienced engine failure. **Cruise terminated**

2010	Fascination (Carnival Cruise Lines)	Lost power for several hours and was adrift at sea. Carnival says the ship had a "technical malfunction."
2010	Vistamar (Plantours & artner)	The UK Maritime and Coastguard Agency detained the ship at Belfast Docks after numerous faults were identified on board including broken or missing fire doors and failure to maintain the vessel in line with International Safety Management (ISM) code. The coastguard had said that 10 of the ship's 100 fire doors were faulty. It also said that one of the lifeboat engines would not start. **Cruise canceled**
2010	Prince Albert II (Sliverseas Cruises)	The ship was impounded for several hours in Portsmouth amid safety fears. One concern was that it was overloaded. The other concern was that senior officers had not had enough rest. The report also says the ship's lifeboats were 'not ready for use,' there were three unsafe emergency routes in case of fire, and there was an air bubble in the ship's magnetic compass.
2010	Minerva (Swan Hellenic)	The ship broke down in the Mediterranean and was taken for emergency dry dock in Syros in Greece for engine repair. No a/c or lighting. **Cruise terminated**
2010	Pacific Dawn (P&O Australia)	A pilot averted a possible disaster by bringing the out-of-control ship to a stop just 700m away from the six-lane Gateway Bridge over the Brisbane River. Two tugboats got the ship under control, bringing her to a complete standstill 70m shy of the bridge.
2010	Caribbean Princess (Princess Cruises)	A steering malfunction caused the ship to list 5 to 9 degrees as it approached port.
2010	Explorer of the Seas (Royal Caribbean International)	Human error caused a severe list (10 to 12 degrees) that put passenger windows on Deck 3 under water. The list lasted 2 – 3 minutes.
2010	Louis Majesty (Louis Cruises)	26-foot waves crashed into the ship off France, smashing glass windshields and killing two passengers. Another fourteen people suffered light injuries. **2 deaths**
2009	Norwegian Dawn (NCL	The ship temporarily lost all power off the coast of Puerto Rico. Power was restored much later in the day.
2009	Silja Europa (Silja Line)	With almost 1,700 people onboard, the ship was towed to the Finnish port city of Turku due to problems with its rudder system.
2009	Brilliance of the Seas (Royal Caribbean International)	The ship's departure was delayed because of needed repairs after a storm broke out a number of windows on Decks 3 and 4.
2009	Oceanic (Peace Boat)	The ship (with 848 passengers) was detained after US Coast Guard inspectors found a small hole in the ship's hull during a routine safety inspection. About a gallon of water per hour was coming into the ship. An additional 16 safety violations were cited.
2009	Maasdam (Holland America Line)	The ship severely listed, causing damage onboard, when the captain took evasive action to avoid running aground on a sandbar in the St. Lawrence Seaway.
2009	Seven Seas Voyager (Regent Seven Seas Cruises)	One of the pods was caught in a fishing net. Attempts to release the pod failed. The ship is on its way to Dubai where it will be dry docked to fix the pod. Cruise delayed; itinerary adjusted.
2009	Costa Europa (Costa Cruises)	The ship underwent repairs in the Kenyan port of Mombasa, before sailing towards Reunion Island, but passengers said the vessel's speed remained "erratic," while others noticed black smoke coming from the engines. Itinerary changed.
2009	Aurora (P&O Cruises)	Broke down 4 hours after leaving Sydney. The Port Shaft Thrust Bearing had gone. Sailed at reduced speed to Auckland for repairs (taking 4 days instead of two). Itinerary changed.
2009	Explorer of the Seas (Royal Caribbean International)	A propeller on one of the ship's engines struck an unidentified object and was bent while leaving Samana. Cruise continued. Repaired on the next cruise when the ship was in St. Thomas.
2008	Grand Princess (Princess Cruises)	The ship diverted to safe harbour, anchoring outside English Harbour (Antigua). It had to be diverted to that part of the island because it was having problems with its bow thruster.
2008	Lyuba Orlova (Quark Expeditions)	The ship was detained by Argentinian officials due to mechanical problems. Four cruises were canceled.

2008	Queen Victoria (Cunard Line)	The ship suffered a severe list of about 7 degrees causing damage onboard, and later in the cruise had a full power failure that lasted for some time.
2008	Sea Princess (Princess Cruises)	The ship encountered 'technical difficulties' as it attempted to dock at Port Zante, which resulted in passengers being ferried to the nearby marina by the ship's life crafts. Initial reports were there had been a fire onboard that caused engine damage to the vessel and hindered its berthing.
2008	Fantasy (Carnival Cruise Lines)	There was a minor technical glitch a few hours after the ship left New Orleans, leaving the ship adrift. The problem was fixed and the ship resumed sailing.
2008	Discovery (Voyages of Discovery)	The ship was detained by Polish and later by UK authorities for safety deficiencies. The ship was cited for seven deficiencies.
2007	Enchantment of the Seas (Royal Caribbean International)	The ship had a power failure in the early morning and was assisted by a tug into Fort Lauderdale at the cruise's end.
2007	Norwegian Star (NCL)	A severe list causing damage onboard attributed to human error.
2007	Island Princess (Princess Cruises)	Engines failed off the coast of France, plunging the ship into darkness. Passengers were ferried to shore by the ship's tenders. **Cruise terminated**
2007	Black Prince (Fred Olsen Cruises)	Propeller damaged. **Cruise terminated**
2007	QEII (Cunard Line)	The ship was delayed in port for 24 hours, mid-cruise, because of mechanical problems.
2007	Ryndam (Holland America Line)	Power failure and propulsion failure. Power restored. The Coast Guard required the ship to have 2 tugboats to assist entering San Diego harbor and docking.
2007	Brilliance of the Seas (Royal Caribbean International)	A complete power loss, leaving the ship adrift for 2.5 hours.
2006	Ryndam (Holland America Line)	The ship reported engine problems about an hour after sailing and stalled in the channel between the port and the Skyway Bridge. Power was subsequently restored, but the Coast Guard said the ship would remain moored overnight while they investigated the problem with the engines.
2006	Thomson Destiny (Thomson Cruises)	The ship's toilets did not work for three days and there was no hot water for 24 hours. A series of blockages in the plumbing system were blamed for the problem; experts were dispatched to deal with the problem.
2006	Crown Princess (Princess Cruises)	Severely rolled (15 degrees) to one side shortly after leaving Port Canaveral (at 3:25 PM). ~240 passengers were treated for various injuries; 94 were transferred to local hospitals ashore for evaluation and treatment. The roll was attributed to a problem with the auto-pilot.
2006	Costa Allegra (Costa Crociere)	The ship twice lost all power for 30 minutes or so (shortly after leaving Shanghai and again on its return).
2006	Seabourn Pride (Seabourn Cruises)	Sailed through very heavy seas on way to Bergen . There was a substantial amount of water damage on board – forward suites had broken windows and flooding; other rooms also had water damage (including electrical systems).
2006	Vistamar (Plantours & Partners)	Ship impounded in London because of serious safety deficiencies, including inoperable lifeboats.
2006	Rhapsody of the Seas (Royal Caribbean International)	The ship listed 10 degrees due to a malfunction with the stabilizing mechanism. Considerable damage onboard.
2006	Zuiderdam (Holland America Line)	The ship lost all power and was adrift for about an hour (midnight to 1 AM) while between St. Thomas and Tortola.
2006	Sensation (Carnival Cruise Lines)	Coast Guard inspectors detained the ship at Port Canaveral until the captain and crew could fix violations related to the ship's fire-control systems.
2006	Carnival Liberty (Carnival Cruise Lines)	There was a complete power failure that lasted approximately 1 hours (10 - 11PM) and it was another hour or so before everything appeared "back to normal".

2006	Pacific Sky (P&O Australia)	Five hours after leaving Singapore the ship experienced engine problems, came to a shuddering halt, and sat anchored in the Malacca Strait for 30 hours while crew tried to fix the problem. The cruise finally resumed on one engine.
2006	Grand Princess (Princess Cruises)	Two hours after leaving Galveston, a medical emergency required return to port. The ship made a sharp turn while traveling at 21 knots, causing 18.5 degree list, which resulted in considerable damage onboard. Twenty-seven passengers and ten crew suffered injuries
2006	Norwegian Spirit (NCL)	Several windows were smashed and 11 cabins flooded when the ship encountered a storm.
2005	Funchal (Classic International Cruises)	The ship was stuck in Safaga (Egypt) for a week, mid-cruise, while repairs undertaken to the port main engine. Many passengers canceled the remainder of the cruise.
2005	Sun Princess (Sun Princess)	A power outage while docked at St. Thomas, USVI, left passengers mostly in the dark for more than 2 hours. Backup generators provided limited power. Power was restored and the ship left port two hours late.
2005	Norwegian Jewel (NCL)	The ship lost power as a result of problems with the port-side azipod while leaving St. Petersburg . The ship was assisted by Finnish tugs to reach the next port.
2005	Carnival Legend (Carnival Cruise Lines)	Heading for NYC a, "computer glitch" caused a hard left turn, that resulted in a 14 degree list causing injuries and damage.
2005	Carnival Destiny (Carnival Cruise Lines)	The ship lost power and propulsion at 7AM – it was dead in the water for 8 hours and without electricity and air conditioning for about two hours.
2005	Thomson Celebration (Thomson Cruises)	600 passengers flown home after the plumbing in 250 cabins failed. **Cruise terminated**
2005	Norwegian Dawn (NCL)	The ship was struck by a 70 foot wave enroute from the Bahamas to New York . The wave knocked out windows in two passenger cabins and on the navigation bridge and damaged the ships hull. Diverted to Charleston for repairs. 300 passengers chose to fly home.
2005	Pacific Sky (P&O Australia)	Problem with the shipboard's gearbox ends cruise. **Cruise terminated**
2005	Grand Voyager (Iberojet Cruises)	A huge wave breached a bridge window, resulting in damage to electrical control systems, a temporary loss of propulsion, and loss of all communications. A distress call was issued. Twenty passengers reported minor injuries (including eight with broken bones).
2005	Explorer (Semester at Sea)	Lost power in three of its four engines when a 50-foot wave broke bridge windows and damaged controls while 650 miles south of Alaska's Aleutian Islands.. Crew members were able to start a second engine and the ship "limped" to Honolulu for needed repairs.
2005	QEII (Cunard Line)	The ship lost power in the early hours of New Year's Day. Without power there is no propulsion, ventilation, lighting or water. The ship drifted for about an hour before power was restored.
2004	Pacific Sky (P&O Australia)	Cruise aborted because of problems with the starboard engine. Departure had been delayed for more than a day because of a faulty boiler and a damaged gerarbox. **Cruise terminated**
2004	Rotterdam (Holland America Line)	Ambulances greeted the ship in Halifax after passengers and crew endured monster waves generated by hurricane Karl in the North Atlantic . About a dozen passengers were taken to hospital with suspected fractures and severe bruising. 90 people (including 5 crew) reported minor injury. Ship lost power and for 3.5 hours was tossed around in high waves and in total darkness.
2004	Carnival Destiny (Carnival Cruise Lines)	The ship lost power and was adrift for several hours while cruising to St. Thomas from Dominica.
2004	Caronia (P&O Cruises)	The ship "suffered a total power failure following a leak from a swimming pool that took out the main electric board. Drifted for approximately 2 hours before partial power restored.
2004	Norwegian Crown (NCL)	Fuel fumes filled 50 cabins as a result of a hole in a ventilation duct in the air conditioning system, and there were reportedly power outages.

2004	Black Prince (Fred Olsen Cruises)	Enroute to her first journey after engine repairs, the ship broke down just off Southampton docks and lost all power.
2004	Diamond Princess (Princess Cruises)	The ship suffered several short power failures on one cruise and "technical difficulties" on the next cruise.
2003	Brilliance of the Seas (Royal Caribbean International)	While cruising between Corfu and Civitivecchia, the ship was hit by a storm – twice listing hard to the port side approximately 13.6 degrees. After daybreak the ship had a power blackout that lasted several hours.
2003	Norway (NCL)	A boiler explosion killed 8 crew members and injured dozens of others. All future cruises canceled. **8 deaths**
2003	Pacific Sky (P&O Australia)	The ship had to turn back to Auckland on an 11 day cruise to Fiji. The ship took on 17 tonnes of water after it sprang a leak through cracked and corroded plating on the side of the 19-year-old ship.
2003	Ryndam (Holland America Line)	The ship listed to the port side around 6:30 PM, causing injuries and considerable damage onboard. The incident was explained as the result of a mechanical failure from going from manual to automatic pilot
2003	Carnival Conquest (Carnival Cruise Lines)	The USCG investigated a sharp roll that sent passengers running for life vests, and glass crashing to decks. Seven passengers reported to a newspaper in New Orleans that they saw the lights of another vessel silhouetted in thick fog less than 200 yards from the ship.
2003	Radiance of the Seas (Royal Caribbean International	Ship struck by strong winds as it crossed a squall line and briefly went into a seven degree list. No injuries.
2003	Marco Polo (Orient Lines)	After being pushed by wind on to shallow waters while in the South Shetland Islands, the hull of the ship was found to have three cracks (4, 3, and 1.7 meters long by 2 centimeters wide). Eight millimeter thick plates were welded over the cracks at Ushuaia and the cruise continued.
2003	Wind Spirit (Windstar Cruises)	The ship experienced engine problems and generator problems that left it adrift for a night and part of a day. The ship made it back to Torotola and underwent necessary repairs.
2002	Olivia (Ukraine-registered)	With 650 passengers onboard, the ship was detained for a full day by the New Zealand Marine Safety Authority. Safety inspectors found problems with an emergency pump and with equipment that separates oil from water in the ship's bilges.
2002	Brilliance of the Seas (Royal Caribbean International)	A propulsion problem required shutdown of the complete propulsion system at sea while technicians worked to repair it.
2002	Radiance of the Seas (Royal Caribbean International)	USCG reports the ship experienced a three-minute power outage disabling the ship's steering and propulsion capability while in Frederick Sound (preparing to transit the Gatineau Channel en route to Juneau).
2002	Ryndam (Holland America Line)	A generator stopped running while the ship was in the Lynn Canal (Alaska) causing it to lose power – it lost all propulsion and was adrift for about 20 minutes (at 1:30 AM). The water was too deep for the ship to drop anchor.
2002	QEII (Cunard Line)	A large sea water leak was discovered in the aft engine room, caused by the perforation (from corrosion) of a sea water inlet pipe. The leak was stopped after several efforts (over 36 hours), but not before several hundred tones of sea water had to be pumped overboard so that workers could get at the leaking pipe in the engine room (which was submerged by water from the leak).
2002	Oriana (P&O Cruises)	While crossing the North Pacific an auxiliary engine failed, causing the other three engines to stop. Ship drifted for two hours and proceeded at reduced speed after it was restored.
2001	Caledonia Star	Damaged by rogue wave – escorted to port by Argentinean Navy.
2001	Bremen (Hapag-Lloyd)	Hit by rogue wave – wheelhouse windows break and water enters bridge; detour to Montevideo for immediate repairs.
2001	Radiance of the Seas (Royal Caribbean International)	Hit heavy seas – balcony cabins, Seaview and Windjammer cafes flooded

2001	Norway (NCL)	Ship detained in port because of safety violations – 106 leaks in fire sprinkler system.
2001	Norwegian Sky (NCL)	Autopilot malfunction causes roll –70+ injured, 16 hospitalized.
2000	Ocean Explorer	Engine failure; world cruise ended. **Cruise terminated**
2000	Sundream (Sun Cruises)	Failing generators; no a/c and limited power for 2 days.
2000	Gradeur of the Seas (Royal Caribbean International)	Loss of electrical power. Towed to port – delayed 12 hours.
2000	Aurora (P&O Cruises)	Hit by 40 foot wave – smashed windows in 6 cabins; 20 cabins flooded. 6 injured.
2000	Oriana (P&O Cruises)	18 hours into maiden voyage - problem with over heated propeller shaft. **Cruise terminated.**