

103

CRUISE SHIP HEALTH AND SAFETY

Y 4. M 53: 103-124

Cruise Ship Health and Safety, Series...
INGS

SUBCOMMITTEE ON MERCHANT MARINE
AND THE
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION
OF THE

COMMITTEE ON
MERCHANT MARINE AND FISHERIES
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

SECOND SESSION

ON

**HEALTH AND SAFETY PRACTICES OF CRUISE SHIPS
OPERATING FROM AMERICAN PORTS AND INVESTIGATE
THE LEGIONNAIRES' DISEASE OUTBREAK
ABOARD THE CELEBRITY CRUISE VESSEL *HORIZON***

SEPTEMBER 28, AND OCTOBER 6, 1994

Serial No. 103-124

Printed for the use of the Committee on Merchant Marine and Fisheries



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CRUISE SHIP HEALTH AND SAFETY PRACTICES

WEDNESDAY, SEPTEMBER 28, 1994

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON MERCHANT MARINE, JOINT WITH, SUBCOMMITTEE ON COAST GUARD AND NAVIGATION, COMMITTEE ON MERCHANT MARINE AND FISHERIES,

Washington, DC.

The Subcommittee met, pursuant to call, at 10:02 a.m., in room 1334, Longworth House Office Building, Hon. William O. Lipinski (Chairman of the Subcommittee) presiding.

Present: Representatives Lipinski, Tauzin, Hughes, Lancaster, Pickett, Hochbrueckner, Schenk, Taylor, Furse, Green, Coble, Bateman, Fields, Kingston, and Bentley.

Staff Present: Subcommittee on Merchant Marine—Keith Lesnick, Staff Director; Randy Morris, Professional Staff, Clerk; Fred Zeytoonjian, Counsel; Natalie Hidalgo, Professional Staff; David Honness, Professional Staff; Subcommittee on Coast Guard—Catherine Tucker, Professional Staff; Full Committee—John Cullather, Professional Staff; Carl W. Bentzel, Counsel; Sue Waldron, Press Assistant; Minority—Harry F. Burroughs, Staff Director; Cynthia M. Wilkinson, Chief Counsel; Hugh N. Johnston, Counsel; Kip Robinson, Counsel; and Margherita Woods, Staff Assistant.

STATEMENT OF HON. WILLIAM O. LIPINSKI, A U.S. REPRESENTATIVE FROM ILLINOIS, AND CHAIRMAN, SUBCOMMITTEE ON MERCHANT MARINE

Mr. LIPINSKI. Good morning, everyone. Welcome to today's hearing on cruise ship safety.

It is not my practice to make long opening statements, as Members of the committee know. I believe it is more important to hear from our witnesses. I would, however, like to make a few points before we proceed today.

First, the cruise ship industry is a growth industry. By the year 2000, it is projected over 8 million Americans will leave our ports on cruise ships each year; 8 million American citizens will pay an average of \$1,000 for a six- to eight-day vacation on the high seas. It is our responsibility on the Merchant Marine Committee to oversee the safety of these citizens.

I am deeply concerned that recent events indicate a need to take a long and hard look at cruise industry safety practices. I do not need to point out that almost all cruise ship lines operating from our ports are foreign flagged. That means that they are not re-

quired to meet the Coast Guard's strict safety regulations. They do not adhere to our fair labor practices and it is safe to say that they also do not follow our health practices.

In addition, the foreign-flagged cruise industry takes roughly \$7 billion out of our economy each year without paying one cent in U.S. corporate income taxes. And while, try as we may, we cannot get them to pay their fair share to the U.S. Treasury, we are committed to assure the safety of our citizens.

So let me leave you with this promise. We will find a way to make sure we regulate the safety practices of ships calling on our ports and protect the Americans traveling on the high seas.

I would also like to state this morning that I am extremely disappointed and enormously unhappy with Celebrity Cruise Lines, Incorporated, for not sending a representative to this hearing this morning. They know that we wanted them here. We tried to persuade them to attend. But up to this point, they have refused to do so.

We have talked about issuing a subpoena to them. In light of the fact that these hearings are going to continue in the future, we are once again going to invite them to testify before the Merchant Marine and the Coast Guard Subcommittees. If they fail to agree to come and testify, the Merchant Marine Subcommittee and the Coast Guard Subcommittee will meet and discuss subpoenaing them. I personally will strongly recommend we do subpoena them if they are not willing to come voluntarily.

I will now recognize the cochairman of this hearing, the Chairman of the Coast Guard Subcommittee, Mr. Billy Tauzin.

STATEMENT OF HON. W.J. (BILLY) TAUZIN, A U.S. REPRESENTATIVE FROM LOUISIANA, AND CHAIRMAN, SUBCOMMITTEE ON COAST GUARD AND NAVIGATION

Mr. TAUZIN. Thank you, Mr. Chairman.

Let me first commend you, Mr. Lipinski, and your staff for the efforts that have led to this hearing and the examination of cruise ship health and safety practices. We do so on a day of course when wire services report to us the loss of an Estonian ferry, capsized and sank with about 850 people aboard, and a huge apparent loss of human life, as many as 760 apparently feared missing and dead.

Safety and health in the cruise ship industry are indeed suitable items for examination, particularly as the Chairman has pointed out, when it regards foreign-flagged cruise ships to which our laws and regulations have sometimes difficulty reaching, but which invite many Americans, particularly older Americans, to come aboard as paying passengers for what should be a pleasant, safe and healthy journey.

I look forward to working with the cruise ship industry and certainly with the Coast Guard and public health safety agencies, and with you, Mr. Chairman, to ensure in fact that the promise of healthy and safe voyage is a promise that is kept.

Just about a year ago, Mr. Lipinski, you recall our Coast Guard Subcommittee had hearings on an incident involving a whistleblowing passenger who took some videotape of midnight dumping of garbage. As a result of that hearing and as a result of the cruise ship industry responding to our complaints, I am pleased to report

to you today that the environmental beach cleanup effort that was conducted just last weekend preliminarily indicates a much lower percentage of materials that apparently are finding their way on American beaches, dumped from these cruise ships and other ships in the areas. So progress is made as a result of these kind of hearings.

I firmly believe as you have pledged to this hearing today, that as a result of what you are doing, passengers will in fact have a greater degree of certainty that the promise of a healthy and safe trip when they board a foreign-flagged cruise ship, as when they board an American-flagged cruise ship, is a promise that will be kept and not one that will result unfortunately in a sad story on the wire services.

Mr. Chairman, again I look forward to hearing your witnesses and participating with you in this very excellent and timely hearing.

Mr. LIPINSKI. Thank you, Mr. Tauzin.

The Chair will now recognize the Ranking Member of the Merchant Marine Subcommittee, Mr. Bateman.

STATEMENT OF HON. HERBERT H. BATEMAN, A U.S. REPRESENTATIVE FROM VIRGINIA, AND RANKING MINORITY MEMBER, SUBCOMMITTEE ON MERCHANT MARINE

Mr. BATEMAN. Thank you, Mr. Chairman.

I, too, commend you for scheduling these hearings, and would share somewhat in your distress that the witness from Celebrity Lines did not choose to appear. These hearings should have a value, not only to us as Members of the committee, in determining whether or not there are things that reasonably might need to be done to better assure the health and safety of passengers who are on cruise lines operating out of American ports.

It would be also, it seems to me, a very good opportunity for the cruise ship industry to be able to present their point of view and hopefully be able to allay any fears or concerns that their potential customers might have as to utilizing their lines and participating in the cruises. That, too, can have a useful purpose. I do commend you for conducting the hearings and look forward to the testimony from our witnesses.

Mr. LIPINSKI. Thank you, Mr. Bateman.

The Chair will now recognize for an opening statement the Ranking Member of the full Merchant Marine and Fisheries Committee, Mr. Fields.

STATEMENT OF HON. JACK FIELDS, A U.S. REPRESENTATIVE FROM TEXAS, AND RANKING MINORITY MEMBER, COMMITTEE ON MERCHANT MARINE AND FISHERIES

Mr. FIELDS. Thank you, Mr. Chairman.

Let me begin by commending you for holding these hearings, and also say that if the witness that you are seeking does not voluntarily appear, then the Minority would support your subpoena.

Mr. LIPINSKI. Thank you very much.

Mr. FIELDS. Mr. Chairman, one of the most important matters within this committee's jurisdiction is safety of life at sea. Every year more than 3 million Americans set sail from American ports

with the expectation that their ships are safe and that their well-being is assured. The recent instance on board some of those cruise ships, disease, death and fire, have shaken that faith.

As we all know, virtually all of those ships carrying all of those Americans are manned by foreigners, owned by foreigners, and they fly foreign flags. The Members of this committee are constantly being reassured by those operators and owners that their ships are safe, that their crews are well-trained and that their passengers are in good hands. Yet the three recent instances involving the *Horizon*, the *Viking Serenade* and the *Regal Empress*, may provoke a somewhat different conclusion.

Responsibility for ensuring the cruise ships are in compliance with the International Convention for the Safety of Life at Sea lies with the Coast Guard. Regrettably, neither SOLAS nor flag-state standards are as stringent as ours here in the United States, and the Coast Guard cannot impose our standards on foreign vessels, no matter how many Americans are on board. Sanitary conditions on cruise ships are monitored by the U.S. Public Health Service.

Over the last several years, our committee has held a number of hearings both here in Washington and around the country examining safety, security, and public health standards on these ships. It is time, given the recent events, to investigate whether the applicable laws are adequate to assure the safety of Americans. We have a responsibility to assure that our constituents have a safe and healthy cruise to some beautiful destination and not to a hospital bed or to a grave.

And I look forward to the testimony of our witnesses and I hope the hearings provide us with some much-needed answers.

And again, Mr. Chairman, I want to commend you for holding these hearings.

Mr. LIPINSKI. Thank you, Mr. Chairman.

I particularly thank you for your support in regard to the subpoena powers that we may be requesting in the near future.

The Chair will now recognize the Ranking Member of the Coast Guard Subcommittee, Mr. Coble.

STATEMENT OF HON. HOWARD COBLE, A U.S. REPRESENTATIVE FROM NORTH CAROLINA, AND RANKING MINORITY MEMBER, SUBCOMMITTEE ON COAST GUARD AND NAVIGATION

Mr. COBLE. Thank you, Mr. Chairman.

I commend you and Chairman Tauzin for having called this hearing regarding cruise ship health and safety practices. I believe it is very important for our respective subcommittees to examine the health and safety incidents which occurred this past summer aboard three foreign-flagged cruise ships.

The world cruise industry, Mr. Chairman, as you know, is growing at an astonishing rate, with American citizens making up a large percentage of the passengers. Congress, the cruise industry, the Public Health Service, as well as the Coast Guard, must work together, it seems to me, to ensure that the passengers are safe.

I will be interested, as I am sure will my colleagues, in hearing from the representatives of the Centers for Disease Control, the National Transportation Safety Board, and the Coast Guard, re-

garding their views on the adequacy of current U.S. laws which regulate the health and safety practices of foreign-flagged cruise ships which call at our ports.

I also wish to welcome the other witnesses who will testify today.

And again, Mr. Chairman, I thank you for having called the hearing.

Mr. LIPINSKI. Thank you very much.

The Chair recognizes Mr. Pickett.

Mr. PICKETT. Mr. Chairman, I have no opening statement this morning.

Mr. LIPINSKI. Thank you.

The Chair would now recognize Mr. Hochbrueckner.

Mr. HOCHBRUECKNER. Mr. Chairman, no statement at this time.

Thank you.

Mr. LIPINSKI. The Chair recognizes Mr. Taylor.

Mr. Lancaster.

Who has next? Ms. Schenk.

Ms. SCHENK. No statement.

Mr. LIPINSKI. Ms. Furse.

Ms. FURSE. I don't have a statement, Mr. Chairman.

I do want to take just a moment to commend my colleague from across the river, Congresswoman Unsoeld, for her untiring work on trying to develop the American cruise ship industry. And that will create many, many jobs in this country.

And I want to commend you, Mr. Chairman, and Mr. Tauzin, for holding this hearing. It is a vital hearing and I look forward to the testimony.

Thank you, Mr. Chairman.

[The following statements were submitted for the record:]

STATEMENT OF HON. GENE GREEN, A U.S. REPRESENTATIVE FROM TEXAS

Thank you, Mr. Chairman. I want to commend the chairs of the Subcommittees, Mr. Lipinski and Mr. Tauzin, for bringing this issue to the forefront. I also want to thank the witnesses who have come before us today for their presence, unlike others who have refused to cooperate with our Subcommittees.

I was saddened to hear this morning that an Estonian ferry capsized and sank with about 850 people on board. In an article this morning, a passenger stated that there was no activity by the crew. This individual had to grab a life jacket himself and managed to jump into a rubber boat with others. My question is, where was the crew and why was there no activity? Were there any warning signals? Were crew members trained what to do in situations such as this?

Recently, there have been concerns on outbreaks of health and safety problems on cruise vessels. I was appalled to hear that representatives from Celebrity Cruise Lines refused to testify before our Subcommittees. I am concerned about Celebrity's *Horizon* setting sail when there was an indication of possible contamination problems on board.

I would also like more information on what precautions Royal Caribbean's *Viking Serenade* took when passengers complained about headaches and vomiting and led to the death of an elderly man during its cruise from San Pedro, California to Mexico. How many incidents like this or the capsizing of a ferry, like the one that occurred yesterday, will happen before action is taken? As a Member of this Committee I am committed to working with other Members on addressing this issue.

I look forward to hearing testimony from our witnesses today and to working to eliminate incidents such as these. Thank you, Mr. Chairman.

STATEMENT OF HON. RICHARD POMBO, A U.S. REPRESENTATIVE FROM CALIFORNIA

Mr. Chairman, thank you for holding today's hearing on cruise ship health and safety practices. Within the last several hours a passenger vessel named *Estonia* sank in stormy seas off the coast of Finland. The *Estonia* was carrying over 800 in-

dividuals with almost all of them feared dead. It is appropriate that we are here today to review cruise safety practices and try to prevent another incident such as the sinking of the *Estonia* from happening in the future.

The last several years have seen an increase in the number of Americans taking cruises. In 1992 twelve new ships were introduced into the North American cruise ship industry. The following year the cruise industry served about 4.5 million passengers which is triple the number the industry was serving just 10 years ago. With more individuals taking cruises, and with additional ships being added each year, it is important that steps are taken to ensure the safety and the health of these passengers.

I would point out that it is in the cruise ship's best interest to take the necessary steps to ensure the safety of its passengers. I would like to quote from Mr. Rod McLeod, the immediate past president of the Cruise Line Industry Association who stated in reference to the outbreak of cases of Legionnaires Disease, "probably every responsible cruise ship operator is paying particular attention to this . . . we're seeing that we are in strict compliance with maintenance standards."

The cruise ship companies are backing up those words with action. A recent General Accounting Office (GAO) report stated that safety standards for cruise industry should be higher. However, the report also acknowledges that there have been no major incidents in recent years involving ships operated from U.S. ports. The GAO report prompted the United States Coast Guard to provide better training for ships inspectors and improved data collection to identify repeat safety violations. The Coast Guard presently inspects ships at least four times a year to ensure that these vessels meet the safety requirements imposed by the International Convention for the Safety of Life at Sea (SOLAS 74). In addition, Congress has given the Coast Guard full power to enforce safety standards on cruise ships starting in November of 1992.

Furthermore, there are indications that even though the cruise ship industry has been adding additional ships to the world-wide fleet, the current Administration is having a difficult time meeting the demands of inspecting these vessels. As we reduce government employees and cap the number of individuals in certain departments, the safety of the American cruise ship passenger may be put in jeopardy. It is important that we do not allow this downsizing to jeopardize the safety of cruise ship passengers.

With an industry that faces fierce competition, Congress needs to work with the industry to increase safety on the oceans. Finally, I look forward to hearing from these witnesses and their insights into the condition of the cruise ship industry.

Thank you.

Mr. LIPINSKI. Thank you very much.

Our first witness this morning is Mr. Jim Sharpless, from Indian Mills, New Jersey, who was a passenger on the *Celebrity Horizon*.

I understand, Mr. Sharpless, that you had to get up this morning at 4:30 to be here for this hearing. On behalf of both Subcommittees, I express my sincere appreciation to you for coming here to make this testimony.

Welcome.

STATEMENT OF JIM SHARPLESS, INDIAN MILLS, NEW JERSEY, PASSENGER ON *CELEBRITY HORIZON*

Mr. SHARPLESS. Thank you.

Let me start, we started the cruise on Saturday, July 16th.

Mr. LIPINSKI. Excuse me, could you pull the mike a little closer to you?

Mr. SHARPLESS. Sure.

Yes, we started the cruise on Saturday, July 16th. We arrived in New York City. We had a four-and-a-half-hour delay on boarding the ship. They said they had an unexpected health inspection, and it was delaying the boarding.

Finally, upon a half hour before boarding the ship, we were given a notice that there was a low-level risk of Legionnaires' Disease.

Upon making the decision, we went on the cruise. They made light of the disease.

On Monday, July 18th, at 11:00 p.m., while on the ship in Bermuda, we were informed by a letter that we would have to leave the ship for 24 hours while they took the ship out to sea and superchlorinate the water tanks. People became outraged.

The crew disappeared when this happened at 11 o'clock at night for a short while, you couldn't find anybody. At 1:00 a.m. in the morning, they held a special meeting on the ship to try to calm the people down. They had members there from the CDC and there was a doctor on board that gave quite a bit of help to people to comfort them. And people were upset in the beginning of the meeting, but by the end, they were calmed down some.

The person from the CDC told us that they had no legal way of stopping the ship from sailing to New York on Saturday because they couldn't find any evidence at that time. On Tuesday, at 12 o'clock, we were told that we would have to leave the ship and be assigned to hotels.

Finally, at 5:30 that evening, we were assigned to hotels. On Wednesday, July 20th, we were informed that we were—would not be going back on the ship, and that we would be flown home.

Wednesday afternoon, we had to go back to the ship, pack our bags, and go back to the hotels. We did not know when we would be flown home.

At 11:55 on Tuesday—on Wednesday night, we were called and told that we would be flown home at 4:30 the next morning. This is the way things were organized.

Upon reaching JFK, they originally told us that we would be on our own for transportation to get back home. When we got there, they said—a representative from Celebrity Lines told us they would have minivans take us to our homes. The minivan turned out to be a charter bus which ended up taking us six and a half hours to get home from New York City, which is only a hour-and-a-half ride. We had to go to LaGuardia Airport. The bus driver got lost in New York City, he didn't know his way around, and it really was a disastrous trip to the end.

The only thing I can say is we feel things could have been handled better, but in all fairness, the crew tried to make things go as well as they could and representatives from the company did try to work things out the best they could in Bermuda. When you take 1,200 people and you throw them off a ship and have to find rooms for them and accommodations and meals, they did try to do a good job. But perhaps we need some more regulation or some—as far as health inspections on these ships.

Thank you.

Mr. LIPINSKI. Thank you very much for your testimony.

We will start off the questioning with Mr. Bateman.

Mr. BATEMAN. Thank you very much, Mr. Chairman.

Mr. Sharpless, thank you very much for coming in and presenting your testimony to us.

You mentioned at the outset of your statement that when you arrived you were late being able to board the vessel because they explained there was an unexpected health inspection. Did you ever get any background as to whether that unexpected health inspec-

tion was actually the case or whether it was a regular inspection or why they had to have an unexpected health inspection?

Mr. SHARPLESS. They really didn't give—they gave us as little information as possible. They just said that it was a routine health inspection, but it had taken longer than normal. We really didn't know anything until they finally sent a letter out to us about a half hour before boarding, notifying that there was a slight chance that there could possibly be Legionnaires' Disease on the ship.

Mr. BATEMAN. Did they give any explanation as to why there was this possibility or what was the origin of their concern that it might be something that would be contracted?

Mr. SHARPLESS. No, we did not hear anything about any other problems until we were already on the ship in Bermuda, and then we were—we found out that there had been health problems on prior sailings.

Mr. BATEMAN. Had been health problems with what?

Mr. SHARPLESS. On a prior sailing they had, someone had gotten ill.

Mr. BATEMAN. All right. The health problems on the prior sailing, was that the immediately prior sailing or do you know?

Mr. SHARPLESS. I believe it was two weeks before our cruise.

Mr. BATEMAN. Did you get any information as to the extent of the problem that they had encountered on that earlier cruise?

Mr. SHARPLESS. Not while on the cruise. We got more information from a newspaper that we bought in Bermuda than we got from the ship people.

Mr. BATEMAN. Well, if you would, tell me what was the extent of the problem in the—the health problem on the previous cruise two weeks earlier.

Mr. SHARPLESS. From my—from what I understand, someone did become sick with the Legionnaires' Disease that had other health problems and did die from it. I don't know how many other victims—how many other people came down with it.

Mr. BATEMAN. Did you at any time learn what the source of the bacteria, the virus or whatever it is that you get that gives you Legionnaires' Disease came from?

Mr. SHARPLESS. Not while on the ship. They said that they had eliminated it was in the air source and they were working—they knew it was waterborne, and they were working on the water system of the ship. Never said anything about the health spas or the whirlpool, which they feel they found the disease in afterwards.

Mr. BATEMAN. It sounds, Mr. Sharpless, like you sort of had the vacation from hell.

Mr. SHARPLESS. Yes, that is what my wife called it.

Mr. BATEMAN. Other than some effort to get you back from whence you came, was there any refund of what you had paid in order to participate in this excursion?

Mr. SHARPLESS. Yes, about a week to 10 days after we got home, we did receive a full refund of the complete cost of the trip, which was about \$3,000. And they gave us a discount on another cruise if we wish to take it.

Mr. BATEMAN. OK. Thank you, Mr. Sharpless. I am not going to ask the obvious question.

Mr. SHARPLESS. I haven't made a decision yet about another cruise.

Mr. BATEMAN. Thank you, Mr. Sharpless.

Mr. LIPINSKI. Mr. Pickett.

Mr. PICKETT. Thank you, Mr. Chairman.

Mr. Sharpless, you mentioned the reaction of the crew aboard the vessel shortly after it became known that there was some problem there, some health problem. Could you elaborate some on that? I believe you said: I couldn't locate members of the crew.

Mr. SHARPLESS. Yes. They had first passed this letter around at 11 o'clock at night, people wanted answers. And the crew didn't have the answers, I don't believe, then, to answer anyone. Or they couldn't against them.

The only person you could find at that time would be just your waiters and your barmaids and whatnot. Anybody of—that could answer any questions, such as a captain or the captains of the ship or the people that operate the ship, disappeared for a short while. You didn't see them. Because people were badgering them for answers, which they either did not know or could not answer. I am not clear on that.

Mr. PICKETT. Did this create some sense of alarm or discomfort among the passengers that they couldn't get information on what was going on?

Mr. SHARPLESS. You know, there was like 1,200 people on this ship, and I would say you had a hundred people that were outraged, a few lobbies where they had these letters, people were upset. At that time there were some women that were pregnant, left the ship and flew home that night. There were some people upset, yes.

Mr. PICKETT. You mentioned that there was a medical officer of some description aboard the vessel, did you?

Mr. SHARPLESS. Yes. There was somebody from CDC, which did give us some answers to our questions. But they could not answer them as complete as—there was a doctor on board that had a better—actually could describe to us better more about the Legionnaires' Disease.

Mr. PICKETT. So it was the physician aboard that determined that it was Legionnaires' Disease that was the problem?

Mr. SHARPLESS. No, I really can't say. At that point it was all speculation. I don't know if they had the results back, I don't know when and why, you know, what went on.

Mr. PICKETT. OK. Thank you very much.

Thank you, Mr. Chairman.

Mr. LIPINSKI. Mr. Coble.

Mr. COBLE. Thank you, Mr. Chairman.

Mr. Sharpless, in my advancing age I don't hear as well as I did 50 years ago. I have not heard you real clearly, but I think these questions have not been put to you.

You indicated that the crew did not know or could not answer. Was there a language communication problem with the crew? Was that part of the problem?

Mr. SHARPLESS. Yes. When the captain got up to speak, he was Greek and his English was broken and it was hard to understand him, yes.

Mr. COBLE. Did or—strike that. Do you know any of the passengers aboard the cruise who became ill?

Mr. SHARPLESS. No.

Mr. COBLE. Do you know any of the medical personnel aboard the *Horizon*?

Mr. SHARPLESS. No, I had no—no.

Mr. COBLE. During the evacuation of the ship, Mr. Sharpless, did the members of the medical department explain that you all may have been exposed to Legionnaires' Disease and what the symptoms would be or to look out for?

Mr. SHARPLESS. Yes. We did receive a letter, I am not sure whether it was on the ship or it was after we got home, explaining to us what some of the symptoms could possibly be so that we could be aware of this problem, yes.

Mr. COBLE. During the evacuation exercise, Mr. Sharpless, was that conducted in a professional manner or was it helter-skelter, or somewhere in the middle?

Mr. SHARPLESS. Mostly, I would say, it was handled pretty professional, yes.

Mr. COBLE. OK.

I think no further questions, Mr. Chairman.

Thank you, Mr. Sharpless.

Thank you, Mr. Chairman.

Mr. LIPINSKI. Mr. Hochbrueckner, do you have any questions?

Mr. HOCHBRUECKNER. Thank you, Mr. Chairman.

Mr. Sharpless, you indicated that prior to the departure you had received a written notice, as I assume all passengers did, essentially notifying you that there was the potential for Legionnaires' Disease and just giving you notice. How would you characterize that? Was it, in essence, a notification to sort of protect them by giving you notice?

Did it discourage you from going? Or was its purpose to protect the cruise ship line itself by their being able to say, well, we told you, and by the same token, I would assume they encouraged you to stay on the cruise itself? I mean, how would you characterize that notice?

Mr. SHARPLESS. Yes, I felt when we got that notice that that was a—to protect the ship's interest. That is why they probably did that, for a legal point. But at that point, I did not want to go. Had I had my own transportation in New York City, I think I would have left. We had come on a tour bus with five other family members and we had decided—they decided they were going to go. And if I hadn't went, I would have been the only one not going. So I—they twisted my arm and I went with them.

Mr. HOCHBRUECKNER. I see. Thank you, sir.

Thank you, Mr. Chairman.

Mr. LIPINSKI. Mr. Green, do you have any questions?

Mr. GREEN. Just one briefly.

Mr. Shapeless, I don't know if it has been asked before, but have you been on a cruise other than the *Horizon*?

Mr. SHARPLESS. No, this was my first cruise.

Mr. GREEN. Do you feel like you want to go on another one?

Mr. SHARPLESS. It was enjoyable when it was—before all this started happening, yes. But it was hard to believe as clean and as

spotless as the ship was that it had this problem, but I guess in water systems, these germs and stuff can hide. So I have to take this under consideration before I would go on another cruise, yes.

Mr. GREEN. Our committee has recognized the growth in the cruise industry, not only out of New York but in Florida. And we have expansion in Congressman Tauzin's district, I see, that there is a new ship going to be leaving out of New Orleans. So it is a growing industry.

In your example, you had family members with you, it almost sounded like a family reunion. And I guess the concern I have is that we see this growth, and yet the safety precautions that may not have been taken, that we are going to see a lot of industry that may be depending on it, all of a sudden people are scared from taking their family on it. And that is the purpose of the hearing today, both your testimony and the cruise ship panelists who are going to be here.

And I would hope they would recognize how important it is, because there are a lot of people that I represent who have taken cruises who may not go on another one because of the scares, and your example, and California and other areas.

Thank you for being here.

Thank you, Mr. Chairman.

Mr. LIPINSKI. Mr. Kingston, do you have any questions?

Mr. KINGSTON. Yes, Mr. Chairman.

Mr. Sharpless, how did you book with this particular cruise line? Did you go through a travel agent?

Mr. SHARPLESS. Yes, it was booked through a travel agent, yes.

Mr. KINGSTON. And does this travel agent use this cruise line exclusively or do they refer to you a number of them?

Mr. SHARPLESS. No, they use several. We just happened to pick this one.

Mr. KINGSTON. Did you select it because of the route or because of price?

Mr. SHARPLESS. We picked it because the time we could go and availability and—I don't know. Just at random, it was picked.

Mr. KINGSTON. At the time, though, that you selected it, were there other options?

Mr. SHARPLESS. I guess there was, yes.

Mr. KINGSTON. How did the prices compare?

Mr. SHARPLESS. I really don't know.

Mr. KINGSTON. So price was not a consideration?

Mr. SHARPLESS. No.

Mr. KINGSTON. But the route obviously was?

Mr. SHARPLESS. Yes, this is where we wanted to go.

Mr. KINGSTON. And the duration of the trip?

Mr. SHARPLESS. Yes, and the time period we wanted to go.

Mr. KINGSTON. Does your travel agent—how did the travel agency react to the news of the demise of this wonderful vacation?

Mr. SHARPLESS. Well, they were shocked and gave us sympathy and did everything they could to make sure we got a swift and quick refund.

Mr. KINGSTON. Had they ever experienced anything like this with this company or another company or had they ever heard of something like this?

Mr. SHARPLESS. Not to my knowledge.

Mr. KINGSTON. So there was probably no way the travel agency could have prevented this.

Then, would you say that this was somewhat of a fluke?

Mr. SHARPLESS. Well, this is the first that I have personally heard of something like this, yes. I guess maybe it goes on in the industry and we never find out about it. I don't know.

Mr. KINGSTON. Would your travel agents have statistical or access to statistics on things like this for future customers?

Mr. SHARPLESS. I really wouldn't know. You know, I am sure if I was going on another trip, I would ask these questions.

Mr. KINGSTON. How would you get an answer?

Mr. SHARPLESS. Well, this is—you only—you can only get an answer of what they want to give you, information they have and are willing to give you.

Mr. KINGSTON. But if it is not available to the travel agent, then they really can't give you anything but speculation?

Mr. SHARPLESS. That would be correct.

Mr. KINGSTON. OK.

Thank you, Mr. Chairman.

Mr. LIPINSKI. Mr. Taylor.

Mr. TAYLOR. Thank you, Mr. Chairman.

Mr. Sharpless, when you were planning on your cruise, in the back of your mind did you anticipate that—I mean, did you even—did you anticipate that cruise ship would be held to the same safety standards as any hotel or restaurant that you would visit in your home State?

Mr. SHARPLESS. Yes, yes, that is what I would have thought of, yes.

Mr. TAYLOR. Because it was allowed to call at an United States port and you presumed the United States Government was inspecting it just like any other vendor? Not that you presumed a problem, but in the back of your mind didn't you think that just because it was calling on our ports that somehow—

Mr. SHARPLESS. Yes, I assumed that it would meet our health standards, yes.

Mr. TAYLOR. OK.

No further questions, Mr. Chairman.

Mr. LIPINSKI. Mr. Lancaster.

Mr. LANCASTER. Mr. Sharpless, you indicated that passengers received notice before you left with regard to the possibility of Legionnaires' Disease, and you had some qualms about continuing with the trip. To your knowledge, did any of the passengers elect at that time, and were you given the option to elect at that time, to receive a full refund and not go? If you were given that option, do you know of passengers who took that and did not go on the trip?

Mr. SHARPLESS. Yes, at that time we were offered a complete refund, and there were passengers that did walk away. As far as amount of numbers, I can't tell you. They had 1,200 people jammed in this port and there was lines of people back and forth. There were elderly people that had fainted and it was hot, it was in July, and—I don't know how many to the number of people did walk away at that point.

Mr. LANCASTER. Was it enough that it became noticeable that the 1,200 was reduced to 800, or you just know that some left, but not enough to make an appreciable difference in the crowded nature of the room in which you were waiting?

Mr. SHARPLESS. No, you really couldn't notice a large number leave.

Mr. LANCASTER. OK. And what was done by the cruise line during that period of waiting to reduce, to the extent possible, the discomfort and the inconvenience of the wait and the crowded and warm conditions of the facility?

Mr. SHARPLESS. Well, it was about a four-and-a-half-hour wait, and I would say about three hours into it, they brought out bowls of punch and finger sandwiches, which wasn't enough to go around for everybody. But they did make an attempt.

Mr. LANCASTER. Were there seats available for everyone or were many people standing or sitting on the floor or making other arrangements?

Mr. SHARPLESS. Well, there was people—there was people sitting on the floor, on railings. There was not seats there enough for everybody. There were some seats there. Had they told us that the delay would be this long or what the problems, then probably people would have—if we had known this in the early—in arriving, maybe people would have made other decisions.

Mr. LANCASTER. Were there sort of progress announcements during the four and a half hours, saying the delay will be another two hours, or did you just sort of sit there and wonder what was happening for the full four and a half hours?

Mr. SHARPLESS. Every once in a while there would be an announcement that it would be one more hour, we would board. And this went on, I think we arrived there at 1 o'clock and we boarded around 6 o'clock, or something like that, 5:30.

Mr. LANCASTER. But several times you were told it would be another hour, but it extended much longer than that?

Mr. SHARPLESS. Yes, yes.

Mr. LANCASTER. Thank you.

Mr. LIPINSKI. Ms. Schenk.

Ms. SCHENK. Thank you, Mr. Chairman.

Mr. Sharpless, thank you for coming here this morning. This sounds like planes, trains and automobiles come to life. Sorry that it happened to you. I just have really one question.

Once everyone got on board and you departed, what was the mood? And were people ready to put it behind them and proceed with the vacation or was there anxiety and stress and fear about what might be awaiting?

Mr. SHARPLESS. I think by the following morning when everybody woke up, you didn't hear too much about it. It was a little bit of talk about it, but not too much. Once we started enjoying, having a good time, you forgot about it.

Ms. SCHENK. And have you or members of your family had occasion to be in touch with other passengers since? If so shall, what—

Mr. SHARPLESS. Other than the other four family members that were with us, no.

Ms. SCHENK. So you don't know if others have made decisions about never taking a cruise again or what their feelings were about it?

Mr. SHARPLESS. No.

Ms. SCHENK. OK. Well, thank you again for being with us.

That is all my questions.

Mr. LIPINSKI. Thank you.

Mr. Hughes.

Mr. HUGHES. I thank the Chairman.

I apologize for being a little late. I hope that I am not repeating a question that has been asked, Mr. Sharpless, but I am just wondering, the Center for Disease Control will be on the next panel, and the testimony of Dr. Jackson will bear on the subject of sanitation on board vessels. And he testifies that the Center for Disease Control distributes to travel-related agencies and others around the country, ratings on cruise ships. Were you aware of that before you traveled?

Mr. SHARPLESS. No, I wasn't.

Mr. HUGHES. Did your travel agent talk to you about any of that rating system?

Mr. SHARPLESS. No, I didn't make the arrangements for the trip and talk to the travel agent. My wife did and so I never talked to the travel agent. I never thought of this problem. Most of the time you think the cruise ships are clean and neat, and I had, prior to this, had never heard of such a problem as this.

Mr. HUGHES. Well, most of the cruise ships are clean, you never hear of problems. I mean, it is very unusual to hear problems. Not that that doesn't mean we can't do a better job in attempting to distribute information about those cruise ships that do not comply with sanitary conditions, but my own experience has been over the years that they have done a fairly good job in minimizing that. It is understandable you wouldn't necessarily ask that of a travel agent. You, but I just wondered, were not aware of any of that, and the travel agent did not discuss this rating system they have for cruise ships?

Mr. SHARPLESS. Right.

Mr. HUGHES. OK, thanks.

Thank you, Mr. Chairman.

Mr. LIPINSKI. Thank you, Mr. Hughes.

Mr. Sharpless, we have a copy of the first letter that was given to you. And I understand it was given to you about a half hour or so before you finally got to board the vessel, correct?

Mr. SHARPLESS. Yes, something like that, yes.

Mr. LIPINSKI. And I have been told that about 80 to 100 people, after receiving this letter, decided not to go on this particular voyage. I know you don't know exactly how many there were, but would you say that that was probably in the ballpark, 80 to 100 people?

Mr. SHARPLESS. Yes. I believe we were told that when we—on the cruise, further on on the trip, yes. I witnessed maybe 10 or 20 people leave myself, families mostly, with little children had left.

Mr. LIPINSKI. For the benefit of the Members, too, we do have a copy of that letter here. You may have it in front of you. I will be

happy to give it to you. Then you received two additional letters, did you not, informing you of the situation?

Mr. SHARPLESS. Yes. We—they kept us informed. Every morning on the ship you get a letter and they also gave us a letter, I believe twice, telling us that various things, what they were going to do and what the results—I guess what some of the results were.

Mr. LIPINSKI. Did any—to your knowledge, did any of the passengers request removal from the ship at that time, when these additional letters came out talking about. They did talk about the possibility of Legionnaires' Disease in the second and third letter also, right?

Mr. SHARPLESS. Yes, they did. Yes, there were some crew members that—or some passengers that did want to be flown home immediately upon hearing this, when we were in Bermuda. How many left then, I can't tell you.

Mr. LIPINSKI. Do you know if those passengers were accommodated?

Mr. SHARPLESS. I guess they were. I personally didn't know any of them.

Mr. LIPINSKI. I understand that in the period of time that is being studied here in regard to this vessel's voyages, there have been 16 cases of Legionnaires' Disease reported and 33 cases of pneumonia. You had testified already that you don't know of anyone who came down with the disease connected with this voyage, correct?

Mr. SHARPLESS. That is correct.

Mr. LIPINSKI. The only people you really know are your family members?

Mr. SHARPLESS. That is right.

Mr. LIPINSKI. And as far as you know, they all have come through this unscathed?

Mr. SHARPLESS. Yes.

Mr. LIPINSKI. Do you know, have any of them gone to a doctor just to double-check or triple-check things?

Mr. SHARPLESS. Both my wife and I did get checked for the Legionnaires' Disease twice. You have to get checked twice for it. And it was negative.

Mr. LIPINSKI. Thank you.

Does any other Member have additional questions?

Thank you very much for your attendance here this morning. We certainly appreciate it.

Mr. SHARPLESS. Thank you.

Mr. LIPINSKI. Have a safe trip home.

Our second panel this morning is Dr. Dick Jackson, Director, the National Center for Environmental Health, Centers for Disease Control; Mr. Jim Hall, Acting Chairman, National Transportation Safety Board; Captain George M. Williams, Chief, Merchant Vessel Inspection and Documentation, United States Coast Guard.

Welcome one and all to you.

And I see we have two added panelists. I am sure that we will all be informed of who they are when the first panelist is recognized and the first panelist is going to be Dr. Jackson.

STATEMENT OF DICK JACKSON, M.D., DIRECTOR, NATIONAL CENTER FOR ENVIRONMENTAL HEALTH, CENTERS FOR DISEASE CONTROL AND PREVENTION, ACCOMPANIED BY: LINDA ANDERSON, VESSEL SANITATION PROGRAM AND MITCHELL COHEN, NATIONAL CENTER FOR INFECTIOUS DISEASES

Dr. JACKSON. Good morning, Mr. Chairman.

Thank you for inviting the Centers for Disease Control and Prevention, CDC, to present testimony today before your distinguished Subcommittees. I am newly appointed as the Director of the National Center for Environmental Health, and within that Center is the Vessel Sanitation Program. And the Vessel Sanitation Program is administered by Ms. Linda Anderson, to my right.

This program began in 1975 as a result of a rather large number of outbreaks of communicable diseases on ships, and it was reconstituted in 1988. I will come back to that.

The person to my further right is Dr. Mitchell Cohen. Dr. Cohen is with the Centers for Disease Control and Prevention, National Center for Infectious Diseases, and is the director of the Division of Bacterial and Mycotic Diseases. And so it is Dr. Cohen's group that goes out and actually does the epidemic investigations, who puts the physician epidemiologists on the ships, or in fact does other outbreak investigations around the country.

I want to make a couple of fundamental points. Number one, the traveling public has a right to a safe and healthy environment on a cruise ship. Two, is it the cruise ship's responsibility to provide that safe and healthy environment. And number three, it is CDC's responsibility to assist them to provide the training, to provide the inspections, and to help them provide that safe and healthy environment.

The two recent episodes, the Legionnaires' Disease on the Celebrity *Horizon*, and the Shigellosis on the *Viking Serenade*, are the ones that I will present briefly today. I will summarize my written testimony considerably.

As I mentioned, the Vessel Sanitation Program was started in 1975 as a cooperative activity between the cruise ship industry in response to a number of outbreaks that had been occurring. And in 1988, the program was shifted somewhat and it was funded completely out of user fees. There was a feeling that those that take cruises and the industry itself should be paying for the services of the inspection program. So it is a completely fee-based program at this time that CDC administers.

Our staff inspects ships with foreign itineraries that carry more than a dozen passengers. And twice a year there is an unannounced inspection where sanitarians visit one of those ships, check the water supply, the food, potential for contamination of food and water, hygiene, the usual things that you would think about. And in fact, I don't know if this was actually submitted with the hearing record, but this is the report that a ship would receive, the vessel's sanitation inspection report. And I will make sure that you get this.

Mr. LIPINSKI. We do have those, thank you.

Dr. JACKSON. Thank you.

Following that inspection, a ship has to get better than an 86 percent score. And if they fall below 85 percent, they are reinspected or should be reinspected within 30 to 60 days.

I have a number of charts that I would like to show. Chart No. 1 shows that in the beginning, the industry was not doing very well with those inspections. Only 51 percent of them passed in 1988. But this has improved considerably with really an effort from both CDC staff and good cooperation from the industry. And now about 80 percent of the ships that are inspected get a score over 85 percent. So that is the green graph on the left.

I apologize if you can't see it in detail, but the graphs are actually in the testimony as well.

These inspections are then published in the Summary of Sanitation Inspections of International Cruise Ships. This is called the green sheet.

These are sent out to at least 4,500 travel agents around the country every two weeks. So the travel agent is in possession of these, and this is information that should be available to the sailing public. In addition, these summaries are published in monthly industry magazines as well.

We are looking at ways to improve the public's access to this information. I have heard repeatedly that people don't know about this. One way that we are looking at expanding availability is just putting it on the Internet. This is a relatively easy matter of making sure this is available to anyone that wants to look it up on Internet.

We are looking at whether a toll-free number where anyone going on a trip could call up and through a voice mail system could get the latest information on scores and implications. And we will be meeting among ourselves and then subsequently with the industry this winter, to talk about how to go about that.

We have seen a decreasing trend in outbreaks on ships, and that is the next chart, which shows that diarrhea on cruise ships per passenger has gone down over the years. We have been called primarily to deal with gastrointestinal disease, and we will be meeting with the industry on October 17th to discuss whether we should extend our inspections and authority to respiratory diseases.

Mr. LIPINSKI. Let me just interrupt you just for a moment. Disregard the light there. The things that you have to say are very important. I don't want you rushing and skipping over anything, so just don't worry about the time.

Dr. JACKSON. Thank you, Congressman. Because I am going to need a few more minutes to describe each of these outbreaks.

Legionnaires' Disease, it was of course first recognized with the outbreak at the Bellevue Stratford Hotel in Philadelphia, in 1976. We have about 10,000 cases per year of this disease. It is not transmitted from person to person. You can't give it to someone else. It is usually transmitted by people inhaling droplets, mists, aerosols, that are contaminated with the germ, so you breathe it in, that is how you get it.

There have been a whole series of sources that people have become ill from. Whirlpool spas are one. Respiratory therapy equipment, shower heads, and even the misters in supermarkets that

blow moisture over the grocery shelves. These bacteria are present in many aquatic environments, not so much in cold water and of course not in very hot water, but tepid water is a good environment for *Legionella* bacteria to grow.

We have had a series of outbreaks, we investigate them in general by interviewing people that got sick and comparing their answers to people who stay well. If we identify a cause, either by interviews or by laboratory tests, the best way to really deal with it is by overchlorinating or sterilizing the system, disinfecting the system that is infected.

The investigation of the cruise ship *Horizon* began on July 15th, when the New Jersey Health Department noticed—notified us of three individuals and subsequently six individuals who were hospitalized with pneumonia who had recently traveled between New York City and Bermuda aboard the ship, between June 25th through July 2nd.

We received that notice on July 15th. We developed a questionnaire which was faxed up to the ship and a health warning, and that is the health warning that I think you already have in the record, it is the one that actually comes from the Centers for Disease Control and Prevention—the health warning for passengers embarking on the *Horizon*.

There is another one that was given to individuals disembarking from the *Horizon*. The following morning, July 16th, we had three physician epidemiologists meet with *Horizon* cruise line staff and two of the physicians sailed with the *Horizon* to continue the investigation.

I should mention parenthetically that there has never been a reported outbreak of Legionnaires' Disease on a cruise ship before. We could not initially identify the source of the illness for the people on that ship. We did not know if it was the ship, or whether it was activities that they pursued when they were in Bermuda. A number of individuals had visited caves, moist, damp caves when they were there.

We were not sure of what the source of the illness was. But things that we knew would control an outbreak on land were put in place to control a problem on the ship. The system was treated with chlorine, basically about twice as much chlorine as you would normally use in a public drinking water supply. This is different from what was later done where about 50 times as much chlorine was used, and I will come back to this.

We recommended discontinuing use of the whirlpool spas and that was done. We collected a lot of samples from the waterlines, filters, other sources around the ship, looking for the *Legionella* organism.

We conducted an epidemic investigation, basically, administered a questionnaire survey to everyone that was on the ship, and we gave out information to people that were on the ship about what was known about Legionnaires' Disease. And we sought to give that information to individuals who decided to embark on the cruise beginning on July 16th. And that ship departed that Saturday evening.

In addition, we worked with all the local State health departments and tracked any cases of Legionnaires' Disease that would

be hospitalized during that time, looking for the source of that infection. And sent questionnaires to about 3,000 former passengers. And that was probably the letter that Mr. Sharpless received.

We further investigated when the ship arrived on July 18th, an environmental engineer and two sanitarians boarded the ship, continued the investigation, and took some more water samples. It was on the 19th that the Legionella DNA was found, not the organism, but the DNA, and it just meant that it could have been dead organisms, past evidence of the germ being in the water. We found the DNA in 15 of 27 water samples. And we found a strongly positive DNA test from the whirlpool spa circulation and filtration system, and from one passenger cabin shower.

The following morning, on July 20th, the results of the lab tests were conveyed to Celebrity Cruise Lines, and it was at that point the ship went ahead with the hyperchlorination. Remember, I said that there was an earlier chlorination to make the system safe. But what happens is you get sludge, you get slime layers and filters inside some of these pipes, and so by hyperchlorinating, 50 times as much chlorine, you can basically clean out these systems.

The problem with that is that when you are bleaching a water system you can't have someone in a shower or a stateroom with chlorine fumes coming out of the system. Which is why people could not be present when that occurred.

We continued an epidemiologic study comparing people that got sick and ultimately found the organism was actually grown out of, not just simply getting DNA, but growing out the organism from the filters from the whirlpool spa. And a very high association, almost proof, that it was associated with the spa.

We made a number of recommendations about discontinuing the use of the spas, continuing to watch the case or cases and the owners of *Horizon* took the measures to eliminate exposures as we had directed.

I should mention that on the trip that Mr. Sharpless took, there have been no cases of Legionnaires' Disease identified from that trip and from subsequent trips, and we continue surveillance at this point.

Mr. LIPINSKI. Excuse me, Doctor. Then the cases that have been reported came from previous trips?

Dr. JACKSON. Yes, Congressman—it was from previous trips.

Mr. LIPINSKI. From one trip or two trips or do we know how many?

Dr. JACKSON. I think nine trips.

Mr. LIPINSKI. Nine trips?

Dr. JACKSON. I will give you the exact quote in just a moment.

Mr. LIPINSKI. I would like to know how long of a period of time, also.

Dr. JACKSON. Yes, I will. You focused quite a bit on the Legionnaires' outbreak. Do you want me to go ahead with the Viking Serenade and the Shigella outbreak?

Mr. LIPINSKI. Definitely.

Dr. JACKSON. OK. On August 29th, 1994, an outbreak of diarrheal disease occurred among passengers and crew on the cruise line Viking Serenade, which is owned by the Royal Caribbean Cruises Line, during its round trip from San Pedro, California, to

Ensenada, Mexico. The ship was scheduled to return to port on September 2nd, but returned a day early because some of the passengers were ill. CDC investigators met the ship when it returned and did an interview survey and found that 586 passengers, 37 percent of the passengers on the ship, and 4 percent of the crew, reported having diarrhea or vomiting during the cruise. There was one death that occurred in a 78-year-old man who was hospitalized in Mexico with this infection.

The bacteria that caused this was identified as a certain strain of *Shigella*, and we continued our investigation, looking to see how this outbreak had occurred. *Shigella* is a cause of disease called shigellosis, and you may have heard it called dysentery. It causes such profound diarrhea, sometimes bloody diarrhea, that it is often known by the name dysentery.

About 300,000 Americans per year develop this disease, but probably less than a hundred die from it. The source of the infection of *Shigella* is from other people. You only need a very few number of bacteria to become ill with this, and it is spread by people who have a bowel movement, who defecate, and then do not adequately wash their hands.

It is spread by what is called fecal-oral contact, particularly if people are harvesting or processing or preparing food and haven't cleaned themselves adequately. This is relatively easily prevented. Good hand washing, good sanitation, will prevent the spread from one person to another.

The cruise line canceled the next two cruises. We recommended the usual measures we recommend for controlling outbreaks on land, which is that you test everyone, you make sure they don't have the infection, you do aggressive sanitation, you throw out all the food, and you look at day care centers where these outbreaks often occur.

And in the following trip by this ship, recently, three persons, less than 1 percent of them, became ill, and this is a normal background of illness.

In summary, CDC will work hard to continue to protect the public health and to continue to provide oversight to the health and safety on the cruise ship issues.

Thank you for allowing me to testify so long, sir.

[The statement of Dr. Jackson may be found at end of hearing.]

Mr. LIPINSKI. Thank you.

Do we have the answer to those questions we were talking about, the number of cases and what period of time?

Dr. JACKSON. There were pneumonia cases identified in nine previous cruises and we will get the exact number of individuals.

[The information follows:]

REPORTED CASES OF LEGIONNAIRES' DISEASE

A total of 50 confirmed and suspected cases of Legionnaires' disease were reported from nine separate cruises on the *Horizon* between April 30 and July 16, 1994. There have been no cases reported since the owners of the *Horizon* have completed appropriate interventions and the ship returned to service on July 29, 1994.

Mr. LIPINSKI. I am sorry, I didn't hear you. Would you speak up a little louder?

Dr. JACKSON. I am sorry, nine previous cruises had pneumonia cases.

Mr. LIPINSKI. All right. Thank you, Doctor.

Which one of our panelists is next?

Captain Williams, welcome to you also.

STATEMENT OF CAPTAIN GEORGE M. WILLIAMS, CHIEF, MERCHANT VESSEL INSPECTION AND DOCUMENTATION, UNITED STATES COAST GUARD

Captain WILLIAMS. Thank you, Mr. Chairman. I appreciate the opportunity to appear before you today to discuss the Coast Guard's program to ensure passenger ship safety.

One hundred thirty-seven foreign passenger ships call in United States ports on a regular basis. Significant passenger vessel casualties occur infrequently, but present the Coast Guard with the greatest potential risk it must address.

Foreign passenger ships must receive initial Coast Guard plan review, and undergo a detailed control verification examination before they can embark passengers. The control verification examination verifies the vessel's compliance with applicable international conventions.

The Coast Guard conducts four control verification examinations a year on each passenger vessel. My remarks will be focused on the passenger ship fire safety.

On 19 August, 1994, the Bahamian passenger ship Regal Empress experienced a fire on board while transiting New York Harbor. The fire originated in the ship's main engine exhaust stack, inside an abandoned cork-lined pipe enclosure. While the fire was being fought on one deck by the crew, it spread into the space above.

This was the main dining room, which was equipped with sprinkler heads which extended below a false ceiling. They were activated by the heat and prevented the spread of the fire.

The vessel moored and municipal firefighters from New York City boarded and put out the fire. Approximately, one hour later, in a passenger cabin, another fire broke out and was extinguished by the installed sprinkler system before any firefighters or ship's crew could respond. Apparently in their haste to leave the cabin, a passenger knocked over an ashtray and provided a source of ignition.

The crew responded promptly to the emergencies, prepared the passengers for evacuation, and once the vessel moored in New York, completed the maneuver without confusion. Municipal firefighters, Coast Guard personnel, and ship's crew members, established a joint command post on the pier and coordinated all firefighting efforts in accordance with the National Fire Protection Association Guidelines and the captain of the port's contingency plans.

Coast Guard fire protection engineers surveyed the two fire scenes and observed that though the sprinkler heads in the passenger's cabin operated as designed, had the cabin been occupied, smoke generated could have killed any occupants before heat activated the sprinkler heads. Had smoke detectors been installed in the cabin, an alarm would have sounded before smoke reached le-

thal proportions. The International Maritime Organization has addressed this issue.

In 1992, the International Maritime Organization reviewed the tragic Scandinavian Star fire, which killed 158 souls in the North Sea. The Coast Guard strongly advocated many of the amendments they considered. As a first step in implementation, smoke detectors must be installed in passenger cabins and above false ceilings in ship's stairways and quarters before 1 October, 1997. Full compliance with all the amendments will be phased in and must be completed by 1 October, 2010. This includes the removal of all combustible materials used in the construction of the ship. This will effectively put a vessel constructed like the Regal Empress out of business, unless it is extensively modified.

On 1 May, 1994, the Coast Guard implemented a Port State Control Initiative to eliminate substandard vessels from U.S. waters. Should a substandard passenger vessel be discovered, it would be prohibited from loading passengers until all deficiencies have been corrected. Further, any other passenger vessel operated by the same owner would receive increased scrutiny by the Coast Guard.

There are still marketplaces in the world where substandard passenger vessels continue to operate. The Coast Guard's goal is to raise the level of worldwide passenger safety to that of ships that operate in U.S. waters, to protect U.S. citizens no matter where they cruise.

Thank you.

May I answer any questions?

Mr. LIPINSKI. Thank you, Captain.

Yes, we will, I am sure, have questions for all members of the panelists, but we want to finish up with Mr. Hall.

[The statement of Captain Williams may be found at end of hearing.]

STATEMENT OF JIM HALL, ACTING CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD, ACCOMPANIED BY: MARJORIE MURTAUGH, CHIEF, MARINE DIVISION; DON TYRRELL, CHIEF, MAJOR MARINE INVESTIGATION BRANCH; RALPH JOHNSON, DEPUTY DIRECTOR, SURFACE TRANSPORTATION DIVISION

Mr. HALL. Good morning, Mr. Chairman. It is a pleasure to be with you today to discuss cruise ship safety issues.

But before I begin, I would like to express the Safety Board's appreciation for your overall efforts to improve marine safety in general, and your work on two bills in particular, the Recreational Boating Safety legislation, and the Inland Water Towing Vessel Safety Initiative. The Safety Board appreciates your leadership and shares your interest in these two measures.

Last night's sinking of the Estonia in the Baltic Sea with the loss of over 800 souls, reminds us all today of the importance of the work of this committee.

Accompanying me today are Marjorie Murtagh, Chief of our Marine Division, Don Tyrrell, who is Chief of our Major Marine Investigation Branch, and Ralph Johnson, Deputy Director of our Surface Transportation Division.

As you mentioned earlier, the foreign-flagged cruise industry has experienced remarkable growth in recent years, with more than 4 million passengers currently traveling from U.S. ports a year. Since 1979, the National Transportation Safety Board has completed 16 accident investigations, a study on cruise ship safety in 1989, and a special investigation report in 1993.

As a result of the Board's work, recommendations were made calling for improvements in international requirements for cruise ship fire protection—the installation of sprinklers, low-location emergency lighting, and integrated smoke detection and alarm systems. We also called for better emergency and fire-fighting drill for crew members and enhancements in crew qualifications and crew language requirements.

We are pleased to report today that most of these recommendations have been satisfactorily closed by the Safety Board with recent amendments adopted in 1992 by the International Maritime Organization. These amendments are significant because they apply to all ships and did not provide any grandfather clauses. We find that the common thread in all of the foreign-flag passenger ship accidents we have investigated is the human element. And we believe that the best way to avert tragedy on passenger ships is to make sure that the operating and service crews on board are properly trained and can communicate effectively.

We have several cruise ship accidents under investigation involving human factor issues. I will briefly just mention one.

On August 19th of this year, a fire broke out on board of Bahamian passenger ship *Regal Empress* as the vessel was in route to a berth in New York Harbor. The vessel had over 1,000 passengers and 387 crew members. The fire was extinguished by the ship's crew with assistance from the New York City Fire Department. Ten people were treated on the scene for smoke inhalation and released. There were no burn injuries, and two persons were treated at local hospitals and released.

We are not finished with our investigation, but so far, we have found that the officers and crew responded well, they were well-trained and highly competent to handle a shipboard fire, and there were no communication or language problems experienced. Further, there was no panic as a result of the departure drill, that included passengers and appropriate announcements by the captain and cruise ship director during the emergency. Implementation of our earlier recommendations has had a positive impact.

And as I mentioned earlier, progress has been made. But we must be constantly vigilant in our efforts to improve crew resource management on vessels, and there is room for growth and improvement in the human factors area.

We want to work cooperatively with the Coast Guard, the cruise ship industry, and this committee in addressing these issues and look forward to even more advancements.

Thank you, Mr. Chairman.

[The statement of Mr. Hall may be found at end of hearing.]

Mr. LIPINSKI. Thank you, Mr. Hall.

We will start the questioning of the Members of this panel with Mr. Hochbrueckner.

Mr. HOCHBRUECKNER. I have no questions at this time, Mr. Chairman.

Mr. LIPINSKI. We will now see if the Ranking Member of the Merchant Marine Subcommittee has any questions, Mr. Bateman.

Mr. BATEMAN. I think the principal question that ought to be presented to all of us is, Dr. Jackson, are there additional safeguards, more frequent inspections, more rigid inspections, new science, anything that can further reduce the instances of illnesses such as we have experienced?

Dr. JACKSON. Congressman, we are holding a meeting with the cruise ship industry on October 17th. And in that we will be discussing how to deal with respiratory hazards. This Legionnaires' outbreak was the first that we have recognized on cruise ships, and in the past our inspections have focused on intestinal disease. So we will be expanding that.

We will be looking to expand that authority and scope of inspection. We have made good progress. The key really is looking at the production of food—number one, you have to look at the design of the ships. Right back at the beginning of the design of the ship, there needs to be public health people involved, because you can avoid a lot of the problems just with good design.

Secondly, you have got to have the inspections. But thirdly, and most important, is really training. And training has got to be ongoing. You can have the best designed system in the world, but if someone is not washing their hands or they are not changing the filters, then you are going to have problems.

I think the graphs show that there has been good progress. As we look to extend the degree of our inspections, we will also be looking to recoup our costs for those inspections. And these are costs that we feel should be borne by the industry. And, frankly, the passengers that travel. The cost of our program is only pennies per passenger per day. So it is a relatively trivial cost for the benefits that are conferred, we believe.

Mr. BATEMAN. Well, where the problems have arisen, am I correct that it is primarily from the ingestion of food or water on the vessels?

Dr. JACKSON. That is correct, almost all these outbreaks have been related to food contamination. Part of this, as you have recognized in your opening statement, is that this is a special environment. It is a closed environment, you have people oftentimes more susceptible. There are a lot of elderly that travel, and frankly, people eat a lot on these ships as well.

In that kind of closed environment, you are actually much more likely to observe an event than you would in a restaurant, where everyone goes off to home and there could be outbreaks all the time associated with a public restaurant here and you would never identify it. So, part of this is just the artifact of a closed environment.

Mr. BATEMAN. From what I have been reading, as I tried also to follow the testimony, the record of the cruise ship industry is equal or superior perhaps to that of the generic food service industry, or do you have any comparative data?

Dr. JACKSON. No, sir, I don't think anyone has got data to compare the public generic food preparation industry with the cruise ships, or at least I am not aware of it, sir.

Mr. BATEMAN. OK. Thank you.

Mr. LIPINSKI. Thank you, Mr. Bateman.

Mr. Green.

Mr. GREEN. Thank you, Mr. Chairman.

First of all, Dr. Jackson, if I could ask you some questions concerning your testimony. First of all, I notice on page 3, that the CDC in 1987 recommended five ships not sail, and in 1993, actually one of those ships disregarded that recommendation. Is there—when you recommend they not sail, obviously you don't have the ability to keep them in port, even though they are carrying passengers that they picked up at a U.S. port?

Dr. JACKSON. Ms. Linda Anderson was with the program at that time, and I will ask her to supplement my answer.

We have general authority to protect public health. We have specific authority to detain a ship if there is an imminent hazard to life and health for individuals on that ship. And our authority is actually connected to the Coast Guard, and we work hand in hand with the Coast Guard in that setting.

In 1993 when the ship did disregard our recommendation not to sail, it is my understanding that a lot of the more significant issues were dealt with before it left. But I am going to have to defer to Ms. Anderson, because it was before my time.

Ms. ANDERSON. If you are talking about the *Regal Empress* specifically, or the *Regent Star*, is there—

Mr. GREEN. Well, the testimony doesn't mention which ship in 1993. But I would appreciate the name, too. I think the committee would.

Ms. ANDERSON. The *Regent Star*, when we boarded that and they scored a 45, that is a snapshot of the vessel at one point in time. We do not change our score but it reflects our observation at the time of the inspection. Like hand washing, if we have seen them not performing that, or not having towels in the dispenser, or just things that we generally see at the time, you are graded on exactly what we see. Because it is an unannounced inspection. We don't change the score. So that is what they received.

Before they left that day, they were able to correct many of the violations or problems that we had found, they corrected those before they sailed. And that was the reason we did not issue a "no sail" on that particular vessel.

Mr. GREEN. OK. So you had the option, you just recommended that they not sail, you didn't—you have the option, though, to hold them in port?

Ms. ANDERSON. We do now. Actually, that brings me to another ship.

In June of 1994, we boarded the *Regal Empress*. We made a recommendation not to sail. The captain told us that he knew they had some problems, but he intended to sail anyway, and he did. That really surprised us, because that is the first time that has ever happened. Most of the time if we have ever made recommendations, they have always said that they would not sail, they would make the corrections before they sailed, and have always taken our advice. So that was the first time. And that is when we sought our legal counsel, found out that, yes, we can stop

a ship from sailing, and we would turn that over to the Coast Guard and they would detain them when they came back to port.

Mr. GREEN. Which ship was that in June of 1994?

Ms. ANDERSON. That was the Regal Empress.

Mr. GREEN. OK. But you do have the authority to prohibit a ship from leaving a port?

Ms. ANDERSON. Yes, sir.

Mr. GREEN. OK.

Doctor, one of the—and again, to your graph, and it shows that—in each of your graphs it shows that the ships are actually doing much better over a five-year period of time, in, you know, in inspection scores. I mean, with some exceptions that you just talked about. But I also notice the reinspections actually reduced over that five years. Is that just because they are doing that much better?

From your testimony on your first page, you had 56 in 1989, then 60, and 72 in 1991, then it went down to 53 in 1992 and 41 in 1993. Does that mean that these reinspections of ships are that much cleaner on the first inspection?

Ms. ANDERSON. We do reinspect the ship if it achieves a score below 86. And we try to do that within—as quickly as we can, 30 to 60 days, depends on when we can get them, when they are coming back in port. If—of course if you have a higher number of ships passing, then you have fewer number of reinspections. Seasonally sails, or regularly sailed ships, actually achieve more in the 90, you have about 90 percent of those ships passing. The occasionally sailed, which we can only get once, maybe three times out of the year, or the seasonally sailed six months out of the year, so if you look at the regularly sailed ones, it is a bit higher.

Mr. GREEN. OK.

Dr. JACKSON. The bottom line is the more we see them, the better they get.

Ms. ANDERSON. Hopefully.

Mr. GREEN. Well, the more they know they may see you, the better they are. Thank you.

Thank you, Doctor.

One other question of both Captain Williams and also of Chairman Hall.

Chairman, you noticed that—I noticed in your testimony, although you said that in your testimony that the crew responded adequately or professionally to, but in your testimony you talked about on page 3, crew qualifications and emergency training would be prime concerns of the Safety Board.

And also, Captain, in your testimony, you say the primary responsibility for compliance is with the vessel's owners and the flag state. And do we need to have, and again I guess this is a question counsel may answer, some additional authority by the Coast Guard on some of the ships on training, or maybe work through IMO? I know you are already in the process of doing that from your testimony.

Captain. WILLIAMS. Yes, sir, we are working right now in the IMO arena with the Standards for Training, Certification and Watch-keeping Convention, that basically allows us to interject training issues that we discover when we review casualties.

For example, the idea of professional training for firefighters is something that has been brought forward by the Coast Guard, and is being considered internationally. We would like to see that imposed.

At this time, I am not aware of any additional legislative authority that we need in that regard.

Additionally, in trying to ensure that flag states perform their responsibilities, at IMO in the last year and a half, there has been formed a Flag State Implementation Subcommittee, which attempts to provide guidance to flag states that are not as well-developed as the United States, and don't have a Coast Guard, to try and give them guidelines for how they should enforce regulations for the vessels that fly their flag. So we feel comfortable in that regard, sir.

Mr. HALL. Congressman, I think this is an area in which, you know, constant attention needs to be brought to bear. Because clearly this area depends on the individual flag state, on the individual company, and the makeup of the crew and officers of each of the ships. And I think the Coast Guard's oversight in this area to help identify either individual ships or companies or flag states that do not have adequately trained crews, is extremely important and is something that obviously they need to be sure they have enough authority to exercise their responsibilities.

Mr. GREEN. I know this goes back to the issue of the foreign flags, and if you have a regularly scheduled passenger ship who is foreign-flagged but actually leaves out of Fort Lauderdale or Miami or San Diego, and I know we have to go through IMO on those because they touch that foreign port, but again, in your testimony and I noticed the other testimony concerning the fire on the ship in New York Harbor, it couldn't have been put out without land-based fire-fighting assistance.

And then, Mr. Hall, Chairman Hall, in your testimony you talk about, for example, there are a number of accident investigations where improper crew response actually made the incident worse. And I know the tragedy you mentioned yesterday or last night in the Estonia, that the report that I saw this morning showed that the crew actually bailed out and there was no assistance from the crew in that example. And I just was worried, even though Estonia is a long way away from us, but we don't see that same thing happen here. Maybe we need to professionalize some of the crews even where they are on foreign flags. Because they are picking up 4 million people at our ports every year, and a great many of them are U.S. citizens.

Mr. HALL. Well, Congressman, we are very grateful for the action that the Coast Guard and SOLAS have taken on a number of our recommendations. There is one particular recommendation that the Board has made. We recommended that cruise ships carrying more than 500 passengers and a crew on an international voyage be required to have a full-time professional firefighter on board.

The Coast Guard, at this point, does not agree with our recommendation on that, and they feel that existing training requirements for ships' crews are adequate to provide for an adequate fire-fighting capability on passenger ships. But with the fact that many

individual lives are aboard, we feel that it is a prudent recommendation and continue to urge consideration.

Mr. GREEN. I appreciate that, and you might have some help from the Members of the committee.

Thank you, Mr. Chairman.

Mr. LIPINSKI. Mr. Coble.

Mr. COBLE. Thank you, Mr. Chairman.

Chairman Hall, it has been noted that you and your colleagues were generally—generally approved of the manner in which the crew responded. Was there evidence of language barriers or communication problems between crew and passenger?

Mr. HALL. Congressman, at this point the investigation, as I mentioned in my testimony, is ongoing and the Board has not received the final report. But earlier indications are that communication was not a problem in this particular incident.

Mr. COBLE. Since the investigation has not been finalized, you may not be able to respond to this hypothetical. Hypothetical questions are troublesome for everyone. But let me ask you this, Chairman Hall. Had the fire aboard alarm been sounded at sea, without the assistance of the New York Fire Department standing by, is it your belief that the crew could have successfully responded in extinguishing the fire?

Mr. HALL. That is a very difficult question to speculate on. It appears from our investigation so far that the crew was competent and trained properly. However, if the ship had been at sea, the crew would not have had the benefit of professional firefighters to organize the equipment. And my understanding is that it was the New York Fire Department which used an infrared heat-sensing device that was actually able to locate the origin of this fire. So, clearly, I think that emphasizes the point I just made in terms of our recommendation of having someone who has a professional fire-fighting capability aboard the vessel.

Mr. COBLE. Thank you, sir.

Captain Williams, I am presuming something here and I think I am correct. It is my belief that the Coast Guard's authority to inspect and detain certain foreign-flagged cruise ships is based solely upon international agreements. Is that a—is that an accurate conclusion?

Captain. WILLIAMS. Yes, sir, it is.

Mr. COBLE. Having said that, how do these agreements compare to the safety standards that we require and impose upon U.S.-flagged passenger vessels?

Captain. WILLIAMS. The international conventions that we have in existence right now are on level of parity, if not slightly higher than what we have in our domestic rules and regulations. And that is partially because we do not have a strong U.S.-flag fleet that has had a lot of innovation, thus we have not been able to roll a lot of change into our own regulation. So as the international rules, regulations have developed, our own rules have not kept pace with them. So we are very comfortable with the regulations that are in existence in the international arena, sir.

Mr. COBLE. So it would be your belief, your conclusion, then, that the international agreements are indeed sufficient to protect Americans on foreign-flagged cruise vessels?

Captain. WILLIAMS. Yes, sir, if they are in force, they are, in fact, sufficient.

Mr. COBLE. Captain, permit me to ask you two more questions, getting directly to the cause of the fire. Did the presence of wood in the construction of the Regal Empress help or contribute to the spread of the fire?

Captain. WILLIAMS. Yes, sir, it did contribute to the spread of the fire. This was a vessel that was constructed in 1953. And at that time, it was constructed under what we consider a Method II or a British system. The British system used as their first line of defense for fires a sprinkler system, but they had no control on the amount of combustibles that could be put on board the vessel.

The United States had a different method of construction at that time for passenger vessels. And in our construction, we said we wanted to minimize the amount of combustibles, basically to build into the vessel such design features so that we form cells that a fire could be kept within and not spread. Since approximately 1974, though, the International Maritime Organization has looked at the methods that were used to construct vessels, basically the United States system, the British system and the French system, and took the best features out of all the systems, and that has been in effect since 1974 for new vessels.

But as I mentioned in my testimony, the retroactive fire safety amendments to the Safety of Life at Sea Convention, will start taking effect in 1997, and basically by the year 2010, will have caused vessels that were constructed like this with considerable combustibles in a space like this, to either be completely redesigned or remove all combustibles.

Mr. COBLE. Let me extend my line of questioning, Captain. I will jump from wood to cork. And I assume that the presence of cork insulation, 40 years of age, I think in this case, obviously extremely flammable would be my conclusion. Does any current—strike that. Do any current SOLAS provisions require future removal of cork insulation? And you may have touched on that in your previous answer.

Captain. WILLIAMS. We don't have any IMO regulations in regard to cork. The issue has to do with combustibles. They would look at a room like this and measure per square foot the amount of combustible material that exists in the room. And the limitation that would be in the SOLAS would be, for example, one pound per cubic foot or something of that nature, or square foot, I should say.

Mr. COBLE. Thank you, Captain.

Thanks to the rest of the panel for being with us, today.

I thank you, Mr. Chairman.

Mr. LIPINSKI. Thank you.

Mrs. Bentley. You are up next, Mrs. Bentley.

Mrs. BENTLEY. Thank you.

Captain Williams, you mentioned that some of the terms under SOLAS were to go into effect in 1997, and then on into the year 2000 something.

Captain. WILLIAMS. Yes, ma'am.

Mrs. BENTLEY. SOLAS has been underway for 20, at least 25 years or more. Am I wrong or right?

Captain. WILLIAMS. You are right, it has been in effect since the early part of the century.

Mrs. BENTLEY. And we aren't any further along than that? I mean, we still haven't gotten all of the rules and regulations in place and in force?

Captain. WILLIAMS. In regard to the international arena with the Safety of Life at Sea Convention, as we develop new technologies, as we get more knowledge after reviewing casualties, we try—we, the international community, to roll that knowledge into the regulations that apply in the international arena. For example, the cork that was mentioned on this one vessel, that was an outdated insulation system that in 1953 was used as insulation around pipes that carried chilled water, because they had no air-conditioning on board these vessels at that time.

Since then, we have air-conditioning systems so that this material is no longer used because it no longer serves a purpose. So as technologies change, the rules change. Our concerns change as we get a better handle on risk. We can devise systems to handle the risk, and we can change the systems as time goes on.

Mrs. BENTLEY. You also made a comment that if certain rules are in force, they are adequate.

Captain. WILLIAMS. Yes, ma'am.

Mrs. BENTLEY. What is not enforced and why aren't they enforced and where are they not enforced?

Captain. WILLIAMS. I don't know that I can comment as to what rules are not in force. The United States Coast Guard in implementing its port state control program on the first of May, 1994, has developed the world's most stringent port state control system.

A port state is what the United States is now. When we look at the vessels that come into our waters to ensure they comply with international standards we act as a port state. For every one U.S.-flag, deep-draft vessel in U.S. waters at any one time, there are 14 foreign-flagged vessels in U.S. waters. So we are very concerned about what has been done in the international marketplace. Because ships that just drive by our coasts, that don't intend to visit the United States, such as the *Braer* or the *Amoco Cadiz*, can have significant environmental impact if there is a problem.

So we are very concerned about countries that have merchant ships, that put a flag on a merchant ship, are not flags of convenience, that take their responsibility seriously, and enforce the international conventions that are on the books at this time.

Mrs. BENTLEY. Are the SOLAS standards recommendations or are they requirements? And again, who enforces them?

Captain. WILLIAMS. Yes, ma'am. SOLAS provides regulations that a flag administration, such as the United States, would then take and basically devise standards that could be applied. Such as using a body such as Underwriters' Laboratories or an industry standard that, for example, for the construction of a personal flotation device or a life jacket or for a fire extinguisher or things of that nature.

The regulations we have in place, we enforce to best of our ability using this international mechanism. And in our Port State Initiatives we have tried to improve the connectivity between various port states, such as northern Europe and what they do there, the

United States and what we do here, so that when we have these international guidelines or standards, when we attempt to enforce them, we do not give vessels that do not—flags that do not choose to enforce them, a marketplace they can continue to operate in. That is one of our goals in this arena.

Mrs. BENTLEY. We have heard several references this morning about the possibility of language barrier problems. How does the Coast Guard determine whether or not there are any language barrier problems that could affect the safety of passengers in times of emergency?

Captain. WILLIAMS. The Coast Guard, when it goes on board these passenger vessels, conducts drills that test the entire spectrum of what we would expect the crew to be able to do. We start by imposing fires in various locations on board the ship. Then we tell the crew that the fires have gotten out of control and it is time now to go straight to an abandon ship evolution, where they have to use life rafts or lifeboats. And so we see how the crews react.

There are up to 34 different nationalities on a typical cruise ship. Our concern is that we want to ensure that the professional seamen on board the vessel can communicate among themselves. Not all the passengers aboard—that board foreign passenger ships in U.S. ports are U.S. citizens. We quite often have tours coming in, for example, from Europe, of all German or all French passengers that board one of these vessels. So while we are concerned with their ability to communicate with the passengers, we are more concerned about the ability of the professional crew members to communicate among themselves.

Mrs. BENTLEY. Now, will SOLAS or IMO get into the investigation of the Estonia disaster?

Captain. WILLIAMS. Yes, ma'am, I am sure that it will.

Mrs. BENTLEY. And then from that, will you make any rulings or determinations or standards as to what the problem may have been with the crew, if what the reports we hear are correct?

Captain. WILLIAMS. Yes, ma'am, they will. In the United States, this Friday, for example, in Coast Guard headquarters, we have a previously scheduled public hearing that is going to be discussing ferry safety, stability, standards that should be applied in the United States. We are very concerned about the human element in any of these casualties.

For 80 percent of the casualties that we see in the maritime environment, are as a result of a human being doing the wrong thing, doing the right thing at the wrong time, or doing nothing at all.

Mrs. BENTLEY. Ms. Anderson, you mentioned that we do have the right or you have the right to stop any vessels that may not meet certain standards. And yet in 1991, the Viking Serenade received a failing score of 71 on the CDC inspection and a 76 in 1992. Now, it is the site of an outbreak of Shigellosis.

Can you tell me what—if the CDC takes into account a history of problems like this when it inspects vessels, and at what point would you put a vessel like this out of service because of repeated problems?

Ms. ANDERSON. CDC—

Mr. LIPINSKI. Excuse me just one moment. I have to go to a markup of the full Public Works and Transportation Committee, so

I am going to have to leave here. And I am go to ask Mr. Taylor to take over the Chair. I will try to get back before the conclusion of the hearing.

But before I leave, I do want to thank this panel particularly for their presence here and the very significant information that they have given us this morning.

Now, I will return the floor to Mrs. Bentley, and I will turn over the gavel to Mr. Taylor.

Ms. ANDERSON. OK. I believe that you asked do we consider past scores and how that affects our present recommendations if we need to look at a no sail. Yes, we do, we look at the history of a ship, because at any one time a ship could have a failing score. We do look at that over time, and we publish those scores, so that people can look at them over time.

If the ship shows good intent, if they work with us, if they send people to our training courses for their food and beverage managers, if it is a people problem and they try to correct it before they sail and they work with us and make sure their strip charts are right for chlorination, that sort of thing, then we would not recommend a no sail. But if they can't come up to the basic things that we think are important or that there would be an imminent danger to health of the passengers, then we would recommend a no sail.

Mrs. BENTLEY. How many ships have you stopped from sailing, passenger ships, let's say, over the past two years, foreign-flagged, and how many American? We only have two American ships sailing.

Ms. ANDERSON. We do not inspect the American-flagged ships, that is done by FDA.

Mrs. BENTLEY. Who does it, FDA? OK.

Ms. ANDERSON. The foreign-flagged ships over the past, say, four years, we have asked that probably five not sail. One actually sailed, even though we recommended not to sail. The *Horizon*, that was a collective decision between CDC and the company, to take that ship out of service in Bermuda.

The *Viking Serenade*, that again was a CDC-cruise ship collective decision that they take it out. In fact, I think they terminated the cruise early to bring people back, because they had so many ill. The others that we have recommended not to sail have not sailed or they have come into compliance, delayed sailing until they could come into compliance that day or that weekend before sailing.

Mrs. BENTLEY. Now, I know the FDA goes into the galley and looks at the cleanliness of the galley, et cetera. Does CDC do that in the foreign-flagged ships?

Ms. ANDERSON. Yes, we do. There are several galleys, usually crew galleys and then the passenger galleys. Sometimes there are five or more galleys on the ship, and we inspect every one of them. One inspector usually takes the water system and one takes the galley systems.

Mrs. BENTLEY. OK.

That is all I have now, Mr. Chairman. Thank you.

Mr. TAYLOR. [Presiding.] Thank you, Mrs. Bentley.

I have a few questions for the panel before we let you all move on.

Captain Williams, you said this in your testimony or in response to a question that the standards on the foreign-flag crew vessels, cruise ship vessels, were higher, mostly because there are no Americans to judge them by and the Americans have—since they are not in the business right now, they are not in this game of one-upmanship, trying to always get better. How does that relate to the crews? Person-for-person on board that vessel, would they be of a standard acceptable on a U.S.-flag vessel if there was one?

Captain. WILLIAMS. As far as the crew competency issue goes, our concern—I think that, yes, we have a comparable level of safety. That is one of the reasons why we strongly support the international approach with the standards for training, certification and watch-keeping for seafarers, so that we can hold the entire maritime industry to one standard. We feel very comfortable that the United States crews can meet that, and we work very hard at ensuring that foreign crews meet that.

Mr. TAYLOR. But again, getting back to either you or Mr. Hall's statement that 80 percent of all the mishaps are as a result of crew failure, are the foreign crews being held to the same standard that a comparable American crew would be held? And is there any way of ensuring that? Is there any way of testing it?

Is there any way to know that when he presents his seaman's documents, his mate's documents, his master's documents, that he has taken any kind of a test that we would count as being a valid test in this country?

Captain. WILLIAMS. I can't address particulars for any particular country. But I do know that that is the reason why the United States is so strongly behind the STCW Convention. Because that basically establishes these standards and says what qualifications an individual must be able to demonstrate, must have been trained to, and it details the training, the performance standards that an individual must meet.

In the United States we have taken great steps at trying, in nation-building and a variety of other efforts, to help some of the countries that are providing significant segments of the manpower for fleets, such as the Philippines. We have sent individuals from the Coast Guard's Merchant Vessel Personnel Division in Washington to the Philippines, for example, for three weeks, to work with their academies that train their merchant mariners. So we are very concerned about that. Our concern will continue in that area, and it is an area obviously where we need to continue efforts to improve international standards.

Mr. TAYLOR. How do you check it? How do you—for example, you said you perform a lifeboat drill that is very difficult because you are dealing with, in some instances, 34 different nationalities amongst the crew. How do you check their competency?

And again getting back to Mr. Hall's statements, if it comes down to the disaster that occurred just last night between Finland, Sweden, and how do you know that crew will be there to man the lifeboats, to fight the fire, or to do any number of potential damage control functions that have to be performed to save the ship, and above all, the lives of the people on that ship?

How do you—and the point I am getting at is obviously you can test it on the river boats that cruise the Mississippi River, obvi-

ously you can test it on the two American-flag vessels that operate out of Hawaii. How do you test it for these people?

Captain. WILLIAMS. We test it to the same level that we do on the American-flag vessels. We board the vessel four times a year, as I mentioned before, with a control verification examination, and demand that the crews show by performance that they meet acceptance standards, the standards that we expect to see for a crew to respond to emergencies on board.

We generally, as part of our drills, impose fires in two separate locations on the ship so it requires multiple fire parties to activate at the same time and to communicate with the bridge. We have an individual on the bridge to look at the ship management system to see how well the captain is coordinating and controlling what is happening.

We have Coast Guard personnel on the scene of each of the evolutions to observe what is done by the people that are donning the emergency equipment, that are setting the boundaries around the space where the fire drill is going on. On some of the vessels, they have gone to the extent of providing smoke machines so that the atmosphere is, instead of just saying there is a fire in this space they will generate a nontoxic smoke that makes it much more realistic for all the parties involved. The Coast Guard does not generally do this.

We then go through the abandon ship evolution, and we require that life boats be lowered into the water by all the crews. We check the crew's muster versus who the individual is supposed to be on their watch quarter and station bill, that defines who should be where for what emergency, make sure that the proper people are in place and they have the proper knowledge.

We will spot check and stop people that are supposed to be doing crowd control for passengers on stair towers or in areas where the passengers are to muster before being taken to a lifeboat. We ensure that they know what their jobs and duties are supposed to be.

So we require a performance standard. And in that regard, we are very comfortable with the competency of the crew. If we are not, we do not allow the vessel to sail. They have to correct the situation and bring the crew's competency up to the level that we expect.

Mr. TAYLOR. Mr. Hall, would you like to comment on that?

Mr. HALL. Well, Mr. Chairman, just to state that I think you are right on target in terms of your questioning, and I think that the challenge to the Coast Guard is to continuously monitor these operations. Because each time one of those ships comes into one of our ports, the composition of the crew can possibly change. And so we are going to have to be comfortable through appropriate oversight by the Coast Guard that the crew qualifications, training, and communication are being done.

I mentioned the sinking of the *Estonia*. If the information I read in the paper this morning is correct, it is very similar to the sinking of the *Herald of Free Enterprise* which sank in the English Channel with a loss of life. In both cases it appears the bow door of the ferry was left open and flooded, resulted in the sinking.

The human performance and human factors, as the Safety Board has indicated, are the mainly err factor across all the modes of

transportation, showing up in about 80 percent of the accidents we investigate.

Mr. TAYLOR. Mr. Hall, is it safe to say that on—I realize that there is a closely guarded standard for masters and engineers and the people at the high end of the hierarchy on the ship. But isn't it pretty safe to say that for the vast majority of the crew positions, they are just trying to get a warm body in there for the least amount of money?

And wouldn't that also be kind of safe to say that, Captain, I am an ex-Coast Guardsman, that every year the representatives of the different branches of the service come before the Armed Services Committee, this committee, and say, well, well, we need a little pay raise because we can't attract good sailors unless we pay them well.

Now, I accept your statement on that. But if it is true for expecting to pay well to attract good Marines, Airmen and Sailors, wouldn't that make sense on the cruise ships as well? Don't you get what you pay for? That is what you tell me every year when you come ask for appropriation and your authorization.

Captain. WILLIAMS. Yes, Mr. Chairman, we do. And I want to say—the Coast Guard is appreciative of the efforts of the committee in providing resources, so that we have just recently received additional resources to put in the passenger vessel arena. And we have, those people have been assigned.

We recognize the importance of passenger ships. We have formed a Center of Excellence for Passenger Ships in Miami, Florida. We have improved the training that we give Coast Guard inspectors and now have basically a course that is put on in Miami where the individuals come from other ports throughout the entire United States, go to Miami, spend two days in a classroom, then go out and spend two days boarding cruise ships.

There are approximately 44 cruise ships that are home-ported, foreign-flagged cruise ships that are home-ported in south Florida. So it gives a population that we can go in on a regular basis. So we appreciate the support that we are receiving from the committee.

Mr. TAYLOR. I think you have—either I was mumbling too loudly or you misread what I was saying. That if it makes sense to pay our Coast Guardsmen and our Sailors well so that we can attract good ones, and that it is probably the main reason that you have 34 different nationalities working on these cruise ships, is to avoid paying those crewmen much money, doesn't that lead to a potentially dangerous situation right there?

And again, if—you know, if you have got one person from some country, Sri Lanka, Indonesia, whatever, who is responsible for getting 30-some people on a life raft, who isn't up to it, can't he cause just as much damage as a captain who misses a turn in the channel?

Captain. WILLIAMS. That is obviously a concern of ours, sir. That is why we take great emphasis to—when our inspectors are on board for these quarterly examinations, we want to make sure they have the proper people assigned, the proper number of people as required by the international documents, and that the people they have assigned for the particular functions can do those functions

and demonstrate that to us. We are not looking just for certification on a piece of paper. We want to see performance.

Mr. TAYLOR. OK. Dr. Jackson, if I may ask you a few questions, please.

In your statement, you mentioned that there are fees collected from the cruise ship industry to cover the costs of your inspections. Has any sort of accounting ever been done to see to it that the fees collected actually cover the full costs of those inspections, or is it like many other aspects of American society where we call upon the American taxpayers to, in effect, subsidize this industry?

Dr. JACKSON. Mr. Taylor, my understanding is that the budget is about \$750,000, and that has been, up to this time, adequate to cover those costs. The program has been looked at by the General Accounting Office and we are still awaiting their findings. If it appears that the costs of the program are not being adequately met out of the fees being charged, we will seek to raise those fees to cover those costs. Because those that get the services ought to be paying for them.

Mr. TAYLOR. You have stated earlier in your testimony that a passing grade of your inspections, I believe, was an 86.

Dr. JACKSON. Or higher, correct.

Mr. TAYLOR. Or higher, OK. And that in 1993, 20 percent of the ships that you inspected failed that test. Is that correct? Am I reading your charts correctly?

Dr. JACKSON. Eighty-three?

Mr. TAYLOR. If 80 percent passed, that would lead me to believe that 20 percent failed.

Dr. JACKSON. In 1993, yes.

Mr. TAYLOR. And you inspected 207 ships in 1993?

Dr. JACKSON. There are 128 ships in the program. I would expect there would be about that many inspections.

Mr. TAYLOR. OK. How many ships did you inspect and how many failed in 1991? Can I give you the answer?

Dr. JACKSON. Please.

Mr. TAYLOR. You inspected 283 ships, and using that same 20 percent failure rate, 56 of them would then have failed. Which leads me to the third question. If there are more ships sailing all the time, why are we inspecting fewer of them in 1993 than 1991? I would think that if we had inspected the same number of ships in 1993 as 1991, you would have found that the failure rate would have been well above those 40 ships.

Dr. JACKSON. It is my understanding the program has been operating under personnel constraints up to this time. At this point we have four active inspectors and of the authorized number of six.

Mr. TAYLOR. I want to go back to the statement made by our first witness, and I hope he will forgive me for not remembering his name. But there is a presumption on his part, and I think on the part of every American who boards a ship in this country, that if they board a ship in this country, that somehow we are making sure that that is a safe vessel for them, that the Coast Guard is going to make sure it is safe, we are going to make sure it has got a decent crew on board, we are going to make sure the food on board is not going to get them sick or, in some cases, even killed.

How can you earlier in your testimony say that you are collecting enough money to adequately inspect these vessels, and then come back and tell me that even though there are more sails last year than, say, two years ago, you are inspecting fewer of them? Something doesn't add up.

I can tell you, I don't know how long you have had this job but I have had this up here for about five years, that we had some hearings in July and April of 1990, May of 1991, and suddenly there was almost a doubling of the number of inspections for foreign-flagged cruise ships. But when the hearings stopped, the inspections fell off. Hell of a coincidence. Or is it?

Dr. JACKSON. Sir, the constraint in the system at this point is not the funding. The constraint in the system is the staffing. And all the Federal Government is operating under cap numbers of staff and all of us are working very hard to meet the requirements of our jobs with the staff that we have allocated.

Mr. TAYLOR. But if you are self-funded, you couldn't apply for a waiver in order to get more people in? I mean, the whole idea of reducing the number of Federal employees was to try to reduce the burden on the taxpayers. So if you are not a burden to the taxpayers, as you have told me earlier in your testimony, couldn't you ask for a waiver so you can get enough people to inspect these ships?

Dr. JACKSON. We have asked for that waiver.

Mr. TAYLOR. And what has become of it?

Dr. JACKSON. That, I do not know at this point, sir.

Mr. TAYLOR. Dr. Jackson, in almost—very quickly upon visiting the Congress, I was impressed by the long arms or tentacles, that you might say, of the foreign cruise ship industry here in Washington. I hadn't been here very long before I was offered a free cruise. I turned it down. But I understand from—that some of the other people have taken up on it. We have not gone so far as to check out staffers.

But I am curious to know if your Agency has ever been requested by a Member of Congress, a Member of the Senate, a member of this administration or the last administration, to kind of back off on the inspections.

Dr. JACKSON. Let me answer that generally, and I will have to turn to Ms. Anderson for a specific. In our dealings with the cruise ship industry, they are extremely formalized. We will not have any meetings without a court reporter present and all of the staff are under very tight observation in terms of receiving no gifts or no gratuities in any form whatsoever. Obviously, that is true, but this is a very attractive setting and you can understand why we are more scrupulous in this than perhaps even in something else.

Secondly, I have never been told that this has gone on in the course of my briefings for this, but I would have to turn to Ms. Anderson who has been with the program much longer.

Have we ever been instructed not to investigate or to lay off on an investigation?

Ms. ANDERSON. Never.

Dr. JACKSON. The answer was never.

Mr. TAYLOR. And your funding, no one has ever mentioned that perhaps your funds for the next year could be reduced if you kept

up the level of inspections that you would have? I am hoping that is the correct answer, I would love to hear that.

Ms. ANDERSON. No, sir, we have never had anything like that come up. We set our own fees. Every October we publish those fees and it is based on how many ships are in the program. It is a weighted average on tonnage, with the extra large ships paying more and the extra small paying less. And that goes between about an \$800 for the extra small, to about \$6,000-plus for the largest ships, the extra large. We recoup that fee, we publish those—in October we publish those fees, what they will be. We solicit comment on them, and they begin to be effective as of January of the following year. And they last for one calendar year, then we relook at those every year.

Mr. TAYLOR. OK. Again, Ms. Anderson, I want to go back to a previous statement. Who did you request the waiver from so that you could have an adequate number of people to continue the level of inspections that you had in 1991? Actually—because if there is more ships, I can't understand why you are having fewer inspections.

Ms. ANDERSON. It is an internal—we asked for an internal CDC waiver for an exception to FTEs, that we would be allowed to hire the two FTEs for the program.

Mr. TAYLOR. Would you provide for this committee your request for the waiver and whatever responses you have received?

Ms. ANDERSON. Yes, sir.

[The information follows:]

REQUEST FOR WAIVER

Faced with recent emerging competitive priorities (e.g., Veterans' Gulf War support and Hantavirus investigation) CDC carefully considered the impact of losing one to two inspectors and determined that the VSP could still deliver a high quality inspection without filling the vacant positions. Therefore, an official request for a waiver to fill the positions was not submitted. The VSP has maintained its performance of inspections by scaling back in secondary areas (e.g., construction and new-build visits). The Program has continued to be very successful at minimizing gastrointestinal diseases.

Mr. TAYLOR. OK. I mean, because it—that is obviously something that needs to be addressed and I am sorry it is going to take something like this to address it. But it has got to be addressed.

Does anyone have any further questions?

Mr. COLEMAN. Mr. Chairman.

Mr. TAYLOR. Mr. Coble.

Mr. COBLE. Very briefly, Mr. Chairman, you are steaming in interesting waters here. Let me put a question either to Captain Williams or Mr. Hall.

Let me address it to you, Captain, to extend the question of Mr. Taylor regarding the inspections. Hypothetically speaking, let us assume that a fire breaks out aboard a vessel and the crew responds with great proficiency and expertise and takes care of everything, no loss of property, no loss of lives. I want to be sure that there is not a drastic change in that crew, so when the date appears or occurs for the Coast Guard to come aboard to conduct its periodic inspection, who knows, there may be a completely new crew aboard who has never encountered this sort of thing.

My question, Captain, is I presume these periodic inspections are impromptu conducted. They don't know, well, the Coast Guard is coming next Friday, boys, let's get it together.

Captain. WILLIAMS. We can conduct unannounced drills as we see fit, sir. And we would do so if we had any concerns. The crew—obviously, that is the area that we are most concerned with as we can design these vessels to meet the greatest standards in the world. If I change the entire crew out tomorrow and I don't replace it with trained individuals, that whole safety system is now or could be substandard. And that is one of our very big concerns.

It is also a concern of the industry. And they have a turnover that occurs on a regular basis. And we are very aware of their turnover. They are very aware of it. And we ensure that what now happens, in many cases, with these vessels, is that the professional mariners go on board and stay on board for an extended period of time, for as much as up to 10 months at a time, so those are the individuals that we are concerned about.

A comment was made earlier that on the large vessels you can have a crew of up to 800 people. Many of these people don't have the expertise that you would normally expect of a professional mariner. There might only be a nucleus of 75 people on board that are professional mariners. Those are the people that are our specific—first concern, first order of concern. And as those people change out, we want to ensure that whoever is replacing them has the proper competency or can demonstrate the proper competency so the safety system of the ship is not—has not been affected materially in any regard.

Mr. COBLE. Thank you, Captain.

And, Mr. Chairman, I thank you for having gotten into this area. Because I think this is very crucial.

I just wanted to—and I don't mean to be—to portray the role of a suspicious fellow, but I just want to be sure that we don't have a crew of 25 proficient expert mariners who are floating around from ship to ship, to be sure they are there when the Coast Guard comes with its inspection book in hand. And you pretty well tell me, Captain, that that probably is not happening.

Captain. WILLIAMS. That is not the case, no, sir.

Mr. COBLE. OK. Thank you, Captain.

Thank you, Mr. Chairman.

Mr. TAYLOR. Mr. Green.

Mr. GREEN. One last question, and I know we have the cruise ship operators. But what—and I guess would we have to go to the IMO if we required a certain level of competency for any foreign-flag ship that calls at a U.S. port and carries U.S. citizens, particularly the numbers we see that go out of our ports?

I know we are treading on treaty waters and things like that. But I was wondering if, and I will ask the staff to look into that, because of the number of people that are—you know, that board those ships in the United States, that I think we owe a duty to them, that we know at least this certain level of expertise and training is there, that they may not feel comfortable with that is—you know, that maybe because they are foreign flag.

Captain. WILLIAMS. Yes, sir, we will be more than happy to take any concerns from the committee and ensure that gets passed on

to our working groups that work on the international basis to ensure that your concerns are addressed.

Mr. TAYLOR. Captain, if I may, and I thank you for your patience. But Admiral Coble, Captain Coble, and Mr. Green, have raised some, further raised some concerns.

As you know, just last week this committee passed the Towboat Safety bill, that requires testing for competency. It is not just enough to have a radar on board a towboat, but actually show the operator, if he is going to operate in reduced visibility, can actually—knows how to use it.

What problems would you see with this Nation requiring a similar standard for those people who operate vessels in our country, that they show that they have actually passed some test that we monitor?

And I was briefly in the steamship business and became aware that there were countries of convenience where it was considerably easier to get a license than others. And that is exactly what I am leading to. As we mentioned, all it takes is one captain who bought his license, to screw up and kill 800 people. And how do we prevent that from happening, how can this Congress pass legislation that will allow you to make sure that that doesn't happen?

Captain. WILLIAMS. Well, the Coast Guard right now is trying to look at a variety of new initiatives to deal with merchant vessel personnel. And we are trying to reform the rules and the laws that we have that apply in the United States domestic arena, and we are trying to look at different ways of doing business, different processes, where we can answer your questions. Because we are very concerned. We don't want someone just to wave a piece of paper at us and to accept that piece of paper. Because we want to see that an individual has the technical competence and the proficiency to use the systems that are on board.

We are looking at a variety of things. We are looking at, for example, in the use of radars, to ensure that we have a variety of standards developed and that individuals be able to demonstrate proficiency. We would like to be able to put our Coast Guard individuals on board vessels while they are operating to ensure that the crew can use the equipment that is on board and has the proper expertise.

So I don't know that I can answer every aspect of your question, and I can take that back and have us answer it in detail for the record, sir. But we are very concerned about the human factor arena. It has been very easy for the international arena for the last 20 years to throw rules at the hull and at equipment. It is much more difficult to try and solve the situation when you are dealing with a human being.

[The information follows:]

REVIEW AND REVISION OF STCW CONVENTION

The International Maritime Organization (IMO) is currently engaged in a comprehensive review and revision of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978. This is the highest priority on the IMO agenda, in an effort to focus attention on people who operate ships as opposed to the design and equipment aspects of ship operations. It is internationally recognized that human error contributes to most maritime casualties. In late 1992, the IMO agreed to a United States proposal to conduct a comprehensive review of the STCW Convention. As a result of a series of tanker casualties, work

on the revision was accelerated; and a conference of Parties scheduled for June/July 1995 is expected to adopt significant changes to the convention.

Among the most important changes currently being considered in the revision are new provisions (1) to ensure that competence of seafarers is based on demonstration of skills which are linked to the actual function performed on board ship; (2) to provide for more effective port State Control when the crew's competence is in doubt; and (3) basic safety training for all persons who are not passengers and are employed on ships. These revisions to STCW would complement the changes recently adopted for SOLAS concerning "Special Measures to Enhance Maritime Safety." One of the new provisions authorizes the use of control measures when there are "clear grounds" for believing that the master or crew are not familiar with essential ship-board procedures relating to the safety of ships.

Mr. TAYLOR. Any further questions from the committee?

I would like to thank this panel and call the third panel up.

The committee would like to recognize our third panel, Mr. Sten Bergquist, Mr. John Estes, Mr. John Fox.

Gentlemen, because of the gravity of the hearings, we will not be adhering to the five-minute rule. I apologize that between Haiti and several other things going on around the world, that a number of my colleagues were called away to other meetings. But we do want to assure you that everything that you say and everything that you would like to submit for the record will be included in the record.

Mr. Estes, if you would like to open the hearing or recognize anyone you would like, you are recognized at this time.

STATEMENT OF JOHN ESTES, PRESIDENT, INTERNATIONAL COUNCIL OF CRUISE LINES, ON BEHALF OF V.D. KAPENTANAKOS, SENIOR VICE PRESIDENT, CELEBRITY CRUISE LINES, ACCOMPANIED BY: JOHN FOX, VICE PRESIDENT FOR CORPORATE RELATIONS, ROYAL CARIBBEAN CRUISE LINES

Mr. ESTES. Thank you, Mr. Chairman.

Good afternoon and it is a pleasure to appear before you again. We have submitted a statement for the record and I appreciate your agreement to include that in the record of the hearing.

Mr. TAYLOR. Without objection.

Mr. ESTES. In that statement, Mr. Chairman, we have indicated that in the last five years there were approximately 17,606,400 passengers who left North American ports on cruise ships. In that five-year period also, Mr. Chairman, there were 17,184 sailings of ships carrying those passengers from North American ports.

We put that to you because we are talking today about three incidents. These incidents are rare, they are isolated, and they are not common in any sense of the word. Nonetheless, because they are rare and they are isolated, they do present for us as an industry a deep concern because our record is good, because we take so many passengers out. They are of concern to us and we are deeply distressed by them.

We would like you to know that the cruise ships that take passengers out of North American ports are safe, they are sanitary, they are well-maintained, and, Mr. Chairman, they are professionally crewed.

In the cruise line industry, we have really a twofold system of sanitation and safety to protect the passenger. The first is an overarching system of procedures that are employed by the compa-

nies, and underneath that, Mr. Chairman, is the safety net that you have been talking to today, and that is the regulatory agencies and advisory and independent agencies that help us achieve the safety goals that we must.

But safety and sanitation, Mr. Chairman, doesn't just happen. It is hard work. It is grueling work, and it takes a great deal of effort.

The cruise ship has a training program for new employees and an updated training program for older employees. The cruise ship has inspection procedures for safety and sanitation. It has food and water procedures, where water is continuously monitored, for example, for the chlorine content. And it has, of course, medical facilities and many, many other items.

I have included in my statement attachments A and B—I am sorry, B and C, some just rough examples of the many, many things that go into operating a modern-day cruise ship. But that is, and I hesitate to use the example, just the tip of the iceberg.

Mr. Chairman, the regulatory guidance that we receive, that is the safety net underneath, is very important to us. And we have heard today the testimony from the CDC and the NTSB and the Coast Guard. Let me talk to you for just a minute, if I may, about the CDC.

The CDC is a very valuable program to this industry. We are also distressed about the lower level—the lower—the reduction of personnel. As a matter of fact, we were quite concerned about that because new ships are coming in all the time. And one of the functions that the CDC performs, that I don't think was brought up today, is that at our cost and our expense and our invitation, the CDC personnel visit the yards, whether they are foreign yards, most of them are, and they inspect the galleys and make sure that the equipment is correct, that it is the state-of-the-art, and that it will meet their high standards.

We value, we need, and we want the CDC and anything that can be done to increase the number of inspectors, we welcome, and we extend our hand to help you in any way that we can to raise that. They are very important to us.

With respect to the United States Coast Guard, we have had an ongoing relationship with them, as you know, for a long, long time. Most recently, our association was granted a nongovernmental consultative status in the International Maritime Organization. In that capacity, we have the ability to participate in the dialog, the vote—the dialog and the debate, but not the vote, that goes on at IMO.

We work very closely with the Coast Guard, and right now we are working with them on upgraded STCW, Standards for Training, Certification and Watch-keeping, at IMO. Prior to that, we worked very closely with the Coast Guard on the implementation of new fire safety standards. All of this by way of sharing with you our desire, our concern, and our ongoing efforts to work effectively with the safety network that is underneath the overarching safety procedures that the cruise lines present.

We have, Mr. Chairman, a number of items in our statement which I won't go through now. I would just like to mention to you that with respect to the CDC, we do quote from the late Dr. Vernon Houk, who recently passed away and who was a great force in mov-

ing cruise ship sanitation forward, in stating that the number of incidents on cruise ships of food-borne illness had been reduced, that was in 1992, to an irreducible number. That was a great compliment to us.

But I look on it more as a compliment to the CDC. It was reduced perhaps in Dr. Houk's words, to an irreducible number, but it largely is due to the dedication and the professionalism of the CDC. They do a great deal of things for us.

For example, one of the things they do is hold workshops for our people, our cruise ship people. We had last year, I believe, it was four workshops, a joint effort with the Nova University, and some 400 employees and crew members attended those workshops. That is on the state-of-the-art sanitation developments and equipment that is available and should be utilized on cruise ships.

Hard as we try, Mr. Chairman, we are not perfect. And we don't live in a perfect world. And incidents are going to happen. And all we can do is our very best to prevent them, to minimize them, and to attain as close a standard of perfection as we can.

I have indicated to you in our statement the number of things that are going on in society generally today with respect to particularly viral and bacteriological infections. We do our best to make sure that the cruise line experience is free of those.

There will be, however, from time to time, things that will happen, and you have received for the record with respect to the three incidents that you are looking at, the two particularly with respect to sanitation, statements from those companies.

I have with me Mr. John Fox, who is a Vice President of Royal Caribbean, and you have received a 50-page statement from Celebrity Cruises on the Legionnaires' incident.

With respect to the fire incident in New York Harbor, there is a representative here from Regal Cruises who will fill you in on that.

Let me just conclude by saying, if I might, Mr. Chairman, that we are very, very concerned about safe, sanitary and well-crewed ships. That is our business. And we want to assure you that we are doing our utmost and we will continue to do our utmost to see that we have safe ships and clean seas.

Thank you.

[The statement of Mr. Estes, Mr. Kapentanakos, and Mr. Fox may be found at end of hearing.]

STATEMENT OF STEN BERGQUIST, VICE PRESIDENT OF MARINE OPERATIONS, INTERNATIONAL SHIPPING PARTNERS, ON BEHALF OF REGAL CRUISE LINES

Mr. TAYLOR. Mr. Bergquist.

Mr. BERGQUIST. Yes, Chairman Taylor, Members of the Subcommittee on Merchant Marine and Coast Guard, my name is Sten Bergquist. I am a Master Mariner and Senior Vice President of Marine Operations with International Shipping Partners, a vessel management company based in Miami, Florida, which operates and manages among others the vessel Regal Empress under contract with Regal Cruises.

My responsibilities include overseeing and management of technical matters and training of the deck and engine departments of the Regal Empress.

I am here today at the invitation of Chairman Lipinski to Regal Cruises to describe the facts surrounding an accidental fire on board the Regal Empress as the vessel was approaching the New York Harbor passenger ship tunnel on August 19th, 1994. My description of the accident is based on the reports of various persons and entities who conducted investigations of the fire.

The Regal Empress is a classic beauty of pleasure cruising, which sailed as the Olympia, flagship of Greek Lines until 1983. Then she was purchased, extensively refurbished and renamed the Caribe I by Commodore Cruise Lines, where she was the centerpiece of the Commodore Cruise Line fleet. In 1993, the present operators acquired the vessel and renamed her Regal Empress.

We oversaw her refurbishment to guarantee that she met modern standards of safety and comfort in compliance with the international conventions and applicable standards of the U.S. law. She is presently deployed during summer months in cruises from New York to the Canadian maritime provinces and back. In the winter months, she will be deployed from Tampa Bay in the Caribbean passenger cruise market.

This vessel has a complete and well-functioning sprinkler system and is subject to regular U.S. Coast Guard inspections which apply to large foreign-flag passenger vessels calling at U.S. ports. She is and has at all relevant times been in class, with Lloyd's register of shipping, free from any outstanding recommendations. While the vessel was undergoing her recent repairs, she satisfactorily completed her quarterly U.S. Coast Guard inspection a month ahead of the required date. Regal Empress passed her annual U.S. Coast Guard inspection in June of 1994.

The ship has no outstanding class recommendations and passed her most recent U.S. Public Health survey with a score of 95 on May 16th, 1994. She has, to our knowledge, no outstanding safety citations of any kind.

The vessel departed New York under the command of Captain Skjerve on August 14th, 1994, on a scheduled five-night cruise to New England and Canada ports. Completing a routine voyage, the vessel returned to New York on Friday morning, August 19th, 1994, taking the pilot on board at 0600.

During her transit of New York Harbor, a member of the ship's crew on routine rounds detected a smoke condition in the main deck thwartships passageway. He inspected the area in an attempt to locate the source of the smoke and to determine if a fire was burning.

The crewman observed light gray smoke flowing from a vent in a containment locker, checked the surrounding bulkheads for heat, opened the door to the locker and discharged a portable CO2 fire extinguisher into the space. Observing no flames from within the 10 by 5 foot locker, he closed the door and reported the situation to the bridge via a nearby phone.

Safety Officer David Ryan immediately reported to the scene, conducted an investigation of the locker and adjoining spaces and reported his findings to the bridge.

The vessel's three fire-fighting squads were outfitted and deployed at 0707, fire hoses were stretched in the area and water sprayed into the locker.

In excess of 500 passengers were eating breakfast in the restaurant one deck above as the vessel continued her voyage up the Hudson River. As the smoke began to spread to the dining room, the passengers were evacuated by the crew to the exterior decks.

The fire squads and the crew continued to seek the source of the smoke as the vessel approached the dock. The general alarm was sounded at 0808. A small fire broke out in the wood paneling in the new empty dining room and the crew began the fire extinguishing efforts.

The captain made several announcements over the PA system instructing the passengers to remain calm and to evacuate the interior spaces in an orderly fashion. Two passenger gangways were deployed as soon as the vessel came alongside and the passengers disembarked in a quick and efficient manner. Shore-side fire-fighting units boarded the vessel and assumed command of the joint fire-fighting efforts of both shore-based and crew firefighters. The fire was brought under control. The sprinkler system in the dining room functioned properly, as did all of the vessel's fire-fighting equipment.

A second unrelated fire began in a mattress in a passenger's cabin. This fire was extinguished quickly by the ship's sprinkler system alone.

A smoldering fire apparently originated inside the after end of the engine exhaust casing, just below the restaurant deck level. Cork insulation contained in the steel duct work carrying unused brine pipes ignited and spread smoke into an adjoining locker located in the main deck thwartships passageway.

The smoldering fire developed at the bottom end of this duct immediately below the restaurant deck level, immediately adjacent to the engine casing bulkhead. The smoldering fire inside the duct spread upwards through the cork insulation. A fire then developed in the restaurant, causing fire damage to the decorative wood panels and ceiling panels in the restaurant.

The most serious damage was caused to the dining room on the restaurant deck. The decorative wood panels, in the forward end of the dining room, were burned and subsequently stripped. The ceiling was damaged by the fire.

As part of the fire-fighting ventilation operation, most of the windows were broken by the New York City firefighters to release the smoke, heat and gases in the dining room. Additional ceiling panels 50 feet aft of the engine casing had been stripped down as part of the fire-fighting operation.

The dining room furniture, including decorative pillars and panels near the engine casing, were damaged mostly from the fire-fighting efforts. Of course, the water used to fight the fire soaked the carpet and also caused damage to other areas.

At the time of the casualty, the vessel was carrying 1,005 passengers, 907 U.S. citizens, and 98 aliens, and a crew of 387, of whom 23 were U.S. citizens. We learned that a total of 17 persons suffered smoke inhalation, including 5 New York City firefighters, and that 4 passengers had been taken to local hospitals on account

of prior medical histories and/or age. The four passengers were treated and released. To our knowledge, no serious injuries were reported.

We understand that it is impossible to eliminate all risk of mishap or accidental fire on board ships, particularly one designed to carry a large number of passengers. For that reason, the vessel's crew has been well-trained, not only in the deck and engine departments, but also among the hotel, food and beverage and other support staff who also participated in the evacuation of the Regal Empress on August 19th.

We were gratified to see that there were no serious injuries resulting from this accident and that the crew of the vessel responded in a calm, diligent and responsible manner, reflecting their training and quality. The crew undergoes intense weekly fire-fighting training, consistent with SOLAS requirements.

As further testimony to their performance, I have attached to my written remarks a letter of commendation dated August 25th, 1994, from the Chief in Charge, Manhattan Borough Command, Fire Department of the city of New York. The chief, on behalf of the fire department, commended the Regal Cruises staff on board for their cooperation extended to the fire department on August 19th, and noted that this was not always the case in shipboard fires, in their experience. The chief in particular cited Captain Skjerve and safety Officer David Ryan for their input and assistance.

As is customary after incidents of this sort, there are several investigations pending, mainly by the U.S. Coast Guard, the National Transportation Safety Board, and the Bahamas Government and the Classification Society, to determine the cause of the fire and the extent of the damage.

All repairs to the vessel were completed in eight days, by August 26th, 1994, and the vessel went back into service. All cork was removed and new insulation was installed where required on the damaged bulkheads during the post-accident repairs.

Thank you for affording us the opportunity to discuss this incident with you, as well as the response of the company and its employees of which we are justly proud.

I am available for any questions that the Members of the Subcommittees may have today.

Mr. TAYLOR. Thank you, Mr. Bergquist.

[The statement of Mr. Bergquist may be found at end of hearing.]

Mr. TAYLOR. Mr. Fox, would you like to make a statement?

Mr. FOX. Mr. Chairman, I want to add my voice to the chorus of voices we have heard today who commend you and other Members of this joint hearing for conducting these hearings. Royal Caribbean believes they are extremely important. We have submitted a written statement for the record.

I would just like to take a couple of minutes to express Royal Caribbean's deep sorrow and regret for the incident that occurred on the Viking Serenade this past August. I would also like to let you know that come this November we will have been in this business for 25 years and it has always been our singular most important concern, for the safety, health and welfare of our passengers and crew.

Thank you, Mr. Chairman.

Mr. TAYLOR. Thank you, Mr. Fox.

Just a few questions that have been left by other Members, if you don't mind. So we will start with those and I will open it up to the panel.

Are foreign-flag ships required to have lifeboats, people who man them certified by the United States Coast Guard?

Mr. ESTES. They are certified by the flag state and the administration, right, under IMO standards.

Mr. TAYLOR. But only by the flag state?

Mr. ESTES. I think that is right, yes.

Mr. TAYLOR. Mr. Estes, I made a statement earlier, and again I have been out of business for a while, but it was pretty common knowledge at the time that I was in the steamship business that there were some states where you could buy a license. Does it concern you that some of the people who were manning the lifeboats on your ships could possibly have bought their license, rather than earned it?

Mr. ESTES. Sure, it would concern me if we employed people or our members employed people that were not adequately trained and couldn't do their job, yes, of course.

Mr. BERGQUIST. May I follow up on that question?

Mr. TAYLOR. Sure, certainly.

Mr. BERGQUIST. On the *Regal Empress* and all the vessels that we man, we do the training on board ourselves and ask for an inspection from the administration of our flag country to come on board and certify the people for this purpose.

Mr. TAYLOR. Is that an industry standard or solely for your—

Mr. BERGQUIST. Pretty much so, yes.

Mr. TAYLOR. Do you know of any exceptions?

Mr. BERGQUIST. No.

Mr. TAYLOR. Are you subject—are your vessels subject to the same FDA and State inspections that, say, the river boats that travel up and down the Mississippi River, you know, they can be inspected by any one of the States that they call on, in addition to the FDA. What are the rules for your ships?

Mr. ESTES. There is no FDA inspection. In fact, it is my understanding, Mr. Chairman, that essentially the FDA is a—*is* a guidance organization that issues regulations and guidelines for States and municipalities, who then carry out the regulations that the FDA would suggest.

With respect to our ships, that is the foreign-flag ships that call at U.S. ports, there is no inspection other than by the CDC and by our own companies, there is no IMO requirement that I am aware of. So we are essentially, with respect to North American departures, inspected for sanitation measures by the CDC.

Mr. TAYLOR. A lot of the just looking at the schedules of the cruises and the destinations of the cruises, it seems that a lot of them go to places, and for good reason, where it is a bargain for the passenger to get off. He will get a lot for his dollar down there. But that would also lead me to believe that your ship could get a lot for their dollar down there.

I am just curious, of the foodstuffs and the waters carried on board the ships, are some acquired in each place and are the standards for inspection the same in each place?

Mr. ESTES. You want to answer that?

Mr. BERGQUIST. I can comment on that, when it comes to our company. All stocking of the food items take place in American ports.

Mr. TAYLOR. Mr. Estes, is that the—

Mr. ESTES. No, we purchase things, I say we, I mean other cruise lines purchase things outside of the United States, and North America. There is, as an aside, a USDA requirement that those have to be disposed of separately before they—they cannot be used in American waters or used or disposed of generally with respect to, for environmental purposes.

But with respect to cruise ship water, if we talk about that for just a second, most of the cruise ships today, if not all of them, have various systems of assuring safe water. And this gets somewhat into the Legionella problem, also. Most of the ships have chlorine flow monitor devices so that the amount of the chlorine in the water is regulated by a flow meter or monitored by a flow meter so they can tell from hour to hour how much chlorine is in there.

And that is essential, because in a ship as you get further away from where the chlorine was ingested into the water stream, it gets weaker. And you have got to have that density or concentration relatively high throughout the whole ship system. So with respect to taking on water, it is taken on only, I am sure, in potable places.

I could get you more information on that, I just don't know where, other than in the United States, it is taken on. But with respect to the treatment of it on the ship, it is quite highly regulated. There are other methods of treating water, like bromide. Some lines, although it is not used much anymore more, use a system of photoelectric system, where they—

Mr. BERGQUIST. That is correct.

Mr. ESTES. Where they treat the water. That is frowned on by the CDC because it cleanses the water just there, and it doesn't cleanse it further out into the system.

On foodstuffs, foodstuffs are purchased generally in our membership all over the world, because our ships are all over the world. So they are purchased in Europe and wherever.

Mr. TAYLOR. Getting back to some previous testimony, they pointed out that they felt like the Legionnaires' Disease was water-borne and caused quite possibly by the water in the spa. Does anyone from this country, getting back to the fact that 80 percent of the passengers are going to be Americans, does anyone from this country inspect the wells and the water supply systems in those other countries when you take on water?

I mean, since the water that you may have well picked up in the Bahamas or the Yucatan is going to be mixing with water you picked up in New York and Miami, doesn't make much sense to have 90 percent of it tested, if 10 percent of it is carrying water-borne diseases. I realize that there is chlorination, but chlorination will not kill everything in the water. And as you said, the farther away you get from the point of chlorination, the weaker that is going to be.

Mr. ESTES. Right, right. The question is—

Mr. TAYLOR. The question is, is there any sort of testing to assure those passengers who happen to be Americans that the water that is taken on board that vessel is safe? I realize obviously the water in Miami is going to be tested, obviously the water in New York City is going to be tested and the other ports that you call on when you take on water in some of these smaller less prosperous nations that you call on, obviously I can't believe it has got any kind of testing at all, at least nothing that would live up to the same sort of standards as a port in this country.

Mr. ESTES. My surmise would be that the company tests it. I would be very surprised if we take on water anywhere other than in what we would recognize as developed countries, I just can't imagine that. We have a lot of cruises in Europe, Western Europe, they are obviously going to take water on in Great Britain and Norway and whatnot. But I can't tell you if there is an independent regulatory check, other than the company checking it, yes.

Mr. TAYLOR. Has there ever been an instance where the ship refused to take on potable water, where the ship in effect told the passengers that we have to restrict the use of water on board because we are not certain that the water we have here at this port is safe?

Mr. ESTES. Not to my knowledge.

Mr. TAYLOR. Which means, leads me to believe there haven't been too many instances where it has been refused for whatever reason.

Mr. ESTES. Or that it hasn't been taken on in places where it has been suspect, right.

Mr. TAYLOR. An interesting question was raised by several people, getting back to the qualifications of the—not only the hierarchy, but each step on the ladder as far as the qualifications of the people on board. And a question of tenure keeps coming up, how long has that person been a captain, how long has that person been a first mate. Do you keep those sort of statistics for your industry?

Mr. ESTES. I don't keep them, but they would be available.

Mr. TAYLOR. May I ask them for this committee?

Mr. ESTES. Sure.

[The information may be found at end of hearing.]

Mr. TAYLOR. Do you, as a rule, do the same captains—would you have, say, only two or three captains who would man the Princess every year, and so that those two or three people are coming in and out of New York or San Diego or Miami, or could it be a dozen different captains calling on those ports? What would be more closer to the reality answer?

Mr. ESTES. How long would they be employed on the ship, how long would they be employed on the ship; is that what you mean?

Mr. FOX. Mr. Chairman, I would just like to say generally, we conducted a study several years ago regarding the turnover rate in the hotel industry in the United States, for example, and service-oriented jobs, as compared to the turnover rate in the cruise industry. And I can tell you that at least compared to the hotel industry, in service-oriented jobs in this country, our turnover rate is enor-

mously less than that. We probably have a turnover rate of about 20 percent.

In Royal Caribbean's case, anybody who is thinking about building a cruise ship these days is going to spend \$300 million or more. That is an enormous investment. All of our captains are either architectural engineers or marine engineers of some kind or other, they all speak a number of languages. Most of them have helped design the very ships that they are charged with.

These are very high-pressure jobs. Every six or eight months to ten months a captain has to take a vacation, it is an enormous responsibility, and certainly anyone could understand that.

But we have really a handful of captains. We have 9 ships, and I don't know the exact number, but if we have 12 or 14 captains, I would be surprised. The only time they get off is for rest and recuperation. They do go from ship to ship from time to time, only because of vacation periods or periods of leave, family leave and those kinds of things. But for the most part, there is very little turnover, at least with regard to Royal Caribbean's captains, and I think that probably would hold true for the rest of the industry.

Mr. TAYLOR. Mr. Estes, do you think that is the norm?

Mr. ESTES. I think my colleague may have something.

Mr. BERGQUIST. Yes, on the Regal Empress, for instance, all the senior officers have been from the start of the vessel, under the name Regal Empress. And we have very little turnover in our company with officers. We have added some to our staff as we as a management company has grown.

Mr. ESTES. OK. I really don't, I will have to get the figures for you. I just don't know. Some of the flag states, as you know, I am sure, require that certain deck and engine people be nationals of that country in order to fly the flag of that country. And that plays a part in the mix, I am sure.

I would prefer, rather than mislead you, if I could—I can get you some figures on the duration, term of employment and whatnot, of the captains and I guess chief officers.

[The information may be found at end of hearing.]

Mr. TAYLOR. It leads me to my next question, getting back to the qualification of the individual person. And again, some nations, I mean there is probably no higher honor than the title of captain. It is very hard to get, it is very hard to keep. But we also know that in some nations, you can literally go in and pay the right person enough money and walk out with a license. That is the guy I am worried about. I am not saying that that guy is running any of your ships, but with the proliferation of cruise ships, the potential is there. If you would, please, sir.

Mr. ESTES. I think, you know, there is a real effort going on right now, at IMO and the STCW area that Captain Williams talked about, raised by the Secretary General, and you are quite correct, there is a concern. I am not so sure it goes as high as the captain. But you can get down not too far below that. And we have seen, for example, without being specific, some environmental incidents where there has been some concern.

And I—I think that the efforts that are being made at IMO, assuming that they are timely and that they are implemented with some dispatch, will go a long way in this regard. I don't know of

any problem in our industry that we have like that, but I can see in the maritime industry generally where it could be a concern.

Mr. TAYLOR. Following up on your statement that it is not just the captain that runs that vessel, but several tiers down the ladder are all integral in seeing to it for safe passage. Any one of these people can cause a disaster. And getting back to what Mr. Fox and Mr. Bergquist have said, that a number of these captains will call on the same port over and over, call on the same American port, what would be the reaction of your industry to require that these people carry American licenses?

And I will use my friend counsel, for example. He has lived in London for a little while. His American driver's license was worthless in London. And yet we are allowing people who captain and man and provide for the safety and engineering of 900-, 1,000-foot vessels, to call on our ports without an American license. And yet the fellow who is running the 40-foot crew boat who brings the pilot alongside, he has to have a license. Isn't that kind of crazy?

And I can understand going back to the old days where a captain may only make one voyage a year to an American port and may go to a hundred ports in the course of a year, that the problem of seeing to it that that—carrying a hundred licenses around would be a burden. But since many of these captains are going to the same port over and over, isn't it a reasonable request, since 80 percent of your market is the American people, that those captains who make multiple voyages to our country in the course of a year be required to be tested by the American Coast Guard?

Mr. ESTES. Well, you know, in a sense they are, because of the control verification programs and the tests that the Coast Guard conducts quarterly on all of the ships. And that also involves the captain. It is not just—it is not just equipment.

In addition to that, Mr. Chairman, just last year there is a new safety management code that the IMO has adopted and which will be effective in 1997, which requires strict standards both on shore, and sometimes that is equally as important for the support that the captain needs, and on board. So I am not sure that requiring an American license or a Norwegian, or if the Norwegians wanted one for every ship that comes there, or the Brits for every ship that goes there, so that the American captain then would have to be licensed by all these other countries, I am not sure as a practical matter that would serve international commerce well.

I do agree that the standards have to be uniform and they have to be enforced, and they have to be—they have to be across the board internationally. I am not sure that our country, the United States, has any particular monopoly on this particular aspect of managing a ship. You know, I think it is an international problem.

Mr. TAYLOR. Mr. Estes, I am not doubting one word that our standards are, say, any better than the Germans or Japanese or the English or Scandinavian countries. But as we both know, there are some countries out there that don't meet that standard.

Mr. ESTES. That is true, that is true.

Mr. TAYLOR. And they are piloting those vessels, and those vessels are carrying Americans. And eight chances out of ten that any passenger on any vessel anywhere in the world is an American. And nine chances out of ten that they are boarding a port, boarding

at a port that is an American port. So, therefore, it does become an American responsibility.

Mr. ESTES. The Coast Guard is just implementing now, I don't know if you have had any hearing on this or not, but they are putting in quite a—I won't use the word radical, but innovative system of testing ships that come in and putting them on a ranking, where if they don't score a certain minimum number of points, they are actually prohibited from sailing. And this goes to crew competency as well as other things. So I think in the United States, thanks largely to the Coast Guard, we are ahead of the field, a long way ahead of the field with respect to protecting our people and our ports. I think that is a fair statement. I don't know if you would agree.

Mr. BERGQUIST. I would agree with that.

Mr. FOX. Mr. Chairman, may I just add one thing that nobody has really mentioned here, and I am not sure how this applies in other States. But I am somewhat familiar with how it applies in my home State of Florida. And that is by law we have harbor pilots who take these vessels in and out, even if the captain has been in and out of the same port a thousand times.

I don't know what the situation is in Mississippi or Louisiana or California or any other State. I presume that when you take a ship in and out of New York Harbor, you probably have a pilot in attendance. So nobody has really mentioned that, but that is just another safety layer that we abide with every time we come in and out of the ports.

Mr. TAYLOR. Mr. Fox, I don't doubt that. But the captain is still the captain. There is a fire on board the vessel, if there is a major mechanical problem on board the vessel, that pilot's just there to tell them what the currents are, what the winds are, where the shallow places are. He does not have the knowledge of the ship that the captain does. Which brings me back, if we have people who are regularly engaging in trade in our coastal waters with their passengers, nine chances out of ten are Americans, then I think that puts the responsibility on this Nation to ensure that that man is competent, just as much as we expect the pilot of an airliner to be competent, since as we have seen last night, the potential for disaster is always there. And I was wondering what the reaction of your organization would be to that requirement.

Mr. FOX. I am not qualified to answer that question, but I—and again, I may be asking an ignorant question here, but the pilots of British Airways, for example, when they fly in and out of here, are they held to similar standards that U.S. pilots are? Do they have to be licensed here?

Mr. TAYLOR. That is a good question, I need to find that out as well.

Mr. FOX. I don't mean to—I have no idea what the answer to that question is, but it seems to me that some of what we are talking about goes to the very nature of the maritime industry, and it just happens to be an international worldwide industry with hundreds of years of history attached to it. And again, I am not thoroughly familiar with what that history is.

Mr. TAYLOR. I can tell you that we have done a better job of protecting the cabotage laws with regard to air travel than we have

done with maritime. We don't have such a thing as a "cruise to nowhere" in the air industry. It is unfortunately very common in the maritime industry.

Mr. ESTES. But I think, if I may, Mr. Chairman, as an observation on what you have said, that it is—it is a fair observation that when a ship regularly calls at a U.S. port or is regularly involved in the territorial waters of any country, be it the United States or anywhere else, but talk to the United States, that there is a concern and a legitimate concern that that ship be managed and that the captain be someone that we would have confidence in. I think that is a legitimate concern.

Mr. TAYLOR. I would like a response to that question from your organization.

Mr. ESTES. OK.

[The information may be found at end of hearing.]

Mr. TAYLOR. And again, I can certainly understand that there would have to be some sort of a threshold at what point that captain, be it three cruises a year, five cruises a year, we cannot expect every single captain that calls on our port once a year to be licensed, but certainly those who make multiple stops.

Mr. ESTES. It may be also, I think we should, as a parallel, if I may, that we want to be sure we know what is being done today with respect to making sure that they are——

Mr. TAYLOR. Does the panel have any further statements?

If not, I want to thank you for being here.

Again, it is toward the end of the session, a lot of other things are going on. I apologize for my colleagues. But everything you said and everything that you turned in will be included in the record.

[Whereupon, at 12:52 p.m., the Subcommittees adjourned; and the material submitted for the record may be found at end of hearings.]

CRUISE SHIP HEALTH AND SAFETY PRACTICES

THURSDAY, OCTOBER 6, 1994

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON MERCHANT MARINE,
COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, DC.

The Subcommittee met, pursuant to call, at 10:05 a.m., in room 1334, Longworth House Office Building, Hon. William O. Lipinski (Chairman of the Subcommittee) presiding.

Present: Representatives Lipinski, Taylor, Green, Stupak, Kingston.

Staff Present: Subcommittee on Merchant Marine: Keith Lesnick, Staff Director; Fred Zeytoonjian, Counsel; David Honness, Professional Staff; Hugh N. Johnston, Minority Counsel. Committee on Merchant Marine: Minority—Harry F. Burroughs, Staff Director; Cynthia M. Wilkinson, Chief Counsel; Kip Robinson, Counsel; Margherita Woods, Staff Assistant.

STATEMENT OF HON. WILLIAM O. LIPINSKI, A U.S. REPRESENTATIVE FROM ILLINOIS; AND CHAIRMAN, SUBCOMMITTEE ON MERCHANT MARINE

Mr. LIPINSKI. Good morning. As you know, last week the Subcommittee held a joint hearing with the Subcommittee on Coast Guard and Navigation on cruise ship health and safety practices. We were particularly interested in the outbreak of Legionnaires' disease aboard the Celebrity Cruise vessel *Horizon*.

We heard testimony from several witnesses, including a passenger from the *Horizon*, and Dr. Dick Jackson of the Centers for Disease Control and Prevention. At that time, we were disappointed that a representative of Celebrity Cruise Lines did not accept our invitation to present oral testimony. At the conclusion of our hearing, another invitation was extended to Celebrity to appear before our Committee. I am happy to say that Mr. Albert Wallack, Senior Vice President for Passenger Services, is here today to answer our questions.

Good morning, sir. It is a pleasure to have you here this morning.

Mr. WALLACK. Thank you, sir.

Mr. LIPINSKI. We will be happy to hear your testimony, and then we will have a few questions for you.

STATEMENT OF ALBERT C. WALLACK, SENIOR VICE PRESIDENT FOR PASSENGER SERVICES, CELEBRITY CRUISES, INC.

Mr. WALLACK. Thank you, Mr. Chairman. Good morning, Mr. Chairman and members of the Subcommittee. Celebrity is honored to have been invited to attend this hearing. I am the Senior Vice President of Passenger Services for Celebrity Cruises, Incorporated, and pleased to appear today on behalf of the company. We understand that the Subcommittee is concerned about recent incidents aboard some cruise ships including the recent incident of Legionnaires' disease involving a Celebrity vessel.

In response to your initial invitation, we provided last week a detailed written statement for inclusion in the hearing record that explains in detail the measures taken by the company in close consultation with the Centers for Disease Control and Prevention to deal with this incident of Legionnaires' disease on our vessel, the *Horizon*. Our detailed 50 page written statement outlines Celebrity's recent experience with the investigation by the CDC of a cluster of cases of Legionnaires' disease. Today, I hope to provide answers to any questions you may have.

Based on the information gathered by Celebrity and the CDC and consistent with the testimony given by CDC officials last week, the source of infection, legionella, the bacterium that causes Legionnaires' disease, has been identified by the CDC in the on-deck whirlpools of the *Horizon*. As stated last week by the CDC and the U.S. Coast Guard representatives and as indicated in Celebrity's detailed written statement, Celebrity, from the very first contact with the CDC on July 15, 1994, has cooperated completely with the CDC and has followed the CDC's every recommendation.

One of the first recommendations that we received from the CDC was to shut down the on-deck whirlpools. This was done immediately. In addition, Celebrity has shut down all on-deck whirlpools on its other ships pending CDC recommendations to be discussed at the CDC meeting on October 17 in Atlanta. We are looking forward to that meeting at which the CDC will summarize the findings of its investigation of the recent cases of Legionnaires' disease and will make recommendations to the entire cruise industry on the future prophylactic measures to safeguard against any recurrence of Legionnaires' disease on a cruise ship.

Celebrity would like to take this opportunity to publicly express its gratitude to the staff and officials of the CDC who acted at all times with thoroughness and professionalism in conducting the investigation and in recommending measures to protect Celebrity's passengers and crew. Celebrity, for many years, has participated in CDC's vessel sanitation program.

Celebrity vessels historically have had very high scores on all vessel sanitation program tests just as we have maintained a strong industry reputation for cleanliness and safety. In fact, in its last two vessel sanitation program inspections in February and August of 1994, the *Horizon* itself scored a 94 out of 100 points which is regarded as a very high score.

Celebrity will continue its cooperation with the CDC. We hope that as serious as this incident has been, Celebrity and the cruise industry can learn from it and implement the impending CDC recommendations so that all passengers can enjoy even greater de-

degrees of safety and comfort. According to the CDC, there have been no confirmed cases of Legionnaires' disease from the July 16 cruise, and we believe that any threat to passenger health had been eliminated by the closure of the whirlpools before that cruise.

After the *Horizon* was taken out of service on July 20, the *Horizon* went into dry dock in Baltimore for its regular maintenance as well as for additional chlorination procedures to give even greater assurance of passenger and crew safety. Celebrity has followed all CDC recommendations on measures to eradicate any risk from legionella. The CDC informed Celebrity that the *Horizon* could resume its normal sailing schedule on July 30, 1994, and the *Horizon* has done so.

As stated earlier, along with the cruise industry, we now await CDC's recommendations at the October 17 meeting in regard to future safety measures to guard against any recurrence of this disease, and we will rapidly implement any and all CDC guidelines.

Mr. Chairman, on behalf of Celebrity, I thank you again for the opportunity to address this Committee.

[Statement of Albert Wallack may be found at end of hearing.]

Mr. LIPINSKI. Thank you, sir. We will begin the questioning with Mr. Taylor.

Mr. TAYLOR. Thank you, Mr. Chairman. I was just curious. How many different nationalities of crewmen you carry on board your vessels?

Mr. WALLACK. I don't know the exact number but quite a few, sir.

Mr. TAYLOR. When it says in your testimony that the Centers for Disease Control talked to the crew, how do they do that if people from what I have heard of 34 different nations are on board?

Mr. WALLACK. Sir, we regularly are examined by the Coast Guard on safety issues, and being able to communicate safety information, et cetera, is part of that examination, and we have always passed those tests. The CDC never at anytime while they were on board the ship reported any difficulty whatsoever in obtaining information from us, sir. On the contrary, they have said to us on many occasions and publicly that our cooperation was as good as any they have received in any place, and they have given us a lot of praise in that regard.

Mr. TAYLOR. We are both familiar with the tragedy that took place in the North Sea last week in an area where because of the proximity to each country, to each other, just about everyone can speak the other one's language. The crew was, again, all just from that area, and yet we saw the kind of chaos that occurred in the middle of the night when an otherwise very seaworthy vessel with an otherwise great crew on board something went amiss.

I am just curious. Could every member of your crew say there is a fire on board; you need to exit to the left; you need to climb X number of stairs in English? Could every member of your crew say the vessel is sinking, and your lifeboat is on the port side, and you need to take these following steps to get out in clear English to the passengers on board?

Mr. WALLACK. Sir, as you know, we are regularly tested by the Coast Guard in order to maintain and keep our certificate. And this safety training and this ability to communicate is part of that test-

ing. Also, with every new group of passengers, every week on board we do extensive safety drill with the passengers and the crew. Our company has never failed one of those examinations, and I feel very secure, sir, that they have the ability, as they have demonstrated, to communicate adequately.

Mr. TAYLOR. Do you know, Mr. Wallack—is that the proper pronunciation?

Mr. WALLACK. Yes. Thank you.

Mr. TAYLOR. OK. And please forgive. I was a sailor for a while, and, you know, it is always the guy the lowest on the totem pole who has got the duty between midnight and dawn. I mean, it is the same regardless. OK? How many times has the Coast Guard inspected your vessel between midnight and dawn and perform these tests?

Mr. WALLACK. All of the personnel who are involved in any way, shape, or form with emergency or disaster-handling activities are tested when the Coast Guard tests, sir. We maintain safety vigil aboard the ship. There are fire watches as you know if you have been aboard ship, sir, in the Navy or in any other way, that all of these procedures are followed as a matter of course. Our standard for our company is very, very high. We set our standards above those accepted for the industry. Our training regiment is very complete, and we have never failed an inspection.

Mr. TAYLOR. Again, how many of these inspections though take place underway at night—late at night?

Mr. WALLACK. I can't answer that.

Mr. TAYLOR. The same sort of circumstances where the—

Mr. WALLACK. I can't answer that, sir, but what I do know is that during this testing procedure, the Coast Guard believes that the way they test us under those circumstances are adequate to demonstrate our ability to act in an emergency. It is emergency training, sir.

Mr. TAYLOR. So to your knowledge, the test has never taken place underway at night?

Mr. WALLACK. I don't know that, sir. I have no idea.

Mr. TAYLOR. If it had been, I am sure you would be telling me so because that would be something you would be very proud of, wouldn't you?

Mr. WALLACK. Sir, I don't know if I would be proud or not. Sir, the standard is set for us by the United States Coast Guard, and I have to believe as experts that they have set a standard they believe is adequate. Our objective is to exceed that standard which we do.

Mr. TAYLOR. I notice that you mentioned one of your cruise ships regularly calls between Puerto Rico and New York?

Mr. WALLACK. No, sir, not between Puerto Rico and New York. That is a rare occurrence, perhaps once or twice a year.

Mr. TAYLOR. Between where?

Mr. WALLACK. We have cruises that originate in New York and go to Bermuda and cruises that go to the Caribbean from Puerto Rico. It is a seasonal operation.

Mr. TAYLOR. But it is back and forth to Bermuda from New York?

Mr. WALLACK. Back and forth to Bermuda from New York. Yes, sir.

Mr. TAYLOR. I had asked the question of some other cruise lines. In getting back to a reference I had made, if I were to go to the United Kingdom today and wanted to drive an automobile, I would have to be licensed by the United Kingdom just to drive that auto. The man who runs the 40 to 50 foot crew boat to carry a pilot out to your vessel has to be licensed by the United States of America when he operates in American waters. And yet the person who is the skipper—the captain of what could be anywhere from a 600 to a 900 foot vessel with thousands of people on board is not licensed by this country.

And since your ships are regularly calling on our ports, I mean, back and forth, back and forth, how would you feel about a provision in the law that for those vessels that regularly sail from American ports regardless of nationality, that that captain would have to be and the chief engineer and the key people would have to be licensed in the United States of America?

Mr. WALLACK. Sir, matters of certification and operational details are not my real area of expertise. I do know that we maintain a very high standard, and our crews are considered to be among the best in the world.

Mr. TAYLOR. Again, but I am asking—there are obviously some concerns out there amongst the citizens raised by the disaster from last week. And if it makes sense to ask the guy who is running the 40 to 50 foot crew boat to pass the test to show his proficiency in the American navigational system, don't you think we ought to ask the same test of a person who is in charge of a vessel with several thousand people on board?

Mr. WALLACK. Sir, as I said, I am not an expert in this area, and I don't really have an opinion. I think it takes a lot more information and expertise that I don't have to make, you know, that kind of a judgment, and I really wouldn't want to speculate.

Mr. TAYLOR. You don't even have an opinion on that?

Mr. WALLACK. Well, in order to have an informed opinion, sir, I think I would have to have a lot more information. I do know that our crews are very well trained, they are very highly respected and very experienced, and we meet all criteria that the U.S. Government sets for operating ships into U.S. ports.

Mr. TAYLOR. Mr. Wallack, a previous panel, I guess it was about a week ago, I mentioned that I also worked in the steamship business briefly, and it was common knowledge then and I fear common knowledge now that although some nations are very judicious who they award the title captain on or master on, that there are other nations where if you show up with enough money, you can walk out with a certificate regardless of your qualifications. That panel was in agreement that it is true.

So, again, considering that there are nations out there where you can literally walk in regardless of qualifications and buy a license, don't you think it would make sense that since we have approximately 80 percent of all the people getting on these ships are American citizens, since by the admission of those Americans who have been on these ships, they don't know it for a fact but they strongly believe that since we are allowing these ships to call on

our ports that we are at least checking onto their safety, don't you think it would make sense for this nation to at least check the credentials of these and make sure that these people can pass the test?

I mean, we had an accident a year ago down near Mobile apparently from a skipper of a towboat who couldn't read his own radar, and that was just a towboat and look at the lives that were lost. Can you imagine what would happen if this happened on a cruise ship?

Mr. WALLACK. Sir, I believe that in this issue that our captains have a tremendous amount of experience. They have been doing what they do now. When they take command of a large vessel with 2,000 people aboard between passengers and crew that that is not an authority that we bestow on anyone lightly. They meet all of the standards that are required by the governments that they hold license under, and they meet all of the standards that are required by the U.S. Coast Guard, the operation of vessels into U.S. ports. They are superbly trained. They are very experienced at what they do—extremely experienced at what they do. I have no knowledge of anybody buying certificates anywhere, but that is not my area of expertise, sir. I have to trust your knowledge in that area because I don't really know anything about that.

Mr. TAYLOR. Can your captain communicate verbally with every member on that crew?

Mr. WALLACK. Our captain on the *Horizon*, for instance, I believe speaks fluently about five languages including English and has a significant working understanding of many other languages. He is a very well-versed, well-schooled gentleman.

Mr. TAYLOR. Who is the chief damage control officer on board your vessels?

Mr. WALLACK. I imagine it is the staff captain, sir. I am not really clear on what the organization is of those kinds of tasks. But I would imagine that that responsibility would fall under the master and the staff captain who is, by the way, another fully designated captain. I believe there are at least three fully designated captains aboard the ship, if not more.

Mr. TAYLOR. And you feel that he can adequately give instructions?

Mr. WALLACK. Absolutely.

Mr. TAYLOR. Every member of that crew, even though they may be from as many as 34 different nations?

Mr. WALLACK. Sir, that is a regular part of the testing that the Coast Guard does as I understand it. I have never been present aboard the ship to observe it myself. That is usually restricted to shipboard personnel. But that is a regular part of the testing that they do. They test their ability to communicate with passengers.

The safety drills that are carried out aboard the ship each week with the passengers are taken very, very seriously. I think we may be one of the few lines that provides a safety video on our in-cabin television much like the safety videos you see on aircraft in addition to the drills, and this video runs every day as part of our regular programming as to keep people aware and knowledgeable as to how they should act and where they should go in times of emergency. So I feel exceptionally confident in this area, sir, mostly be-

cause we passed every test we have ever taken for the Coast Guard, and we have very high standards.

Mr. TAYLOR. Thank you, sir. Thank you, Mr. Chairman. No further questions.

Mr. LIPINSKI. Thank you, Mr. Taylor. I was just about to advise you that your time was up for this round. Mr. Kingston.

Mr. KINGSTON. Thank you, Mr. Chairman. Mr. Wallack, Mr. Taylor had asked about every crew member's ability to say in the language of the passengers, "Fire; emergency; run this way," or whatever. But I wasn't sure you answered it except to say that you had met Coast Guard requirements. Do you have members of the crew who can say, "Fire; run this way"?

Mr. WALLACK. Instruction is given to the full complement of crew. Everybody has a role in an emergency, and they are all very well versed and schooled in their role. Some people's role may be a nonverbal communication role; that is, to point to an area to operate some piece of equipment, et cetera, but they all know their tasks very, very well and are cross-trained. There are regular drills aboard the ship, sir.

Mr. KINGSTON. So in the event of a fire, your crew members could say, "Fire," for example?

Mr. WALLACK. I imagine they can. Without knowing and meeting each crew member, I don't think I could say that in absolute terms, but I would assume—

Mr. KINGSTON. They generally say, "Fire; life raft; tidal wave," whatever?

Mr. WALLACK. Yes, sir. They know how to act under emergency situations and have been tested.

Mr. KINGSTON. But can they say, "disease," and things that are a little more vague rather than, you know, a flame—something that is more intangible? Could they communicate a warning about something such as what happened on the *Horizon* to their—

Mr. WALLACK. Sir, I don't know that that is anything we would know of like an immediate danger that would be communicated that way. I don't think the CDC would recommend that, but if a standard is set that requires that kind of a communication, I guarantee you that we will make it possible for that to happen.

Mr. KINGSTON. Is that standard set by the Coast Guard of where that line is—

Mr. WALLACK. Safety standards are set by the Coast Guard as far as I know.

Mr. KINGSTON [continuing]. of communication of danger?

Mr. WALLACK. The safety standards for under emergency situations are set by the Coast Guard. Yes.

Mr. KINGSTON. OK. So wherever that line is, you are on the right side of the line—

Mr. WALLACK. Yes, sir.

Mr. KINGSTON [continuing]. but probably not further if it is communicating an intangible concept about danger rather than a physical concept?

Mr. WALLACK. Well, sir, I don't want to speculate as how—you know, what kind of situation you are envisioning, but, generally, emergencies are not intangible. Generally, they are tangible.

Mr. KINGSTON. When the *Horizon* was in New York, CDC warned Celebrity that there might be some bacterium that had Legionnaires' disease. Is that correct?

Mr. WALLACK. We were advised on the 15th of July that several passengers who had been passengers aboard our ship had what appeared to be potentially the Legionnaires' disease, and they were unclear as to where that had been contracted. At that time, their knowledge was that they all came from the same community, the same group in New Jersey and had spent time together in a number of places, one of those places being the vessel.

Mr. KINGSTON. Where were you on the 15th of July?

Mr. WALLACK. Sir?

Mr. KINGSTON. Where were you on the 15th of July? Where was the ship?

Mr. WALLACK. The ship was en route from Bermuda to New York.

Mr. KINGSTON. OK. So it had not arrived in New York?

Mr. WALLACK. No, it had not arrived in New York.

Mr. KINGSTON. OK. And then once it arrived so that knowledge was known when the ship was in New York?

Mr. WALLACK. Yes, sir. As I said, on arrival—the CDC met the vessel as it arrived in New York.

Mr. KINGSTON. And were the passengers told full disclosure?

Mr. WALLACK. CDC came on board and drafted a letter which we helped them distribute to the passengers on board the vessel. There was, I understand, some testing done which is part of the CDC testimony you heard last week—some testing and questionnaires given out to the passengers. So I think they began their epidemiological investigation at that time with the passengers who were leaving the vessel on the 16th.

Mr. KINGSTON. Is your purser or your steward the chief physician on board, or do you have—

Mr. WALLACK. No. We carry a physician and several nurses.

Mr. KINGSTON. And in what country is your physician licensed in?

Mr. WALLACK. I am sorry. I don't know offhand the licensing of our doctor on the *Horizon*.

Mr. KINGSTON. Do you have LPN's or RN's?

Mr. WALLACK. RN's.

Mr. KINGSTON. So you have one physician and two RN's?

Mr. WALLACK. Generally, the complement is one physician and at least two RN's. There are at times two physicians.

Mr. KINGSTON. And the people that they would answer to—so in the event of a medical emergency they are sort of the ones who are calling the shots?

Mr. WALLACK. Yes.

Mr. KINGSTON. The people under them that would often carry out the orders of prevention, how well are they trained to deal with diseases or unexpected occurrences?

Mr. WALLACK. Our medical personnel are the folks who have the first line of responsibility like doctors and nurses do in every case. In the case of something that would be a catastrophic emergency, something that would be of a very great degree of magnitude, part of the regular emergency drill would come into place to deal with

that. And everybody in the organization has an assigned task under those circumstances. Exactly what those tasks are, I really couldn't do without having a lot more information at my disposal. I couldn't tell you.

Mr. KINGSTON. OK. The situation that occurred on the *Horizon*—what has been done since that time if something else came up that would prevent it from or would help it from getting worse if it happened again?

Mr. WALLACK. Well, sir, I am a little confused by the question. As you know, the CDC recommendation was that we take our whirlpools off line, and as I said in my opening statement, we did take the whirlpool off line as we have done on all of our vessels. The vessel went through several stages of chlorination including a hyperchlorination which we began, I believe, on the 19th of July, taking the ship out to sea to perform that. We did additional chlorination, and as part of our regular dry dock in Baltimore shipyard. So the CDC is very satisfied we did that.

Mr. KINGSTON. Yes. I apologize. I got here a little late and missed your opening statement so I apologize for making you repeat that.

Mr. WALLACK. Oh, I am sorry.

Mr. KINGSTON. Mr. Chairman, that is it for me. I appreciate your answers, Mr. Wallack.

Mr. WALLACK. Thank you.

Mr. LIPINSKI. Thank you, Mr. Kingston. Mr. Stupak.

Mr. STUPAK. No questions at this time.

Mr. LIPINSKI. Mr. Green.

Mr. GREEN. Yes, sir. Thank you, Mr. Chairman. First, Mr. Chairman, I would like to thank the cruise lines for being here today, and I think the Committee takes their job very seriously and particularly appreciates you being here. You know, cruises have grown so much in popularity by U.S. citizens.

I was surprised last week or when we had our earlier hearing that the growth went from one million to four million of boardings in U.S. ports. And a large number of those are U.S. citizens although I know whether New York or Florida or elsewhere there are people who come to the U.S. and then take their cruise, but a large portion of those are U.S. citizens of that four million.

You know, so we owe I think them a responsibility because even though I don't represent a port that has cruise lines that leave from it in Houston or Galveston, but Texas is one of the growing states of sending, you know, cruise passengers to every port in the country, I guess, that do, particularly Florida and California. And so that is why I think we have this responsibility because I have a lot of constituents who told me some of the success of the cruise lines and the growth is because it is a popular vacation.

And part of the uniqueness I think is that you have someone who may speak five languages. If you take someone from Texas where English and Spanish are our languages, 100 years ago it was German, but, you know, when you take someone and they meet people and crew members from all over the world and that is part of the uniqueness of it.

But I guess my concern and follow-up of what Congressman Taylor talked about was that when you get to the requirements of safe-

ty and need to make sure that the skilled officers or the licensed officers are the ones who have that ability to communicate, and that they have also the requirements because they are dealing with U.S. citizens, a large portion of them, that they have the requirements that we feel like they should have; if someone was in a restaurant in New York or at a hot tub in New York that they would have the same protections if they are getting on a ship and spending, oh, you know, a week on a ship.

And I guess that is the concern I have, and I know the study from the earlier hearing that the culprit in this case was I guess the spa or the hot tub. That is what the CDC or maybe the cruise lines themselves after investigation, and that has been corrected, and I guess other cruise lines have learned now that—

Mr. WALLACK. Well, we are all waiting for this October 17 meeting with CDC. I think they are going to give us some guidelines and tell us what we can do prophylactically to prevent any recurrence of legionella on board ships in hot tubs and whirlpools. You are right, sir, that the standard aboard ship I think is probably higher in terms of the standard that we are held to in areas of sanitation, but American citizens deserve the protection. And there are cruise ships cruising from Galveston, sir.

Mr. GREEN. Yes. Well, we have our gambling ship, and I know we have the *Stellar Solaris* a few months a year although we would sure like to have one that would go every week. And I know the interest of, like I said, my own constituents from Houston and the concern, and I guess, you know, in other cases of Legionnaires' disease, it has mainly been the air ducts that I have heard about and also from the earlier hearing.

And if you could just share with the Committee, and this is my last question, I guess about not only Legionnaires' disease but other things and the protections and the precautions that cruise lines may take that may be required by the city of New York, for example, or any local municipality on protection, whether it would be the hot tubs or the spas or the air ducts or anything else—the precautions that are taken.

Mr. WALLACK. As far as the air ducts are concerned, sir, the system that is employed on the *Horizon* and our other ships—the *Horizon* was specifically inspected by the CDC, and the air conditioning system was ruled out as a source of legionella because of its design. It is a very modern design, and it doesn't support the growth of legionella bacteria. That was one of the things they checked and ruled out immediately.

In the case of other sanitation issues, for part of the CDC U.S. Public Health Vessel Sanitation Program, a great deal of it is centered on the dining experience and things around in kitchens, et cetera, that have some potential to, you know, foster the growth of bacteria. When one has an error in that area, that is, as they used to say in the Army, a very big gig and usually causes you to fail your inspection. So it is not something that anybody aboard ship takes lightly. It is a very important drill. We use the very high sanitation methods, one that I wish I saw in the restaurants I eat lunch in every day, quite frankly.

Mr. GREEN. Thank you, Mr. Chairman. Thank you.

Mr. LIPINSKI. Thank you, Mr. Green. Mr. Wallack, when Celebrity shut down the whirlpools and you sailed, what happened to cause you to wind up flying your passengers home midway through the cruise?

Mr. WALLACK. On July 19, the CDC reported to us that in the early DNA testing of the samples that they took that 27, I believe, showed a DNA trace of legionella. Now, the ship was already in the process of hyperchlorination, and as I think the CDC testified last week, you could not determine from those tests whether this legionella bacteria were live bacteria or dead bacteria.

The test doesn't tell you that, although they got some very, very positive indications that the largest amount of them were found in the whirlpool which had been shut down. By the way, it is a custom in our industry to have that shut down before you actually arrive in port so that really wasn't functioning even as we came into port.

But when they told us that, we felt that we wanted to have an extra degree of confidence. We still did not know at that point, even though the CDC had strong indications that the source of the bacterial growth was the whirlpool, and preferring to take the more cautious route, we decided to take the vessel out of service, bring it back to Baltimore, and as part of our routine maintenance also perform some additional chlorination. The CDC agreed with that decision and thought it was a good one.

In retrospect, seeing that the CDC has found that it was the whirlpool bath and that no one on the vessel that sailed on the vessel on that sailing of the 16th through the 19th contracted legionella, it was probably some overkill, but under the circumstances, we are very conservative in that regard. And although that was an expensive and difficult task, we chose to take that route.

Mr. LIPINSKI. When you were in port, you had your whirlpools—you shut them down as you were coming in and you were going to keep them shut down going out on the next voyage because of the possibility of the Legionnaires' disease, there was a long delay based upon testimony we have been given on making a decision to sail or not to sail on this particular cruise. Who ultimately made the decision, do you know, to sail on the cruise that wound up being interrupted and you had to fly the people home?

Mr. WALLACK. Let me address that in two parts, sir, because that is two different questions. First, the delay—as you know, the CDC was aboard, and they were doing a great deal of testing, and it was a very fluid and ongoing situation. We asked them on several occasions what did they think was going to be the outcome, did they think we would be sailing or not sailing. And they said we will just have to—you will just have to wait until we complete our examination.

Once they completed their examination, they said that before we could do anything they were going to draft a letter for the passengers on the pier which they drafted and which is in the test of CDC testimony and in ours. They finally told us that with the whirlpools out of service and with the results of their preliminary examination, the additional chlorination that we were doing right at that time, raising the chlorine level right at that time, and rais-

ing the water temperature throughout the system, that the risk was low.

We understood that they had the ability, had they so chosen, to recommend otherwise—that we did not sail—so we took our guidance from the CDC.

Now, we are very aware of the discomfort that the passengers had on the pier, but it is important to understand that that pier is not a Celebrity Cruises facility. It is operated by the port authority. We had no forewarning that this delay would occur so we could make no provisions for additional seating, et cetera. Unfortunately the seating on the pier is designed for a transient operation—people and pass through. We did attempt to bring food and drink out to the pier. There are approximately 1,500 people on the pier at that time so it was very difficult to get things out and around to people. And as far as information flow is concerned, we told them as much as we could tell them based on the information the CDC had given us.

Mr. LIPINSKI. To digress for a moment, are you aware of the fact that we have received testimony stating that the passengers could communicate very well with the captain and the higher ranking officials, but they indicated to us that they had a very difficult time communicating with many of the ordinary workers on board. Has that been brought to your attention?

Mr. WALLACK. I have heard that testimony, sir, and I think that you have to consider what the situation is. The low level employee does not have a lot of information generally to give. And besides not having the information, it was a very dynamic situation on board the ship, and I think you are talking about the night before we scheduled to take the passengers off the ship because that was a time when they were communicating that information. It was a very dynamic situation and very fluid. There was no emergency.

There were, of all of the people on board, and I think you have heard testimony to this effect, a small number—a nucleus of people that were more agitated than others, but we understand how stressed that people can become under these situations, just as we get stressed when we are at an airport and something is going on about an airplane, and we don't know what it is. So we recognize that they were stressed. Not every waiter or busboy or bartender can fully explain what is going on right this moment now, but it was not an emergency situation.

As soon as it became evident that the information we had disbursed by letter and by circulating the senior crew, which we did do, was not adequate, that there was still some discomfort among the passengers in understanding what was going on. The captain, master of the vessel, invited the passengers into the main lounge with the ship's doctor and I think a member of the CDC to answer any questions they might have.

My reading of that, sir, honestly is it was more—there was more unhappiness with having to leave the vessel to go to hotels than a great degree of concern for the illness. They were unhappy about getting off the ship. They didn't want their vacations disrupted and interrupted, and it was difficult for them to understand, you know, why that had to happen but perfectly understandable I think under the situation.

Mr. LIPINSKI. You mentioned that the port authority is in charge of the facility where you docked in New York?

Mr. WALLACK. Right, the piers of New York. Right.

Mr. LIPINSKI. And that that was one of the reasons that there was as much inconvenience to the potential or to the future passengers because you didn't control that facility. Is that a facility you use on a regular basis, or was this a new facility to you?

Mr. WALLACK. No. It is a facility we use on a regular basis, but as I said, sir, it is a transitory facility. Generally, people only spend an hour or so in that facility as they pass through and onto the ship. The embarkation process is usually very rapid, and the people are anxious and looking forward to getting on the vessel as rapidly as possible. There is seating on the pier. The port authority does air condition the building. Whether they were able to maintain that air conditioning level at a high enough level, I don't know that the facility is able to do that.

If we knew in advance that this was going to be a major delay at the pier, we could have ordered chairs to put them onto the pier so people could sit. But we had no warning that this was going to be a protracted delay so we did our best to make them as comfortable as possible under a difficult situation.

Mr. LIPINSKI. Have you ever had delays like this in the past?

Mr. WALLACK. Not without warning like this. Generally, you know, we have had delays where there has been weather en route, and we know the ship will be delayed in arriving in port. There has been in recent history a person had a heart attack on the vessel coming out of Bermuda, and we returned the vessel to Bermuda so that person could be taken to a hospital in Bermuda, and that caused a delay. When we know that, we rent chairs, put it on the pier, make arrangements for the concessionaire on the pier to feed people as they come in and give them snacks. We bring our own food out when it is allowed on the pier. So we do make provisions, but this was a situation where we had no indication that we were not going to be able to proceed as scheduled from the contact we had with the CDC that day. It was an ongoing situation.

Mr. LIPINSKI. How long was the ship in port before it was going to sail?

Mr. WALLACK. Normally or that day, sir?

Mr. LIPINSKI. Pardon?

Mr. WALLACK. Normally how long is it in port?

Mr. LIPINSKI. No, no.

Mr. WALLACK. On that day?

Mr. LIPINSKI. How long was the ship in port before the scheduled sailing date?

Mr. WALLACK. On the 16th of July, the ship arrives about 8 o'clock in the morning, and it was scheduled to leave at 1 p.m. in the afternoon. Shortly after eight, the CDC boarded. We would normally begin embarking passengers, taking on the new passengers. First we have to discharge the passengers who were on board. There was a CDC protocol in place that made that disembarkation relatively slow. There was some testing CDC did. There was a letter of information that they wanted to be given to every passenger who disembarked. So the disembarkation procedure was slowed by the CDC requirement to do these tasks.

As it reached embarkation time, we asked the CDC whether or not they thought this was going to be a long delay, a short delay, what did they think was going to go on. We are trying to manage the situation as best we could for the passengers who were now beginning to gather on the pier to board the vessel. We asked them, for instance, do you think we should board—if you believe the ship will leave, should we board the bags because if we know that ahead of time, that would have expedited matters, but they were being good scientists and not making any guesses, and they wanted to perform all of their tasks according to their protocol, and we respected that, of course.

Mr. LIPINSKI. You mentioned that the ship where you had a heart attack occur and you returned to port, based upon the information that this Committee has, there are many older people who take these cruises. And as we very well know that they are normally not as healthy as younger people and I understand that you normally run into heart attacks on a fairly regular basis, are there any particular provisions that you take to accommodate these people knowing full well that you do run into this problem on a regular basis?

Mr. WALLACK. Our doctors are trained in all of the protocols necessary to deal with those situations, sir, and we have the full support of the U.S. Coast Guard in evacuating people who have medical emergencies or in this case the, you know, Bermuda authorities to evacuate people.

Mr. LIPINSKI. Now, if someone on board your ship has a heart attack, is there a standard way that you evacuate them to the mainland to the hospital? I mean, do you have someone on call all the time that flies out there? How does that operate?

Mr. WALLACK. I quite honestly can't give you the exact method of operation, but I do know that there is protocol in place depending on where you are in the ocean, et cetera, to do medical evacuation, and there are many methods of communications with the shore, and it happens with enough frequency so that it is, unfortunately, well practiced.

Mr. LIPINSKI. And I assume that you monitor the situation, but it just seems to me that one doctor and two RN's certainly isn't an overabundance of medical support personnel on these cruise lines considering the number of people and, as I say, the normal age of these people. As chairman of this Committee, I would like to say to you that I think it would be a very good idea if all the cruise line industry would look into perhaps providing more medical support personnel on these cruise ships.

Mr. WALLACK. Sir, I know that we carefully watch the demographics of our passengers—I mean, I can only speak for Celebrity Cruises—the demographics of our passengers, and when we see that the majority of the passengers are older, we add additional RN's. We have, on occasion, added additional doctors depending on the density and the makeup of the passengers. Our average age is about 48 on our ships. It is not the oldest group of people. More younger people are cruising now. So if we see the demographics change significantly, we add additional medical personnel.

Mr. LIPINSKI. You say the average age is 48?

Mr. WALLACK. Average age is 48 fleetwide. Yes, sir.

Mr. LIPINSKI. Mr. Taylor.

Mr. TAYLOR. Just a few remaining questions. Mr. Wallack, where are your corporate offices situated?

Mr. WALLACK. Our corporate offices are in Miami, Florida.

Mr. TAYLOR. And what percentage of your corporate officers are Americans?

Mr. WALLACK. Oh, I would imagine—I don't know exactly but I imagine about 95 percent.

Mr. TAYLOR. 95 percent?

Mr. WALLACK. I believe so.

Mr. TAYLOR. And where are your ships registered?

Mr. WALLACK. Registered in the Bahamas and Liberia, Panama.

Mr. TAYLOR. Where are your ships' officers licensed?

Mr. WALLACK. I think Greece.

Mr. TAYLOR. Greece?

Mr. WALLACK. Yes, sir.

Mr. TAYLOR. And your crews come from?

Mr. WALLACK. Varying countries.

Mr. TAYLOR. Would you say that one of the advantages of having 95 percent of your corporate officers being American is that it has made it a little bit easy to talk around the offices?

Mr. WALLACK. No, sir. The five percent who are not Americans are extremely fluent in English, sir, as well as many other languages.

Mr. TAYLOR. Well, if 95 percent of them are Americans, I would think if they had to put together a position paper or something or the fact that they had common knowledge probably made the communications a little bit easier, wouldn't it?

Mr. WALLACK. Well, sir, all of our employees are extremely fluent no matter their nationality. They are very literate and diligent and fluent people as are the officers of our ships.

Mr. TAYLOR. Every single employee of every single ship including the guy that is standing watch between—

Mr. WALLACK. I think I said officers, sir, for the management of the ship are very fluent in English. Most of these—I don't mean to interrupt, sir, and I am sorry. Most of our crews have been with us for a great deal of time. They have sailed in American waters for a long time. They have interacted with Americans for most of their careers. They are a people who are very well schooled. Part of their job, and probably the most pleasurable part, is the interaction as it is for all of our crew members. And it is one of the opportunities that even lower crew members have aboard ship is to learn to speak English, and they really enjoy that part of it.

Mr. TAYLOR. Why are your ships licensed in Greece and the Bahamas?

Mr. WALLACK. I don't really know why that is, sir. That is not my area of expertise.

Mr. TAYLOR. I mean, there has got to be a reason for it. You all didn't just pick out a point—

Mr. WALLACK. Sir, I don't know.

Mr. TAYLOR [continuing]. on the map of the world, did you?

Mr. WALLACK. I am sure there is a reason. I am just not the person that can answer that question.

Mr. TAYLOR. Why are your officers licensed in Greece?

Mr. WALLACK. Greece has been a seafaring nation for quite a long time and provides a lot of seafaring people including officers. Our company has its origins in Greece, and people have grown up in our company for, you know, many, many years. They have had many duties and tasks before they have earned their captaincies. They have been with us a long time, and we started there I guess is the simplest way to put it.

Mr. TAYLOR. What percentage would you guess of your customers are American and either begin or end their cruise at an American port?

Mr. WALLACK. Probably about 80 percent, Mr. Taylor.

Mr. TAYLOR. So 80 percent of your market?

Mr. WALLACK. Probably.

Mr. TAYLOR. 90 percent of your corporate officers. When it gets down to the actual expenditure for the ship, the officers are from Greece, the ship is registered in the Bahamas, crews from all over the place?

Mr. WALLACK. Expenditures—I am not clear what that means.

Mr. TAYLOR. Well, I am just going back to what you said. 90 percent of your corporate officers—

Mr. WALLACK. Yes.

Mr. TAYLOR [continuing]. are in a very calm, nonstressful environment just making everyday decisions or speaking English. Your office is in Miami, but the ship's officers are tested over in Greece. The vessel itself is tested in the Bahamas, and the crew that is on duty between midnight and dawn on a nine-deck vessel—is that correct? In the case of the Celebrity, you have got nine different decks?

Mr. WALLACK. Yes. 12 decks actually.

Mr. TAYLOR. And how many passageways then would there be with people sleeping?

Mr. WALLACK. About five decks. Sir, all of our crews are tested regularly for their ability to respond to emergency situations. We have passed all of our tests. We have never failed a test. Our industry is very closely tested, and it is an international standard that—I think I heard Coast Guard testimony that says it is very high and satisfactory to them.

Mr. TAYLOR. I have turned down a free cruise, and I don't really regret that only to say that I have never been on one of your cruise ships so I am asking some questions truly because—

Mr. WALLACK. Oh, sure. I understand, sir. I understand.

Mr. TAYLOR. Let me continue, sir.

Mr. WALLACK. We would love to have you as a customer.

Mr. TAYLOR. OK. On the five decks where people are sleeping—OK. Let us get back to what happened last week. On the five decks where people are sleeping, how many passageways—since I am not familiar with the layout of your ship, how many passageways will there be where people—should something happen in the middle of the night where people will be opening a door and then trying to figure out how to get out? How many passageways would you say there would be?

Mr. WALLACK. On each deck is one that runs, you know, on either side of the vessel, probably two longitudinally. But this is information you should know since you haven't been on a cruise ship,

all of our passengers are served by cabin stewards and cleaners. The cabin steward and his cleaners have a very high degree of ability to speak English. It is their task every day to speak and act with the passengers so they have the ability to communicate.

There is a very intricate fire warning system on the vessel—very intricate that has to do with—that has speakers in every cabin. There are many ways to communicate with the passengers. These standards are set by the U.S. Coast Guard. We could not pass our vessel certification—get our vessel certification certificate if we didn't meet those standards. We make it a policy in our company to encourage our personnel at every level to speak to our passengers, and they do, besides all of the additional safety training that is mandated under the Coast Guard regulation. We do that with vigor. So I have no fear whatsoever that in the case of an emergency a passenger coming out of their cabin anywhere on the ship would have any difficulty communicating with a member of our crew to get directions in an emergency. On the contrary, sir, I think the standard is very, very high.

Mr. TAYLOR. Are your Greek licensed officers compensated in the same amount that you would compensate an American captain?

Mr. WALLACK. I have no idea, Mr. Taylor. I am not involved in that compensation.

Mr. TAYLOR. How about the crews?

Mr. WALLACK. Sir?

Mr. TAYLOR. I am just curious. Why—

Mr. WALLACK. I am really not involved in—

Mr. TAYLOR [continuing]. passengers are American—again, I am just—

Mr. WALLACK. My area of expertise is not in crewing matters aboard the vessel, sir. That is not—I really don't know the level of compensation. I am just never involved in that, and I couldn't comment on it.

Mr. TAYLOR. But, again, for the record, as I did to one of your competitors last week, I am for the record asking your company to get back and say what would be their official opinion on a requirement for those vessels that make multiple calls at an American port during the course of one calendar year that the master, chief engineer, chief mate be licensed in the United States. What would your corporate position be to that question? I know you can't answer it today. Thank you.

Mr. WALLACK. I can't say our corporate position, sir.

Mr. TAYLOR. And I would like the Committee's approval that this be made on behalf of the Committee.

Mr. LIPINSKI. You certainly have it. It is being made on behalf of the Full Committee.

Mr. TAYLOR. Thank you very much, sir.

Mr. WALLACK. Thank you, Mr. Taylor.

Mr. LIPINSKI. Mr. Green.

Mr. GREEN. Just one last question, and I was hoping—I thought it had been asked earlier before I came in, but the *Horizon* was—there was an indication of possible contamination problems on the 16th before it left the New York port. Was there a rationale for why it left, or did they feel like the problem was corrected, or could

you just share with the Committee if that was pointed out by the Coast Guard or someone else?

Mr. WALLACK. We took the direction from the CDC as to whether the vessel was safe to operate. They expressed to us it was their feeling that with the prophylactic measures taken, the whirlpools being off line, the water temperature being raised, additional chlorine added to the system, that very little risk was involved. They certainly didn't make any recommendation that we not sail. Had they made the recommendation that we not cruise, we would not have cruised.

We were asked to help them distribute this notification to the passengers on the pier. When immediately upon it being available, we did so, so that the passengers boarding the ship having received that letter should have been advised of the situation. And I think if you look in that document, you will see that the CDC says that the apparent risk was low.

As I said before, CDC has reported to us that no passengers who sailed on the 16th contracted Legionnaires' that they know of. So obviously their judgment and their appraisal of the situation to say that the risk was low and the ship was safe for travel was correct.

Mr. GREEN. Thank you, Mr. Chairman.

Mr. LIPINSKI. Thank you, Mr. Green. Mr. Wallack, is there any information made available to your passengers about what kind of medical capabilities the cruise ship has in brochures or from travel agents, you know, before they arrive on the boat?

Mr. WALLACK. There is a brief mention in the brochure on board the vessel. In every cabin there is a complete list of services that the medical staff can perform. People who have special medical needs I think—and we say this in our brochure, and we certainly try to train our travel agents to ask their passengers if they have any specific medical needs and need to know whether certain kinds of equipment or support systems are on board, that they make that request of us before we sail.

Our brochure indicates that if someone has some special need, et cetera, that they must let us know before they sail, if they require oxygen, et cetera, or whatever it might be. So we request it, and the information that is—the services that are available are in every cabin as people board, part of their information package.

Mr. LIPINSKI. Is it possible to perform any operations on board ship?

Mr. WALLACK. I am not really medical personnel, but I understand that there are some emergency procedures that can be performed aboard ship. Yes. There is a full operating room, and the medical staff are trained in those areas.

Mr. LIPINSKI. Does the ship have a blood bank?

Mr. WALLACK. I believe that it does. I am saying it without an accurate base of knowledge.

Mr. LIPINSKI. Would you supply the Committee with that information?

Mr. WALLACK. Yes. We can find that information for you. Sure.

Mr. LIPINSKI. Mr. Wallack, I appreciate you coming down here and testifying this morning and answering these questions to the best of your ability. Many members of this Subcommittee particularly have concerns about the cruise line industry principally be-

cause there are so many American citizens who take these cruises. As you mentioned, it is probably 80 percent or so. And we have concerns because for the most part the crews, the officers are not American citizens. We also have concerns about the fact that the language barrier can be a very, very serious problem, and I have to tell you on behalf of the entire Subcommittee that we intend to continue to monitor this situation.

And as Mr. Taylor was either alluding to or directly speaking to, we are very much interested in trying to foster to a great degree additional American citizens working for all the cruise lines because, as I say, we believe with 80 percent of the passengers being Americans, with you utilizing our American ports, it just seems to us that it is an area where American citizens could gain employment. And I think that that is something that we desperately need in this country.

So I say to you I appreciate you being here and your testimony, but this Subcommittee, at least as long as I am chairman, does not intend to just leave this particular issue. We intend to continue to concentrate on it, and we hope that we will be able to work with the cruise line industry in the coming months to perhaps facilitate some of the ideas that we have. I thank you very much.

Mr. WALLACK. Thank you, Mr. Chairman.

[Whereupon, at 11:00 a.m., the Subcommittee was adjourned; and the following was submitted for the record:]



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30333

TESTIMONY OF

RICHARD J. JACKSON, M.D., M.P.H.

DIRECTOR, NATIONAL CENTER FOR ENVIRONMENTAL HEALTH

CENTERS FOR DISEASE CONTROL AND PREVENTION

U.S. PUBLIC HEALTH SERVICE

BEFORE THE

HOUSE COMMITTEE ON MERCHANT MARINE AND FISHERIES

SUBCOMMITTEES ON MERCHANT MARINE

AND

COAST GUARD AND NAVIGATION

September 28, 1994

Good morning Mr. Chairman. Thank you for inviting the Centers for Disease Control and Prevention (CDC) to present testimony today before the House Committee on Merchant Marine and Fisheries, Subcommittees on Merchant Marine and Coast Guard and Navigation. CDC appreciates this opportunity to discuss our Vessel Sanitation Program and disease investigation activities aboard cruise ships. I am Dr. Richard J. Jackson, newly appointed Director of the National Center for Environmental Health (NCEH) at CDC, where the Vessel Sanitation Program (VSP) is administratively located. Accompanying me today is Mitchell L. Cohen, M.D., Director, Division of Bacterial and Mycotic Disease, National Center for Infectious Diseases (NCID) at CDC, and Ms. Linda Anderson, Chief, Special Programs Group, from my office. CDC has the lead for public health issues involving cruise ships and for investigating infectious diseases such as Legionnaires' disease and shigellosis.

We strongly believe that the travelling public should be assured of a healthy environment on cruise ships. Two recent episodes of disease aboard cruise ships, Legionnaires' disease on the *Horizon* and shigellosis on the *Viking Serenade*, have focused attention on cruise ship health and safety issues. I would like to outline some aspects of the program which are currently receiving attention and give you some background on CDC's VSP and relate details of these two recent outbreaks.

CDC's VSP program was initiated to prevent outbreaks of gastrointestinal illness among cruise-ship passengers. The program has achieved considerable success in this area. CDC's current VSP program was established in 1975 as a cooperative activity with the cruise ship industry in response to several disease outbreaks on cruise vessels. Since 1988, CDC has collected user fees from the industry to support this program activity. The program assists the cruise-ship industry to fulfill its responsibility for developing and implementing comprehensive sanitation programs to minimize the risk for gastrointestinal diseases. Every vessel with a foreign itinerary that carries 13 or more passengers is subject to twice-yearly unannounced inspections and, when necessary, reinspection. During an inspection, VSP staff carefully examine the ship's water supply, the ship's food, the potential for contamination of food and water, the practices and personal hygiene of employees, the general cleanliness and physical condition of the ship, and the ship's training programs covering general environmental and public health practices. A ship's compliance with the program's recommendations is calculated by scoring 42 items and adding those scores. A score of 86 points out of 100 is the threshold for determining a ship's compliance. Each ship is required to document a corrective plan to address deficient items following each inspection.

Ships that score below 86% are reinspected within 30 to 60 days when possible. The number of reinspections for each year between 1988 and 1993 are as follows: 23 in 1988; 56 in 1989; 60 in 1990; 72 in 1991; 53 in 1992; and 41 in 1993.

VSP has three categories for ships in the program: *Regularly Sail From U.S. Ports* (ships that use U.S. ports for more than 6 months during the year); *Seasonally Sail From U.S. Ports* (ships that use U.S. ports for 3 to 6 months during the year); and *Occasionally Sail From U.S. Ports* (ships that use U.S. ports for less than 3 months during the year). The percentage of inspection scores that are 86% or higher has steadily increased from 51% in 1988 to 80% in 1993 (see VSP Chart 1). These percentages are for all ships inspected--not

just for one category. The number of routine periodic inspections conducted by the VSP from 1988 to 1993 are displayed in VSP Chart 2.

The score a ship receives after inspection is published every 2 weeks in the *Summary of Sanitation Inspections of International Cruise Ships*, commonly referred to as the *green sheet*. This sheet is distributed to more than 4,500 travel-related services around the world and is available to the inquiring public. Public awareness of the published scores is one area that CDC would like to enhance. This information will soon be available on *Internet*, and discussions are under way at CDC to examine the feasibility of having an information number for the public to obtain the most recent inspection score of ships in the program. As the numbers of vessels, cruises, and passenger days continue to increase dramatically, we believe that passengers will need better access to VSP inspection information to make an informed decision.

The VSP has done well in accomplishing its objective of minimizing the risk for gastrointestinal diseases aboard cruise ships. The program monitors diarrheal illness reports from each vessel at the end of each cruise and is prepared to conduct an investigation if more than 3% of the passengers are reported ill. In the 1970s and early 1980s, 12 to 15 outbreaks of diarrheal illness occurred each year. In the 1990s the number of outbreaks has decreased to 1 to 3. CDC has documented an epidemiologic link between decline in the risk of an on-board diarrheal illness and the success of the VSP.

The current risk of on-board diarrheal disease outbreaks is approximately 2.1 per 10 million passenger-days. The trend in decreasing outbreaks is shown in VSP Chart 3. This dramatic improvement is the direct result of the cruise ship industry's commitment to adhere to VSP's recommendations, of VSP's ongoing education and consultation services, and VSP's highly professional staff.

Although cooperation with the VSP inspection program is voluntary for carriers, CDC is authorized by Section 361(a) of the Public Health Service Act to take measures necessary to prevent the introduction, transmission, or spread of communicable diseases in the United States from a foreign country (42 United States Code Section 264(a)). In part, regulations promulgated to carry out this duty authorize the Public Health Service to conduct regular sanitary inspections of carriers traveling to a U.S. port from a foreign area (42 Code of Federal Regulations (CFR) Section 71.41). This inspection is to determine the existence of vermin, contaminated food or water, or other insanitary conditions that may contribute to the introduction, spread, or transmission of communicable disease.

If an inspector detects an imminent health hazard, contamination and/or lack of disinfection of the potable water system aboard the ship, inadequate facilities for maintaining appropriate food temperatures, inadequate facilities for cleaning and sanitizing of equipment, continuous problems with liquid and solid waste disposal (e.g., plugged-up or overflowing toilets or shower stalls in passenger or crew cabins), or an ongoing disease outbreak among passengers

or crew, that with continuing normal operations may subject newly arriving passengers to disease, the inspector can recommend that the ship not sail.

Since 1987, CDC has recommended that 5 ships not sail until corrective action was fully implemented. In 1993, one of these ships disregarded our recommendation and set sail. This ship was boarded upon its return to a U.S. Port, and with the assistance of the U.S. Coast Guard, CDC was prepared to detain the ship to port. The ship's management was able to implement immediate corrective actions which removed the imminent health risk. At any time, the Director of CDC may determine that failure to implement corrective actions presents a threat of introduction of communicable diseases into the United States and may take additional action to include detention of the ship in port.

The VSP conducts a training seminar for shipboard management personnel. This seminar is offered four times per year, and we believe it has played an important part in the improvement of sanitation conditions aboard ships. Currently there are very few, if any, public health requirements for shipboard personnel in these areas. We believe that the ship's physician should also act as the primary public health officer and that a cruise ship should be treated like a small community at sea. We also believe that children who are in a child care setting on cruise ships should receive quality care that reduces risk of injury or transmission of disease.

CDC is also called on to assist the industry when non-gastrointestinal disease occurs, as in the recent episode of Legionnaires' disease aboard a cruise ship. CDC does not have a special policy for requests from the cruise-ship industry to provide outbreak assistance. CDC provides the same support to requests received from the cruise ship industry as it does when State and local health officials request assistance to investigate the occurrence of disease. I will summarize CDC's response to the episode of Legionnaires' disease shortly. As a result of this episode and the public's increasing concern about transmission of other diseases such as influenza and tuberculosis, CDC is holding a public meeting on October 17 to collect information regarding the use of recreational spas and Legionnaires' disease and to determine which special considerations, if any, need to be given for the cruise ship environment.

The VSP has operated continuously from the early 1970s through 1986, when CDC terminated portions of the program because of competing priorities. Industry and public concerns resulted in Congress requesting that CDC continue to address public health issues on cruise ships. CDC held a series of public meetings to determine what the public and cruise ship industry wanted with regard to the VSP. A plan was submitted to and approved by Congress. On March 1, 1987, a restructured program began operations. In 1988, the program was further modified by introducing user fees to reimburse the U.S. government for costs, which I mentioned earlier.

During July and August, two outbreaks occurred aboard two cruise vessels docking in U.S. ports. One outbreak of gastrointestinal illness caused by the bacterium, *Shigella*, and one outbreak of respiratory disease caused by the bacterium, *Legionella*, were investigated by CDC and are summarized.

LEGIONNAIRES' DISEASE OUTBREAK ON THE *HORIZON*

The bacterium, *Legionella*, causes the respiratory illness Legionnaires' disease. The disease was first recognized in 1976 during an epidemic of pneumonia that affected persons attending an American Legion convention in Pennsylvania. Persons with Legionnaires' disease typically have respiratory symptoms and often have headaches, confusion, and sometimes diarrhea. The incubation period is typically within 2 to 10 days of exposure. The disease can be diagnosed by several different laboratory tests; however, physicians often do not test persons with pneumonia for Legionnaires' disease; thus, many cases go unrecognized. Approximately 10,000 cases are thought to occur each year in the United States. The illness occurs most commonly in middle-aged and elderly adults, and death may occur in 5% to 15% of patients with the disease. The death rate is influenced by how early antibiotics are given to persons with the disease and by the presence of preexistent health problems in the patient. Legionnaires' disease is not transmitted from person to person. It occurs when a person inhales aerosols or microscopic droplets of water contaminated by *Legionella* organisms. Cooling towers, evaporative condensers, heat-rejection devices, showers, whirlpool spas, respiratory therapy equipment, and a misting machine used in the produce section of a grocery store have been identified as sources of *Legionella* in outbreak investigations.

Since the bacteria are commonly present in aquatic environments, simply identifying *Legionella* in the water of an aerosol-producing device does not, by itself, implicate that device as the source of the disease. Interviews of patients can help generate hypotheses about exposure risks. Case-control studies which compare exposures of ill persons with those of well persons are useful for evaluating the hypotheses and identifying the source. Once the source is identified, a few methods are available for decontaminating the implicated device or water system. Chlorine is an effective decontaminant, and high concentrations can substantially reduce the concentration of *Legionella* in plumbing systems, cooling towers, and whirlpool spas. Circulation of water at high temperatures (above 140°F) can also be useful for decontaminating plumbing systems.

Cases of pneumonia have been detected among passengers of nine separate week-long cruises on the cruise ship *Horizon* (Celebrity Cruise Line) embarking from April 30 to July 9. Sixteen confirmed cases of Legionnaires' disease and 34 additional cases of pneumonia, for which the diagnosis of Legionnaires' disease is under investigation, have been identified. One person died and four persons were placed on ventilators.

The investigation on the cruise ship *Horizon* began on July 15 when the New Jersey State Department of Health notified CDC of six persons hospitalized with pneumonia who had

recently traveled between New York City and Bermuda aboard the ship from June 25 through July 2. During the evening of July 15, Legionnaires' disease was diagnosed in three of these former passengers. To obtain information about the illnesses and potential sources of exposure for Legionnaires' disease, a questionnaire developed by CDC and a health warning were distributed on July 15 to the passengers and crew of the ship. On the morning of July 16, three CDC epidemiologists met aboard the *Horizon* with the staff of the cruise line. The ship's captain and staff provided an overview of the ship, including the ventilation and water systems. Two of the CDC physicians sailed with the *Horizon* to continue CDC's investigation.

CDC investigators collected water samples from potential sources of *Legionella*, including tap faucets, showers, and whirlpool spas. The ship's three whirlpool spa tubs had been drained and cleaned before docking, a practice reported to be routinely performed at the end of each cruise. Water used for the whirlpool spas remained only in the overflow tanks and in the whirlpool filtration system. There were no other potential recognized sources for *Legionella* on the vessel.

The preliminary investigation could not determine whether the source of illness among former passengers was aboard the ship, in ports of call, or due to exposures before embarkation. On the afternoon of July 16, to minimize the potential for transmission aboard the ship while the investigation continued, public health officials recommended 1) treating the ship's water system with high levels of chlorine; 2) discontinuing use of the whirlpool spas; 3) continuing collection of samples from environmental sources for laboratory investigations; 4) continuing epidemiologic investigation of the ship; and 5) distributing information on the risk of developing Legionnaires' disease to passengers who were to embark on the cruise beginning July 16.

The ship departed on Saturday evening, July 16. In conjunction with State and local health departments, investigations to determine the magnitude of the outbreak, to identify the source(s) of transmission, and to determine interventions to prevent further illnesses were continued.

To determine the magnitude of the outbreak, a surveillance network was established with State health departments in New York, New Jersey, Connecticut, and Pennsylvania, and with the New York City Health Department. Approximately 80% of the passengers of the June 25 cruise were residents of these five jurisdictions. In addition, State epidemiologists in all U.S. states and territories were notified of this outbreak, as were public health officials in Canada and Great Britain. Celebrity Cruises, Inc., provided passenger rosters from cruises sailing on June 25 and July 2, and survey questionnaires were mailed to approximately 3,000 former passengers. CDC's *Morbidity and Mortality Weekly Report* published information on the outbreak on July 22.

To identify the source(s) of transmission, epidemiologic and laboratory-based investigations were continued. After the *Horizon* arrived in Bermuda on July 18, a CDC Environmental

Engineer and two Senior Sanitarians boarded the ship and joined in the investigation. Additional water specimens from the ship were analyzed at CDC for the presence of *Legionella* by bacterial culture methods and modern molecular DNA analysis. CDC epidemiologists discussed with the Bermuda Ministry of Health potential sources of transmission of *Legionella* from areas on the island frequented by passengers from the *Horizon*. The Acting Medical Director for the Bermuda Ministry of Health provided data indicating no increase in admissions for pneumonia to Bermuda's hospital in the previous months.

Various water samples from the ship were analyzed in CDC laboratories to determine whether specific *Legionella* species were present. Samples were tested using the polymerase chain reaction (PCR) assay, a method capable of detecting minute quantities of *Legionella* specific DNA material in samples. The technique cannot determine whether the DNA is from live or dead *Legionella* bacteria. Microbiologic cultures to allow growth of bacteria are the only method to verify whether bacteria are alive at the time the water samples are taken. On July 19, *Legionella pneumophila* serogroup 1 (Lp1) DNA was detected in 15 of 27 water samples. Specimens from the whirlpool spa circulation and filtration system and water from a passenger cabin shower were most strongly positive by this DNA test. On July 20, the results of laboratory tests were conveyed to officials of Celebrity Cruise Lines, and the ship's crew began hyperchlorination of the ship's water supply following recommendations from CDC.

CDC collaborated with State and local health departments in an epidemiologic case-control study. A questionnaire was provided to ill (case) and well (control) passengers to identify activities while on the ship and in ports of call that might be associated with risk of disease. Questions were asked about water consumption, exposure to whirlpools, showering, and excursions in Bermuda. Enrollment of passengers into the study ended on July 31 and preliminary analysis indicates that ill passengers were 16-fold more likely to have used the whirlpool spas than well passengers. Presence in the area around the whirlpool spa, without using the whirlpool, was also associated with a 12-fold increased risk of developing Legionnaires' disease. No other activity, on or off the ship, was found to be associated with illness.

In addition to the DNA analysis, water specimens were cultured for *Legionella*. On July 22, an organism was isolated from water from one of the sand filters used for recirculation of whirlpool spa water. No other sample of water aboard the vessel grew *Legionella*. The *Legionella* strains isolated from the sand filter and *Legionella* isolated from sputum of one of the passengers with Legionnaires' disease were indistinguishable by subtyping methods.

Epidemiologic and laboratory data indicate that the whirlpool spa was the source of transmission of *Legionella* to passengers on the *Horizon*; CDC further recommended:

- Discontinue use of the whirlpool spas aboard the ship until safe operation can be ensured;

- Remove the sand filters used for recirculation of whirlpool spa water; and
- Continue surveillance to identify any additional cases of Legionnaires' disease occurring among passengers traveling on the *Horizon*.

The owners of the *Horizon* took measures to eliminate probable exposures aboard the vessel and followed CDC's recommendations regarding procedures to decontaminate the water supply. In both cases, managers from the *Horizon* and *Viking Serenade* fully cooperated with CDC's investigation. Further prevention and control activities regarding *Legionella* aboard cruise ships will be discussed during the October 17, 1994, meeting.

SHIGELLOSIS OUTBREAK ON THE VIKING SERENADE

An outbreak of diarrheal illness occurred among passengers and crew on the cruise ship *Viking Serenade* (Royal Caribbean Cruises, Ltd.) during its round-trip voyage from San Pedro, California, to Ensenada, Mexico, that began August 29, 1994. The ship was scheduled to return to port on September 2 but returned a day early because so many passengers were ill. CDC investigators met the ship when it returned to port. A total of 586 (37%) of 1,589 passengers and 24 (4%) of 594 crew who completed a CDC survey questionnaire reported having diarrhea or vomiting during the cruise. One death occurred in a 78-year-old man who was hospitalized in Mexico with diarrhea. CDC has isolated a bacterium that is a well recognized cause of diarrheal disease, *Shigella flexneri* type 2a, from fecal specimens of at least 12 ill passengers. CDC is continuing the investigation in an effort to identify the mode of transmission.

The bacterium *Shigella* causes the diarrheal disease shigellosis, also called bacillary dysentery. Persons with shigellosis typically have fever, abdominal pain, and diarrhea. The diarrhea may become bloody after a day or more and usually resolves in about a week. The usual incubation period ranges from 12 hours to 5 days. The diagnosis is made by stool culture. Treatment with an antibiotic to which the infecting strain is susceptible improves symptoms. Each year an estimated 300,000 Americans develop shigellosis; more than 2,000 of them are hospitalized, and probably fewer than 100 die. Most recover completely within 10 days. Infection with some strains of *Shigella*, including *Shigella flexneri* type 2a, can be followed by chronic reactive arthritis, which occurs in about 2% of infected persons.

The source of infection with *Shigella* organisms is other infected persons. Only a small number of bacteria are needed to cause infection. Infected persons who fail to wash their hands carefully after defecation may spread infection to others directly by physical contact or indirectly by contaminating food during its harvesting, processing, or preparation. Water that has been contaminated with human feces can also transmit the infection to people who drink it or swim in it. Handwashing with soap and water can prevent spread from one person to another and to food.

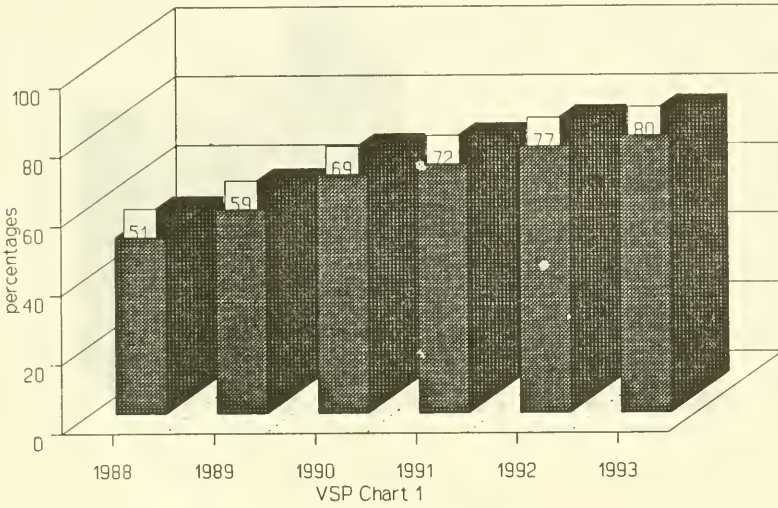
The cruise line canceled the next two scheduled cruises. CDC investigators recommended discarding all food that had been handled by ship's personnel and food that could have been contaminated by an outside source, as well as thorough sanitation of the ship. CDC also recommended that all ship's personnel who handle food or provide child care have stools cultured for *Shigella*, and that anyone whose culture yielded *Shigella* not return to work until two stool cultures were negative. On September 9, 1994, after providing evidence of complying with CDC's recommendations, the ship sailed with 1,421 passengers. CDC officials distributed information to all boarding passengers about the recent outbreak on the ship and the symptoms of shigellosis and requested that anyone with diarrheal illness visit the ship's physician. Only three persons (0.2%) reported having gastrointestinal illness during the 4-day cruise, not more than would be expected on the usual cruise.

These two outbreaks represent emerging and reemerging infectious diseases. In April 1994, CDC released a strategic plan for addressing emerging infectious diseases in the United States. The plan is based on priorities set forth in a report by the National Academy of Science's Institute of Medicine (IOM) to safeguard the nation from the threat of emerging infectious diseases. The IOM report, "Emerging Infections," identified six factors that can lead to emerging microbial threats--changes in human demographics and behavior, technologic advances, economic development and land use, international travel and trade, microbial adaptation, and a breakdown of public health measures. Several of these factors have influenced the emergence of diseases like Legionnaires' disease. I would like to submit a copy of CDC's plan, "Addressing Emerging Infectious Disease Threats: A Prevention Strategy for the United States," for consideration for the record.

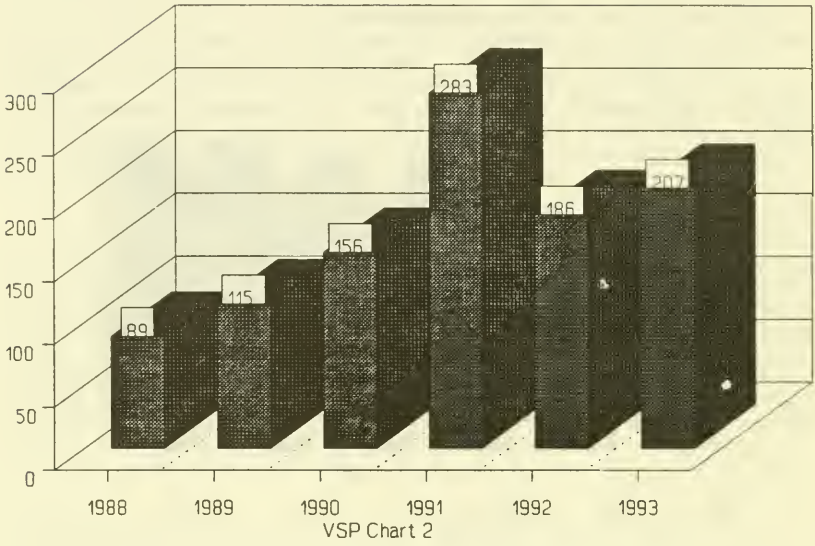
In summary Mr. Chairman, CDC will continue to lead on public health issues involving cruise ships as we seek to protect the American public. Our mission at CDC and commitment to the American public are to promote health and quality of life by preventing and controlling disease, disability, and injury. Thank you for this opportunity to speak on behalf of CDC's program regarding cruise ship safety and health. I would be happy to answer any questions you or the other members may have.

CRUISE SHIPS SCORING > 86%

For All Categories

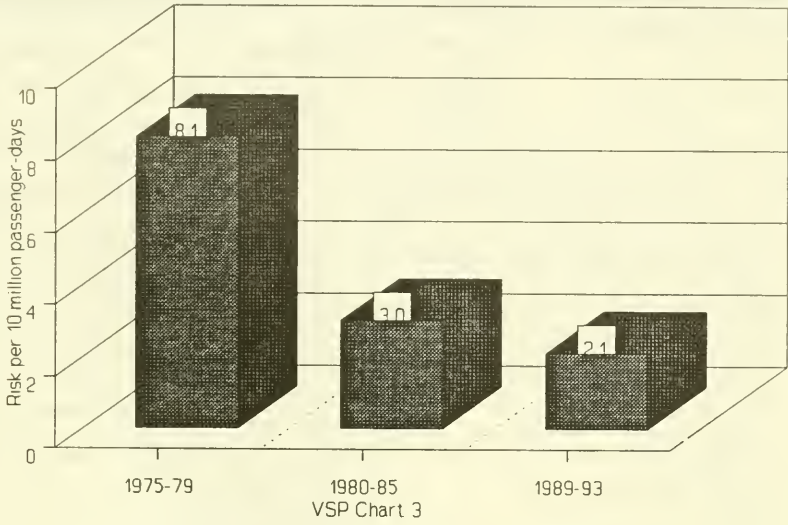


No. of Routine Periodic Inspections



Incidence of Diarrheal Disease Outbreak

On Cruise Ships in VSP



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES/PUBLIC HEALTH SERVICE
CENTERS FOR DISEASE CONTROL/Center for Environmental Health and Injury Control

VESSEL SANITATION INSPECTION REPORT

I. IDENTIFICATION AND SCORE

NAME OF VESSEL:			NO. PAX:	NO. CREW:	RESULTS EXPLAINED TO	SCORE:
INSPECTION DATE: Mo Da Yr.	PORT:	CRUISE LINE:		INSPECTION <input type="checkbox"/> PERIODIC <input type="checkbox"/> REINSPECTION <input type="checkbox"/> OTHER	INSPECTOR(S):	

II. RESULTS OF EVALUATION DPV = Deficiency Point Value

ITEM	DPV (circle)	ITEM	DPV (circle)
A. WATER		D. EQUIPMENT AND WAREWASHING	
1. Potable water (PW) chlorinated or brominated to at least 2.0 parts per million (ppm) (mg/l) at the time of bunkering. PW tanks constructed and maintained.	5	20. Food-contact and ice-contact surfaces designed, constructed, maintained, installed, and located.	2
2. PW distribution system treated to provide a free halogen residual greater than or equal to 0.2 ppm by means of an approved chlorination or bromination system.	5	21. Nonfood-contact surfaces designed, constructed, maintained, installed, and located.	1
3. PW system chlorine analyzer and chart recorder maintained, operated, and calibrated. Acceptable evidence of potability.	5	22. Dishwashing and equipment washing facilities designed, constructed, maintained, installed, located, and operated.	2
4. PW system not subjected to contamination through cross-connections to nonpotable water supply or through backflow or backphoning.	5	23. Warewashing thermometers, chemical test kits provided.	1
5. PW filling hoses, caps, and connections maintained and stored. Sample cocks provided on tanks. Tank vents and sounding tubes properly installed and maintained.	3	24. Dishes and utensils preflushed, scraped, soaked.	1
6. Swimming pools, spas, whirlpools, hot tubs, and similar facilities maintained and operated.	3	25. Wash and rinse water clean, of proper temperature.	1
7. Plumbing fixtures, supply lines, drain lines, and drains installed and maintained in good repair.	1	26. Sanitizing rinse clean, of proper temperature, concentration, and exposure time.	4
B. FOOD PROTECTION AND SOURCE		27. Wiping cloths and chef's towels clean, properly stored; use restricted.	1
8. Source, sound condition, no spoilage. Unwrapped food not re-served.	5	28. Food-contact surfaces of equipment and utensils clean.	2
9. Original containers, labeling used.	1	29. Nonfood-contact surfaces of equipment and utensils clean.	1
10. Potentially hazardous food meets temperature requirements during storage, preparation, display, service, and transportation.	5	30. Proper storage, handling of clean/soiled equipment and utensils.	1
11. Practices and facilities provided to maintain product temperature.	2	31. Single-service articles properly stored, dispensed.	1
12. Thermometers provided and properly located.	1	32. Proper use of single-service articles or containers.	2
13. Potentially hazardous food properly thawed.	2	E. SOLID AND LIQUID WASTE DISPOSAL	
14. Food protected during storage, preparation, display, service, and transportation.	2	33. Solid waste containers covered, of adequate number, located. Liquid waste disposed of properly.	3
15. No cross-contamination between raw, ready-to-eat, and cooked foods.	2	F. TOILET AND HANDWASHING FACILITIES	
16. Handling of food, ice minimized.	2	34. Facilities convenient, accessible, designed, installed.	3
17. In-use food, ice dispensing, and preparation utensils stored.	1	35. Hand cleanser, sanitary towels, waste receptacles, and signs provided.	1
C. PERSONNEL		G. PEST CONTROL AND TOXIC SUBSTANCES	
18. Food handlers free of infections and communicable diseases. Medical logs maintained and recorded.	5	36. No presence of insects and rodents; outer openings protected; approved pesticide application.	3
19. Hands washed and clean; good hygiene practiced; uniforms clean.	5	37. Toxic items stored, labeled, and used properly.	5
		H. MISCELLANEOUS FACILITIES	
		38. Decks, bulkheads, and deckheads clean, of proper construction, in good repair.	1
		39. Lighting provided as required; fixtures shielded.	1
		40. Rooms and equipment vented.	1
		41. Premises free of unnecessary articles; cleaning equipment stored; only authorized personnel permitted.	1
		42. Clean and soiled linen in proper storage areas.	1

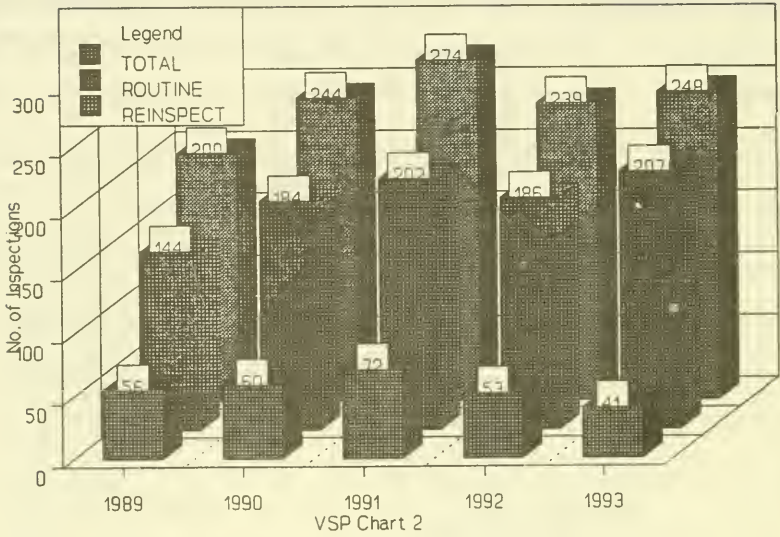
III. LOG REVIEWS AND LABORATORY INFORMATION

MEDICAL LOG REVIEW							LABORATORY ANALYSIS		
Dates		Cruise Length (days)	Total Pax	Total Crew	Diarrheal Pax	Illness Crew	Item Tested	No. Samples	No. Positive
From	To								
							Water Tanks		
							P.W. Dist. System		
							Ice		
							Comments:		

Year	Routine Inspections	Reinspections	Total
1993	207	41	248
1992	186	53	239
1991	202	72	274
1990	184	60	244
1989	144	56	200

With this information, VSP Chart 2, submitted with CDC written testimony is also included.

VSP INSPECTIONS



U.S. Department
of Transportation
**United States
Coast Guard**



Commandant
U.S. Coast Guard

2100 Second Street S.W.
Washington, DC 20593-0001
Staff Symbol:
Phone:

DEPARTMENT OF TRANSPORTATION

U.S. COAST GUARD

STATEMENT OF CAPTAIN G. M. WILLIAMS

ON CRUISE SHIP HEALTH AND SAFETY STANDARDS

BEFORE THE

SUBCOMMITTEES ON MERCHANT MARINE AND

COAST GUARD AND NAVIGATION

COMMITTEE ON MERCHANT MARINE AND FISHERIES

UNITED STATES HOUSE OF REPRESENTATIVES

SEPTEMBER 28, 1994

DEPARTMENT OF TRANSPORTATION
U.S. COAST GUARD
STATEMENT OF CAPTAIN G. M. WILLIAMS
ON CRUISE SHIP HEALTH AND SAFETY STANDARDS
BEFORE THE
SUBCOMMITTEES ON MERCHANT MARINE AND
COAST GUARD AND NAVIGATION
COMMITTEE ON MERCHANT MARINE AND FISHERIES
U.S. HOUSE OF REPRESENTATIVES
SEPTEMBER 28, 1994

Thank you Mr. Chairman. I am Captain Mike Williams, Chief of the Coast Guard's Merchant Vessel Inspection and Documentation Division of the Office of Marine Safety, Security, and Environmental Protection. I appreciate the opportunity to meet with the Committee to discuss your concerns about health and safety standards on foreign flag cruise ships. I would like to outline the Coast Guard's role in these areas, and provide some information on the Coast Guard's Foreign Passenger Vessel Control Verification Program.

As the members of this Committee are aware, the Coast Guard has developed a strong oversight program for foreign flag passenger vessels. In 1993, approximately 12 million passengers passed through U.S. deep water ports on foreign and U.S. passenger vessels. The five largest ports by passenger volume in descending order are: Miami, Florida; Port Everglades (Fort Lauderdale), Florida; St. Thomas, U.S. Virgin Islands; Port Canaveral, Florida; and San Juan, Puerto Rico. There are approximately 125 cruise ships which call on U.S. ports annually which receive control verification examinations.

The Coast Guard conducts initial, annual, and quarterly examinations on all foreign flag passenger vessels which embark passengers in U.S. ports. These examinations are conducted to ensure the vessels are in compliance with the appropriate international conventions and treaties. These include: the Safety of Life at Sea Convention (SOLAS), the International Convention for the Prevention of Pollution from Ships (MARPOL), the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW), and the International Convention on Loadlines. These treaties address vessel safety, pollution prevention, crew competency, and structural integrity of ships. The primary responsibility for compliance rests with the vessels's owner and flag state. The Coast Guard's duties are to verify that these vessels comply with their international certificates, and to ensure that they have the capability to safely conduct operations.

Oversight of health and sanitation conditions on foreign flag passenger vessels is the responsibility of the U.S. Public Health Service. The Coast Guard conducts a spot check of galley electrical, ventilation, and fire safety equipment, sewage systems, and structural fire boundaries as part of the control verification examination, and assists the U.S. Public Health Service when a serious health or sanitation condition is found. The U.S. Public Health Service conducts regular detailed sanitation inspections on foreign passenger ships entering U.S. waters under the authority of the Public Health Service Act (42 USC 264(a)).

I would like to provide you with information relating to three recent incidents on foreign flag cruise ships. The first incident occurred on the Liberian flag passenger ship HORIZON. This vessel regularly cruises between New York and the Caribbean. On July 16, 1994 the Coast Guard Marine Inspection Office New York received a call from the Centers for Disease Control (CDC) which indicated that seven passengers aboard the vessel were suffering from Legionnaire's disease. When the vessel arrived in New York, the Marine Inspection Office assisted the U.S. Public Health Service and the CDC in their investigations.

The CDC took water and air samples, but did not recommend quarantine. The vessel departed New York the following day with passengers. Upon arrival in Bermuda, both the CDC and U.S. Public Health Service recommended that the operating company, Chandris/Celebrity Cruises, disembark passengers from the vessel and fully flush its potable water system. The company concurred with the CDC recommendations and took the ship out of service for over a week, pending the results of the tests. The vessel was returned to service on July 30, 1994 after all CDC recommendations were complied with. Laboratory tests strongly suggested the vessel's whirlpool spa as the source of transmission of the the disease.

The second incident involved the Bahamian flag passenger ship VIKING SERENADE, which operates out of the port of Los Angeles.

On September 1, 1994 Marine Safety Office Long Beach, California received information that approximately 408 passengers and 8 crewmen of the 2,350 persons on board the vessel had contracted an intestinal illness. Six passengers had been taken to the hospital in Ensenada, Mexico and one U.S. citizen died there. Coast Guard officers from Marine Safety Office Long Beach boarded the vessel upon arrival in port along with the CDC, and U.S. Public Health Service.

On September 3, 1994, a revised count of the affected persons indicated that 582 passengers and 24 crewmen were ill. The CDC did not recommend a quarantine, however they did take food and water samples, along with passenger and crew urine and stool samples, and recommended the owner, Royal Caribbean Cruise Lines, not allow the vessel to sail until the results of the samples were analyzed. They also made additional recommendations concerning sanitation procedures and removal of certain foods.

On September 9, 1994 the CDC identified the cause of the illness as a Shigella bacteria outbreak, whose source could have come from the vessel's food handlers. All CDC recommendations were completed by the company and verified by the U.S. Public Health Service on this date. Later that day the vessel resumed passenger operations.

These two incidents clearly demonstrated the Coast Guard's cooperation with the U.S. Public Health Service and the CDC, and

also showed that in both cases the cruise ship companies willingly complied with all CDC recommendations. It is our intention to continue this cooperation to ensure that all significant health and sanitation issues are properly addressed.

The third incident occurred on August 19, 1994. At approximately 8:00 A.M. EST, the Coast Guard Vessel Traffic Service (VTS) New York notified the Coast Guard Marine Inspection Office and Captain of the Port of a fire aboard the Bahamian Passenger Ship REGAL EMPRESS which was transiting New York Harbor to a passenger terminal. The vessel had contacted the VTS and requested dockside assistance to combat the fire. Marine Inspection Office investigators and Captain of the Port personnel arrived on scene while the vessel was mooring and noted that municipal firefighters were on board, and that a dockside command center had been established. Coast Guard investigators and vessel crew assisted the local firefighters in reviewing the vessel's plans in order to establish fire boundaries and plan appropriate response activities. Concurrently, all passengers and nonessential crew were safely disembarked and the fire was quickly brought under control. Twelve persons suffered from smoke inhalation as a result of this casualty, four of which required hospitalization. No firefighting personnel were injured.

It was later determined that the fire had originated in the ship's main engine exhaust stack inside an abandoned pipe

enclosure which was lined with cork insulation. This insulation ignited due to contact with engine exhaust components. The fire then spread into a nearby dining room.

While the fire department was on board, another fire was discovered in a cabin in another area of the ship, remote from the dining room. The cause of the fire was not directly related to the pipe enclosure fire. Both sprinklers in the cabin operated, and the fire was extinguished by local fire fighters. The local fire department believed the cause of the fire was an overturned ashtray on a bunk, possibly caused by a passenger's rushed egress to the muster station.

Although fire and smoke damage was limited to the cabin, it was severe. The fire did not penetrate through the wooden overhead ceiling into the concealed space above. Based on the amount of fire and smoke damage in the cabin, it is conceivable that had a passenger been sleeping in the cabin, the passenger would have been killed.

After learning of the casualty, a team of technical fire protection experts from Coast Guard Headquarters was sent to the REGAL EMPRESS. They focused on lessons that could be learned from the casualty, both from the standpoint of what went right and what could have gone better. Their direct observations have proven valuable to Coast Guard policy making.

This casualty clearly showed the benefits of the Coast Guard's control verification program and Captain of the Port contingency planning. The crew responded to the fire properly by closing the fire screen doors, securing ventilation, properly mustering the passengers, and taking the proper initial fire fighting efforts - all part of the quarterly drills the Coast Guard requires during its examinations. As per the Captain of the Port contingency plan, a command post was set up, local firefighters properly established liaison with Coast Guard and shipboard personnel, and successfully worked together in locating the source and extinguishing the fire. Vessel personnel indicated that had shoreside assistance not been available, the fire would have been difficult for the crew to extinguish.

It is important to note that this ship was built in 1953 when SOLAS permitted ships to be built with a significant amount of wooden materials on board. Until SOLAS 74 entered into force in 1980, three methods of passenger ship construction were permitted. Method I, the U.S. method, required noncombustible materials of construction, generally without the installation of fire detection or suppression systems in accommodation spaces. Method II, the British method, permitted construction with combustible materials, but required that a sprinkler system be installed. Method III, the French method, permitted restricted use of combustible materials and required a fire detection system but no sprinkler system. Each method required that vessels be divided into main vertical fire zones approximately 40 meters in length.

In the mid 1960's, a number of fires on foreign flag passenger ships prompted the International Maritime Organization (IMO, then IMCO) to examine the three methods of allowable passenger ship construction. This led to the adoption of an amendment, SOLAS 60 Part H, which would permit only one method of construction, based largely upon Method I. This amendment became mandatory when it was incorporated into SOLAS 74 which entered into force in 1980.

A fire in 1990 aboard a foreign passenger vessel operating outside of the U.S. killed 154 passengers. At the urging of the U.S., the IMO reexamined the issue of fire protection of passenger ships, ultimately resulting in two new sets of amendments. One set applies to new passenger ships (referred to as the new ship amendments), and the other applies to existing passenger ships (referred to as the retroactive fire safety amendments or RFSAs).

The new ships amendments, which enter into force on October 1 of this year, further upgrade the level of fire safety of new passenger ships, requiring fire detection and suppression systems in addition to noncombustible construction. The RFSAs split existing passenger ships into two categories: those which fully meet SOLAS 74 and those which do not. The amendments require each category to upgrade existing structure and fire protection systems. Vessels which do not comply with SOLAS 74 are forced to comply on a more aggressive time schedule than those which fully comply.

The REGAL EMPRESS was built to method II, so it contained large amounts of wooden construction materials and was protected by a sprinkler system. During the fire, the sprinkler system operated, and controlled the fire below the overhead; however, the fire spread freely through the concealed space above the ceiling panels. The space above the overhead was not protected by the sprinkler system, as is typical aboard method II constructed ships.

Because the REGAL EMPRESS was built to Method II standards, it is required to meet the provisions of the RFSAs on a more aggressive schedule than vessels which comply fully with SOLAS 74. The RFSAs will require the installation of smoke detectors in accommodation and service spaces, stairway enclosures and corridors, and in the concealed space above combustible ceilings in stairways and corridors by October 1, 1997. Additionally, the RFSAs will require that the vessel be brought into full compliance with SOLAS 74 by October 1, 2010, which will require the removal of all wooden construction materials.

The Coast Guard recognizes that effective shipboard firefighting results from a well trained and equipped crew and a vessel properly designed and maintained to international safety standards. The Coast Guard will continue to stringently enforce international standards to ensure all passengers can be confident that the vessel they board is safe.

Thank you for the opportunity to appear before you. I would be happy to answer any questions you may have.



National Transportation Safety Board

Washington, D.C. 20594

Testimony of
Jim Hall, Acting Chairman
National Transportation Safety Board
before the
Subcommittees on Merchant Marine and Coast Guard and Navigation
Committee on Merchant Marine and Fisheries
House of Representatives
Regarding
Cruise Ship Safety
September 28, 1994

Mr. Chairman and Members of the Committee, I am very pleased to appear before you to discuss issues concerning the safety of cruise ships operating from U.S. ports.

Recent outbreaks of "Legionnaires Disease" and bacterial infections among cruise ship passengers on foreign passenger ships operating from U.S. ports has brought into question the adequacy of health and safety standards under which these ships operate. As you are aware, the Safety Board has no mandate to oversee the health standards on board these vessels. Foreign-flag passenger ship safety, however, continues to be a major area of interest for the Safety Board.

There are currently approximately 150 foreign-flag passenger ships regularly operating from U.S. ports. Every year millions of U.S. citizens take vacation cruises on foreign passenger ships that operate from U.S. ports. The foreign flag cruise industry has grown steadily in the past 20 years. In the early 1970s, only one half million Americans took cruises annually. By 1980, that number had tripled. Today, about 4 million passengers annually board cruise ships in U.S. ports, and industry sources predict the number will reach 8 to 10 million passengers by the year 2000.

Since 1979, the Safety Board has completed the investigation of 16 accidents on board foreign-flag passenger ships that regularly operated from U.S. ports. These accidents caused 5 deaths, 114 injuries, and more than \$110 million in property damage. In addition to individual accident investigation reports, the Board adopted a safety study in 1989, "Passenger Vessels Operating From U.S. Ports," and a special investigation report in 1993, "Accidents Involving Foreign Passenger Ships Operating From U.S. Ports 1990-1991."

The 1989 study proposed a series of recommendations related to vessel maintenance, fire protection, and crew qualifications on foreign cruise ships. In addition, the Board has recommended:

- that international requirements for cruise ship fire protection be improved;
- that sprinklers, low-level emergency lighting, and integrated smoke detection and alarm systems be installed or upgraded;
- that better emergency drills be conducted; and
- that crew qualifications and crew language requirements be improved.

We are pleased that most of these recommendations have been satisfactorily closed by recent amendments adopted by the International Maritime Organization (IMO) to the International Convention for Safety of Life at Sea, 1974 (SOLAS 74) as amended. The safety improvements that these amendments called for will be phased in at various times starting this year and continuing through 2010, when all ships, new and old, will have to meet the SOLAS 74 standards. These are unprecedented international cruise ship fire safety improvements, as they did away with grandfather rights. They apply to all ships, not just to those on the planning board as has been the case in the past.

Although recent advances in passenger ship safety on the international level have been made, the Board still has a number of safety concerns regarding the operation of these vessels from U.S. ports. These concerns center upon the consistent appropriate interpretation and enforcement of international requirements, and upon the need for improved emergency training and qualifications for shipboard crews. Many of the IMO requirements are open to wide interpretation. Some countries take a much harder line on safety than others and are much more exacting in their interpretations.

Crew qualifications and emergency training continue to be prime concerns of the Safety Board because human performance most frequently plays the key role in the causes of, and, in many instances, the outcomes of casualties. For example, we have seen, in a number of accidents investigations, where an improper crew response worsened an otherwise minor incident to the point where it became a situation of serious proportions. In addition, current recruiting practices result in passenger ship crews composed of individuals from many different countries. This often results in language problems among crewmembers and between crewmembers and passengers. These language problems can have dire results in an emergency.

Despite these concerns, however, I am pleased to report that the cruise industry in the United States has a very good safety record. In the past 20 years, the Safety Board can document only two passenger deaths on board a foreign passenger ship operating from U.S. ports. These occurred in the 1984 fire on board the Bahamian-flag passenger ship SCANDINAVIAN SUN in Miami, Florida. However, as shown in the tragic 1990 fire in Europe on board the SCANDINAVIAN STAR in which 158 persons (156 of whom were passengers) lost their lives, good safety records can be ruined overnight. The Safety Board, therefore, is extremely sensitive to cruise ship safety issues.

The Safety Board is currently investigating three accidents involving foreign flag passenger ships that operate from U.S. ports:

- The collision between Netherlands Antilles passenger ship NOORDAM and the Maltese Bulk Carrier MOUNT YMITOS near the mouth of the Mississippi River, November 6, 1993.
- The grounding of the Netherlands Antilles passenger ship NIEUW AMSTERDAM near Ketchikan, Alaska, August 8, 1994.
- The fire on board the Bahamian passenger ship REGAL EMPRESS, in New York Harbor, on August 19, 1994.

A brief summary of the three accidents is attached to my testimony. The Safety Board anticipates final action on these accident reports within the next six months.

The common thread in all of the foreign-flag passenger ship accidents that the Safety Board has investigated is the human element. Improvements in technology will help to control and reduce the incidence and severity of maritime accidents. But, these improvements alone can only go so far to ensure safety. They become ineffective if crews are not trained to react properly when emergencies occur. Even modern cruise ships that are outfitted with the very best in navigational and collision avoidance instrumentation have collisions and groundings. The Safety Board believes that the best way to avert tragedy on passenger ships is to make sure that the operating and service crews on board these vessels are properly trained.

High training standards for crewmen on passenger ships is not something that can be accomplished through mandates alone. The U.S. Coast Guard, working through IMO, is currently working to improve crew qualifications and training, but this must be buttressed with the commitment of the owners and operators to train their crews through formal training ashore, to test and refresh their skills during onboard training and drills, and through crew management and oversight to be sure they are fit to respond when needed. The foreign-flag cruise ship industry played a positive role when the international community was developing the upgrades for cruise ship fire safety, and recent accident investigations seem to indicate that crew performance during emergencies has improved. We are hopeful that the industry's commitment to safety is sincere and will continue to improve.

Mr. Chairman, this completes my statement, and I will be happy to respond to your questions.

The NOORDAM

On the evening of November 6, 1993, the Netherlands Antilles Registered Passenger Ship NOORDAM was approaching the Southwest Pass Entrance to the Mississippi River bound for New Orleans, Louisiana. The ship was returning from Jamaica after a 7-day cruise. There was a total of 1188 passengers and 542 crewmembers aboard. At the same time, the Maltese bulk carrier MOUNT YMITOS, loaded with 50,000 tons of soybeans, was exiting the Mississippi River via the Southwest Pass. At 2040 local time, the two vessels collided. The bow of the bulk carrier contacted the starboard quarter of the passenger ship. There were no deaths and one minor injury to a crewman on board the NOORDAM resulting from the collision. The MOUNT YMITOS sustained serious damage to its bow. The bow had an above-water hole 20 feet wide and 36-40 feet high. The NOORDAM suffered extensive structural damage to its starboard side in an area where the crew living quarters were located. The structural damage was located above the waterline and the vessel was never in danger of sinking.

The cost of the repairs to the NOORDAM are estimated to be \$2 million. The cost of the repairs to the MOUNT YMITOS are estimated to be \$1 million.

The safety issues involved in this accident include:

1. Management Oversight of Shipboard Personnel
2. Post-Accident Emergency Procedures
3. Traffic Management at the Entrance to the Mississippi River

NIEUW AMSTERDAM

On August 7, 1994, the Netherlands Antilles Passenger Ship NIEUW AMSTERDAM departed Vancouver, British Columbia bound for Seward, Alaska via Ketchikan. The departure from Vancouver was without incident. Early on the morning of August 9, 1994, two U.S. pilots, commissioned by the State of Alaska, boarded the vessel to pilot it to Ketchikan. One of these pilots was in a trainee status.

The senior pilot assumed the conn, issuing all helm and engine orders to navigate the ship. On watch on the navigating bridge in addition to the pilots were the helmsman, the second officer, and the master. The master was on the bridge because the ship was operating in patchy fog and it was policy company for the master to be on the bridge during periods of fog.

The voyage progressed without incident until the NIEUW AMSTERDAM approached its first turn to enter Ketchikan near Gravena Point and the senior pilot turned the conn over to the pilot-trainee. The second officer stated that he felt uneasy with the manner in which the pilot-trainee conducted his watch. He said that the pilot-trainee appeared to lack a plan of action, that he seemed to ask too many questions of the senior pilot, and he did not appear to be taking any radar ranges and bearings in preparation for the upcoming turn to starboard.

The NIEUW AMSTERDAM was proceeding at a speed of about 15 knots as it proceeded up Nichols Passage and approached the point where it would be necessary to turn to starboard into Tongass Passage.

When the NIEUW AMSTERDAM arrived at the turning point, the pilot-trainee issued a rudder order for 5 ° right rudder. The second officer told the pilot-trainee that this was not enough rudder to complete the turn safely. The pilot-trainee then ordered 20° right rudder. The second officer felt that the ship was coming into the turn at too high a speed and suggested that the pilot-trainee slow down. The pilot-trainee asked the senior pilot if he should slow the vessel, and the senior pilot agreed that it should be slowed. The pilot-trainee ordered the propeller pitch reduced from a setting of 7 to a setting of 3 1/2.

The ship began to turn but was in a fog patch at the time so that visibility was reduced. As the ship cleared the fog patch, however, Gravena Point became visible ahead and the ship was in imminent danger from nearby rocks. The master immediately ordered the engines FULL ASTERN. However, it was too late to avoid the rocks.

The safety issues involved in this accident include:

1. Bridge Resource Management - Bridge Resource Management is a phrase coined by the Safety Board to mean the effective use of all available persons and equipment to ensure the safe operation of a vessel. It includes voyage planning, pre-departure briefings, coordination of responsibilities among watchstanders, maintaining situational awareness, and communications.
2. Oversight of Training and Qualifications of Pilots

REGAL EMPRESS

At approximately 0620, on August 8, 1994, a fire broke out on board the Bahamian Passenger Ship REGAL EMPRESS as the vessel was transiting New York Harbor en route to its berth at the passenger terminal at Pier 90, Manhattan. The vessel had just completed a sea voyage from Canada, via Martha's Vineyard, and had 1,007 passengers and 387 crewmembers aboard. The fire was extinguished by the ship's crew with the assistance of the New York City Fire Department. There were no burn injuries, but 10 persons were treated on scene for smoke inhalation and released. Two persons were treated for chest pains (one had a heart ailment and the other had emphysema) at local hospitals and released. Damage was limited to the deck, bulkhead, overhead in the forward part of the dining room adjacent to the stack casing (electric lighting circuits, wooden bulkhead veneer and overhead paneling) and the locker on the main deck. Repairs were completed by August 27, 1994, and damage to the vessel was less about \$250,000.

The fire erupted in the ship's main engine exhaust stack after insulating sheathing became disconnected, possibly due to vibration, and slipped from its position. The heat from the hot exhaust piping impinged upon the sheet metal enclosure holding granulated cork insulation around a brine water cooling system. The brine water cooling system was no longer in use, but the cork insulation had never been removed. The cork ignited and the fire travelled along the brine piping to the adjacent passenger dining room where wood panelling was ignited. It also travelled upwards to involve accommodation spaces located above the dining room. Smoke filled the dining room, driving the occupants from the room.

The pilot, at the request of the master, called the U.S. Coast Guard and the New York City Fire Department. Two New York City fireboats escorted the vessel to Pier 90 Manhattan. U.S. Coast Guard and New York City Fire Department personnel were waiting for the ship on the pier and boarded the vessel as soon as it docked. All passengers were safely evacuated from the ship onto the pier and the fire was extinguished in about 90 minutes.

The well-organized response of the officers and crew to this emergency indicated that they were well trained and highly competent to handle a shipboard fire. Their quick actions to isolate and contain the fire minimized the damage from the smoke and heat that this fire created. There were no communication or language problems with the crew or between the crew and the passengers. As a result of a departure drill that included the passengers and of appropriate announcements by the captain and cruise director during the emergency, there was no panic. The crew provided adequate direction and guidance to passengers throughout the emergency. Also, the availability of shore evacuation and the quick action of the fire fighting assistance provided by the New York City Fire Department also minimized the severity of the accident.

The safety issue involved in this accident is fire contingency plans for ports served by large passenger ships.

Statement of the International Council of Cruise Lines

U.S. House of Representatives

*Hearing Before the Subcommittees on Merchant Marine
and Coast Guard and Navigation of the Merchant Marine
and Fisheries Committee*

John T. Estes, President

September 28, 1994

Chairman Tausin and Chairman Lipinski, members of the Merchant Marine and Coast Guard Subcommittees, my name is John T. Estes, I am President of the International Council of Cruise Lines (ICCL). The ICCL is a non-profit industry association representing American and foreign owned companies engaged in the overnight, ocean-going passenger cruise industry. ICCL membership (see Attachment A) accounts for the vast majority of the deep-sea passenger cruise capacity worldwide. The 22 passenger lines that make up our membership, all of whom fly foreign-flags, are regulated by the International Maritime Organization (IMO), the countries whose flags they fly and are subject to the applicable rules and regulations of various countries whose ports those vessels visit. This regulatory network is supplemented by voluntary cooperative arrangements with various governmental bodies and an extensive regime of corporate policies regarding safety and sanitation.

We appreciate the opportunity to comment on various safety and sanitation issues stemming from incidents which occurred in the past several months. In the cruise ship industry we are all deeply concerned whenever there is an incident such as those you are inquiring about in this hearing. Even one adverse event is a reflection on us as an industry and on our ability to deliver a product to those whose safety and comfort and support are essential. We believe you and the members of your Committees will agree with us that the health and safety of cruise ship passengers and crew is the highest priority in cruise ship operations and that the manner in which these incidents were handled demonstrates a high degree of crew training and management dedication. If there is one common denominator critical to the health and safety of passengers and crew -- it is the human element. It is, of course, essential to determine causation and the efforts of the Coast Guard, the Center for Disease Control, and the National Transportation Safety Board (NTSB) are critical for that purpose. It is also just as important,

however, to examine how the crew -- from the Master to the most junior crew member -- responded and the support and direction that was offered from shoreside management.

Set forth below is a review of relevant sanitation and fire safety policies and practices of cruise ship operations.

I.

THE INTERNATIONAL CRUISE SHIP PASSENGER BENEFITS FROM AN EXTENSIVE NETWORK OF PROTECTIVE MEASURES ALL WITH THE GOAL OF PREVENTING DISEASE OUTBREAKS CAUSED BY EXPOSURE TO INSANITARY CONDITIONS

(A) *Cruise Lines Utilize A Wide Range Of Devices To Promote Sanitary Conditions.*

A large modern cruise ship can carry up to 2,500 passengers and a crew of 800 or more. To effectively manage food and water sanitation for roughly 3,300 people on board the ship, a number of practices are employed, some of which are listed below:

- ICCL members are in compliance with the World Health Organization's (WHO) standard known as the "Guide to Ship Sanitation." This guide was adopted by the WHO as the standard for international passenger cruise vessels and it is our understanding that it is based on U.S. health guidelines for passenger cruise vessels. The Guide proposes recommendations for water treatment; food sanitation; food temperature control; galley equipment; dish washing standards; waste disposal; toilet and hand washing guidance for

personnel; pest control; and ship design considerations.

- The ICCL member lines have specific standards for inspection and training for senior ship-board personnel, such as Ship Master (or Captain), Staff Captain, Hotel Manager, and the Executive Chef/Food & Beverage Manager who are ultimately responsible for vessel sanitation.
- Typically, the Ship Master conducts a thorough sanitation inspection aboard his vessel at least once each week, the Staff Captain performs sanitation inspections twice a week, and the Hotel Manager and Executive Chef/Food & Beverage Manager thoroughly review the vessel's sanitation practices on a daily basis.
- Procedures are in place to closely monitor the treatment of potable water. Whether the potable water is treated with chlorine, bromide, or other methods, it is monitored continuously. Training and experience is required for personnel involved in the treatment of potable water, food stuffs, waste treatment, sanitation and food waste disposal, among other ship-board sanitation systems.
- ICCL member vessels in the North American market have an on board medical facility, staffed by physicians and trained nurses. Onboard medical facilities are frequently a Flag State requirement. Some vessels have a helicopter medi-vac capability for lifting off passengers in an emergency situation.
- There is compliance with the most recent first aid training standards adopted

by the International Conventions for the Safety of Life at Sea (SOLAS) and Training and Certification of Seafarers (STCW). A typical vessel may have one crew member trained in emergency first aid for every 30 passengers and some a much better ratio, although this may vary somewhat from vessel to vessel.

- Cruise lines have training and experience requirements for on board medical personnel.
- Beyond these general functions, cruise lines have an extensive network of protective measures to provide sanitary shipboard conditions. For example, Attachment B outlines as just one illustration some crew responsibilities of a cruise line. There are many more which we would be pleased to review with the Committee.

(B) Center For Disease Control (CDC) Inspection and Surveillance of Cruise Ship Sanitation.

Foreign-flag cruise ships calling at United States ports all participate in a voluntary program, financed by the cruise line companies, known as the Vessel Sanitation Program (VSP). All ICCL members participate in this program which involves a twice yearly, unannounced vessel sanitation inspection by the U.S. Public Health Service. If a vessel fails the routine inspection a complete reinspection is conducted and, if necessary, follow-up or partial inspections may be conducted. In addition, other CDC sanitation consultations and inspections are conducted from time to time including those of new ships during construction, if

a foodborne or waterborne disease outbreak should occur, or if there are complaints of unsanitary conditions. The VSP Operations Manual provides for an inspection program and will not be reviewed in detail in this testimony in view of the invitation of CDC officials to participate in this hearing. It should only be noted here that, from the standpoint of a cruise ship owner, these inspections have proven to be valuable and effective and are enthusiastically supported by the industry. In addition to the inspection programs, the CDC conducts each year four or five seminars for ship-board managers and supervisors. Hundreds of cruise ship crew and employees attend these worthwhile sessions which are conducted jointly by CDC with Nova University.

Finally, the CDC periodically issues notices to the cruise lines called "interpretation letters" on significant matters. These have been most helpful to the industry in clarifying VSP interpretations on critical disease issues as well as sharing information on new technology and recent developments. As more ships regularly call at U.S. ports the number of CDC inspections has correspondingly risen, as follows:

<u>Year</u>	<u>No. of Inspections</u>
1989	144
1990	184
1991	202
1992	243
1993	248

II.

INCIDENTS OF DISEASE OUTBREAKS CAUSED BY INSANITARY
CONDITIONS ON CRUISE SHIPS ARE RARE

Due largely to the extensive safety net of protective measures discussed above, disease outbreaks on cruise ships are rare. This fact was summarized by the late Dr. Vernon Houk, Assistant Surgeon General, who stated at a public hearing in January 1992 while reviewing the effectiveness of the VSP for cruise ships:

"As you are well aware it was not uncommon in the eighties to see ten or fifteen outbreaks of diarrheal disease per year. The low number of outbreaks which have occurred on cruise ships in the last two years indicated the bottom line success of this program. I believe that at present it represents the irreducible number of such outbreaks."
(page 9)

By comparison, in discussing the experience of the United States, Dr. Karl Kontz of George Washington University states:

"Estimates of the number of cases of foodborne disease in the U.S. range from 6.3 million to as high as 81 million per year. The number of people who die from foodborne illness in this country is estimated to be between 500 - 7,000 (the latter is regarded as the more realistic). Recent cost estimates for all foodborne illness in the U.S. range from \$8 billion to \$23 billion per year."

Although the cruise line experience is well below that of the United States generally, the industry objective is to strive for the "irreducible number" of cases regardless of the experience in the United States.

III.

VIRAL AND BACTERIAL DISEASE INCIDENTS CAN BE CONTROLLED

-- NOT ELIMINATED

The cruise ship passenger experience is and continues to be remarkably free from illness due to contaminated food and drink whether from microorganisms or their toxins, or by chemicals. We should not loose sight of the fact that foodborne and waterborne illnesses are a major and complicated public health concern worldwide. As noted by Dr. Klontz:

"The prevention of such illness through food and water safety methods involves various disciplines, including agriculture, food science and technology, manufacture and processing as well as microbiology, epidemiology and human and veterinary medicine."

A cruise ship passenger, just as a land-based hotel guest, is in the middle of this chain. In many respects we are faced with a major societal problem. As graphically stated in the September 12, 1994 cover story of Time magazine:

"They can strike any where, anytime. On a cruise ship, in the corner restaurant, in the grass just outside the back door. And anyone can be a carrier: the stranger coughing in the next seat on the bus, the college classmate from a far off place, even the sweetheart who seems perfect in every way. For wherever we go and whatever we do, we are accosted by invaders from an unseen world. Protozoans, bacteria, viruses -- a whole menagerie of microscopic pests constantly assaults every part of our body, looking for a way inside. Many are harmless or easy to fight off, others..."

Constant vigilance, management that addresses the potential threat, and enlightened, dedicated professionalism, such as performed by the CDC and volunteered in a cooperative program with the cruise lines, is the best cruise line defense to these "invaders".

The ubiquitous nature of the problem in its many manifestations cannot be understated. Just last week on September 20, 1994 the NBC television network show Dateline NBC aired a program on water contaminated by the parasite cryptosporidium in an American municipality. The drinking water of Milwaukee, Wisconsin became contaminated resulting, according to Dateline, in 100 deaths, 4,000 hospitalized patients, and 400,000 people who became sick. Asked on Dateline if the city was in violation of any EPA standards, Administrator Carol Browner replied:

"That's what's troubling about what occurred in Milwaukee. They were not in violation of standards. They were well below the standards that were presumed by everyone in the science, in the public health community, to be safe."

Although it is disturbing, it should not be surprising that we may experience an occasional foodborne or waterborne disease episode on or off a cruise ships. In the cruise line industry, with the guidance and help of professionals like those from the CDC, we shall continue to do our utmost to minimize and in the future hopefully prevent such incidents. We should not, however, disillusion ourselves that a cruise line is any more exempt from the problem than one of our cities, hotels, or even homes. When it occurs, however, after discovering the cause, it is equally as important to assess the effectiveness of the response.

IV.

ICCL HAS COOPERATED WITH THE COAST GUARD AND IMO IN THE DEVELOPMENT AND IMPLEMENTATION OF SAFETY STANDARDS FOR EXISTING PASSENGER SHIPS

ICCL has been granted membership in a non-governmental consultative status at the IMO

which permits participation in plenary and working group sessions of Safety and Environmental Protection IMO Committees excluding, of course, the right to vote. In this capacity the cruise industry played an active role in the recently adopted international regulations which mandate fire protection improvements on new and existing passenger ships, and the development of a safe management code for ship owners, which are briefly summarized below.

(A) *Fire Safety modifications for passenger ships.*

It would not be appropriate here to review and analyze the large number of new requirements recently approved by IMO regarding the on-going and nearly continuous assessment world wide of fire maritime safety regulations. Many of the newly required standards have been in place on cruise ships calling at North American ports long before they were mandatory. A brief summary of some recently adopted requirements is however noteworthy to show the trend line of continued fire safety enhancement on cruise ships, as follows:

- The equipment previously available to fire fighting teams must be supplemented by additional fireman outfits which include compressed air breathing apparatus with reserve supply of air, protective suits, etc., and portable radios to improve internal communications.
- All accommodation and service spaces, stairway enclosures and corridors must be equipped with a smoke detection and alarm system which will also need to monitor voids above the ceilings in stairways and corridors where combustible materials were used for the original construction. Pre-1974

SOLAS ships must have a sprinkler system retrofitted. All ships must be provided with a system of emergency Low Location Lighting for the escape routes to assist the evacuation of persons from smoke laden spaces.

- Post-SOLAS 1974 ships built to the non-sprinkler option must have such systems retrofitted despite the fact that SOLAS 1974 introduced very stringent restrictions on the use of combustible material for the construction of this generation of ships.
- Any pre-SOLAS 1994 ships remaining in service must be upgraded to satisfy the same standards restricting the use of non-combustible constructional materials as were required for post-SOLAS 1974 ships.

ICCL, through its members, participated at IMO in the development of these and many other fire safety regulations. Without question, however, one of the most dominant influences in this effort was the U.S. Coast Guard, who are recognized throughout the world as leaders in maritime fire safety matters.

(B) Cruise lines require extensive crew training for fire fighting and safety.

Advanced fire fighting training for experienced employees is frequently contracted to outside training companies and can involve one, two and three day training sessions. New employees receive immediate indoctrination and training. As an example, see Attachment C. It should also be noted that all cruise ship crew of ICCL members that are in the appropriate classification are covered by the IMO convention on Standards, Training and Certification and meet the requirements established by that convention. We

certainly endorse the IMO Maritime Safety Committee position that on-board personnel should receive periodic training and drills to become well-versed in fire-fighting and fire safety measures. (IMO) Resolution A.437 (XI) "Training of Crews in Fire-Fighting" contains information on land-based fire-fighting training for marine personnel. Land training is essential, but by itself insufficient. The crew should know how to deal with fires on their ships because even the location of the fire-fighting equipment on "sister" ships may vary from ship to ship. The common practice of transferring crew members from one ship to another at frequent intervals means that without on-board training and drills they may not become sufficiently familiar with the fire safety features of the ship on which they are serving. There is and can be no substitute for a well trained crew.

(C) *Other IMO initiatives.*

IMO has adopted the International Safety Management Code, to which all ICCL member companies must comply. ICCL member companies participated in the development at IMO of the recently adopted management code for the safe operation of ships, known as the ISM code. This establishes an international standard for safe ship operations by setting rules for the organization of company management in relation to safety and pollution prevention. This is accomplished by requiring the implementation of a safety and pollution prevention management system which documents management procedures to ensure that safety procedures are planned, organized and carried out. It is a recognition, as statistical studies have documented, that 80% of shipping accidents are caused by human error.

V.

THE SUCCESSFUL MANAGEMENT OF A SANITATION OR SAFETY
RELATED CRUISE SHIP INCIDENT MUST BE CHARACTERIZED BY
PROMPT REPORTING, IMMEDIATE RESPONSE, AND EFFECTIVE
REMEDIAL ACTION

The committee has inquired about several recent incidents on cruise ships. We all recognize that even one such incident is one too many, but to place this in perspective, it should be noted that in 1993 over four million passengers embarked from North American ports on cruise ship vacations and in the past five years 17,606,400 have participated in the cruise experience. According to the Cruise Line International Association, that involved 17,184 sailings from North American ports in those five years.

As noted above, when an incident occurs on a cruise ship involving the health or safety of passengers, any inquiry should not only address the cause, but the professionalism of the response by the crew to minimize or prevent injury or sickness and the remedial action thereafter. With that in mind, following is a brief response to the matters about which the Committee has inquired.

(A) *Shigella Contamination.*

On the August 29, 1994 sailing of the cruise ship Viking Serenade, it became apparent that the number of people aboard the vessel reporting to the ship's medical facility was escalating rapidly. The cruise line promptly notified the CDC. This

was done well in advance of the CDC threshold notification requirement of three percent of the affected vessel population.

The vessel returned to port one day prior to the scheduled completion of its four-night cruise, in light of the situation on-board. At the request of CDC the next voyage was canceled and on its own initiative the line also canceled the succeeding voyage. Once in port, the CDC suggestions were immediately implemented which included:

- * A general sanitation of the vessel using disinfecting chemicals normally used in hospitals;
- * Removal of all pre-packaged opened or handled foodstuffs;
- * Complete testing of all on-board water systems;
- * Complete testing of crew for the bacteria, whether or not they were food handlers and regardless if they displayed symptoms. Any crew member who displayed symptoms or tested positive was immediately removed from the vessel.

Upon the vessel's early return to port on the affected cruise, a reinspection was conducted by U.S. Public Health. It should be noted that prior to the outbreak, the vessel was inspected in July, 1994, by the U.S. Public Health Service and scored 92 out of a possible 100. Anything above 90 is considered excellent. The cause of the outbreak is under investigation and we are awaiting CDC reports. The vessel returned to service on September 9, 1994. No reoccurrences of shigella have been noted.

As the ship was returning to port, all passengers were notified they would receive via their travel agent, a full refund and all affected passengers were also compensated with certificates for future cruises and/or cabin credits.

(B) Legionnaire's Disease.

The subcommittees have inquired about the recent incident of Legionnaire's Disease reported among former passengers on the Horizon, a ship of Celebrity Cruise Lines. Celebrity today has submitted a written statement detailing the recent events aboard the Horizon, the CDC investigation of the disease, and the rapid and responsible Celebrity corporate response to these events. This incident took the entire cruise industry and Celebrity completely by surprise, not least of all because the Horizon has had an excellent record of safety, as evidenced by its very high scores in the CDC's Vessel Sanitation Program. Celebrity, including the officers and crew of the Horizon, have offered every assistance to the CDC in its investigation. After an extensive epidemiological investigation of the disease among former Horizon passengers, the CDC has concluded that the whirlpool spas on the Horizon were the source of infection with legionella, the bacterium that causes Legionnaire's Disease.

You are respectfully referred to the Celebrity statement for further details. The CDC will convene a workshop on October 17 to explore how the cruise industry, which of course takes this matter extremely seriously, can best guard against any risk from Legionella in ship water systems. Celebrity and the other

ICCL members will, of course, cooperate with the CDC and look forward to the October workshop on this matter

(C) *Vessel Smoke and Fire.*

The Regal Empress departed New York under the command of Captain Skjerve on August 14, 1994 on a scheduled five-night cruise to New England and Canadian ports. Completing a routine voyage, the vessel returned to the New York City area on Friday morning, August 19, 1994 at 0600. Half an hour later, during her transit of New York Harbor, a member of the ships's crew on routine rounds detected a smoke condition in the Main Deck. He inspected the deck to locate the source of the smoke and determine if there was a fire. The crewman observed smoke from a vent in a containment locker, opened the door to the locker and discharged a portable CO2 fire extinguisher into the space. Observing no flames from within the 10' x 5' locker, he closed the door and reported the situation to the bridge via phone.

The Safety Officer conducted an immediate investigation of the area and reported his findings to the bridge.

The vessel's three fire-fighting squads were outfitted and deployed, fire hoses were stretched in the area and water sprayed into the locker.

In excess of 500 passengers were eating breakfast in the restaurant one deck above. The vessel continued her voyage up the Hudson River as the smoke began to spread to the dining room. The passengers were evacuated from the dining

room to an exterior deck and the general alarm was sounded at 0808 as the vessel approached the dock. A small fire broke out in the wood paneling in the now empty dining room and was quickly extinguished by the crew. The Captain made several announcements over the PA system instructing the passengers to remain calm and to evacuate the interior spaces in an orderly fashion. Two passenger gangways were deployed as soon as the vessel came alongside and the passengers disembarked in a quick and efficient manner. Shoreside fire-fighting units boarded the vessel and assumed command of the fire-fighting, working in conjunction with the ship's fire squads. The source of the fire was located and quickly brought under control.

A total of 17 persons suffered smoke inhalation, including five New York City fire-fighters. Four passengers were taken to local hospitals on account of prior medical histories and/or age. All of the foregoing were treated and released. To our knowledge, no serious injuries were reported.

The vessel's crew was well-trained in the deck and engine departments as well as among the hotel, food and beverage and other staff and successfully and quickly evacuated the Regal Empress on August 19.

The Fire Department of the City of New York commended the Regal Cruises staff on board for their cooperation extended to the Fire Department on August 19.

CONCLUSION

Incidents like those reviewed above are few, however, even as isolated as they are compared with the millions of passengers carried from North American ports on cruise ships, it is a matter which every captain of every ship and every owner addresses with commitment. This is in some respects a societal problem, but does not and will not cause us to shrink from our responsibility to do everything we can to prevent such occurrences. The professionalism and dedication of the CDC, the Coast Guard and the NTSB with continued cooperation of the industry will provide the best possible chance to sustain the high level of health and safety now enjoyed by cruise ship passengers.

Attachment A

Carnival Cruise Lines
Celebrity Cruises Inc.
Commodore Cruise Line Ltd.
Costa Cruise Lines NV
Crown Cruise Line
Crystal Cruises
Cunard Line Ltd.
Cunard Royal Viking Line
Dolphin Cruise Line
Epirotiki Lines
Fantasy Cruise Lines
Holland America Line
Majesty Cruise Line
Norwegian Cruise Line
Premier Cruise Lines, Ltd.
Princess Cruises
Regency Cruises, Inc.
Royal Caribbean Cruises Ltd.
Royal Cruise Line
Seabourne Cruise Line
Sun Line Cruises, Inc.
Windstar Cruises

Attachment B

Date _____	REFRIGERATION CHECK LIST	Area _____
Time _____	(Mark "-" YES OR "X" NO)	Unit # _____
1.	Thermometer present and complete. Temperature of unit 40 degrees F or below. Logs filled in.	_____
2.	All food items stored in proper containers. Not single use containers or open cans. All containers covered	_____
3.	Potentially hazardous food no deeper than 4" in containers. Food prechilled in ice bath or blast chiller	_____
4.	All food and food containers covered with lid, plastic wrap.	_____
5.	Cooked and raw food stored separately. Raw food always on bottom or separate shelf.	_____
6.	No food stored on floor of refrigerator, only on shelving.	_____
7.	No knives, utensils, or empty containers stored in unit.	_____
8.	No food containers nested or stacked on top of each other.	_____
9.	No food or juice stored in open tins.	_____
10.	No condensation on drip pan, ceiling, or floor unit.	_____
11.	Condensation drain properly installed and drained. No drippage on shelves or floor of unit.	_____
12.	All freon lines insulated and protected from damage.	_____
13.	Gaskets clean, in good repair, sealed at edges and properly installed.	_____
14.	Moulding in good repair and stainless steel fasteners used.	_____
15.	Shelving and brackets adequate and in good repair,	_____
16.	Pylander strips and fasteners in good repair.	_____
17.	Door, handles, hinges, latches and other hardware in good repair and clean. All seams sealed. Doors shut tight.	_____
18.	Complete unit including door in good repair with no evidence of corrosion or seams. Door shuts correct.	_____
19.	Inside of unit and shelving clean. Check the bottoms	_____
20.	All prepared and ready to eat food refrigerated within 30 minutes after cooking or immediately after preparation for sandwiches, salads or appetizers. Fruits and Veggies washed	_____

Date _____ KITCHEN FOREMAN DAILY CHECKLIST OF DUTIES

(Mark "-" YES OR "X" NO)

1. Cleaning lockers stocked, clean and organized. Products labeled and approved. Distribution and collection supervised _____
2. G.P.A. personnel report on time and in assigned areas _____
3. Check daily special cleaning project list and organize today's projects. Have proper cleaning materials available _____
4. Check all hand washing locations during each meal service for cleanliness and supplies. Soap dispenser works. _____
5. Check all pot and pan washing areas for set-up and operation during each service. Wash water 110F and clean. Rinse water hot and clean. Sanitizing water 100ppm bleach. Items submerged _____
6. Check control tower operation. Containers replaced when empty, dispensing right proportion and correct products _____
7. G.P.A.'s have sufficient cleaning supplies available and equipment in good repair. Work orders written _____
8. Observe G.P.A.'s performance and correct mistakes _____
9. Check garbage containers for cleanliness and lid _____
10. Check complete garbage processing operations 6 times daily. _____
11. Be present to help supervise all garbage disposal activities. _____
12. Note and report all problems to Chef and at weekly sanitation meeting or morning Food Service Manager's meeting. _____
13. When a G.P.A. employee is assigned to a specific Partie, work closely with supervisor for duties and performance rating _____
14. Properly clean and maintain all areas and equipment directly assigned to you. _____
15. Check floors, walls, gutters and covers, ceilings, light fixtures, hoods and other hard to clean areas including under counters and bracing, under equipment etc. _____
16. Check pot washing machine for operation and cleanliness. Check under counters and under sinks. Watch procedures for clean and dirty handling and clean storage _____
17. Check that no Dirty containers are stored on floor and there is no cross contamination of clean and dirty. _____

Date _____

S.A. FOREMAN DAILY CHECKLIST OF DUTIES

Time _____

(Mark "-" YES OR "X" NO)

1. Cleaning lockers stocked, clean and organized. Products labeled and approved. Distribution and collection supervised _____
2. G.P.A. personnel report on time and in assigned areas _____
3. Check daily special cleaning project list and organize today's projects. Have proper cleaning materials available _____
4. Check all hand washing locations during each meal service for cleanliness and supplies. Soap dispenser works. _____
5. Check dispensers for proper operation. Containers replaced when empty, dispensing right proportion, correct products _____
6. Sufficient cleaning supplies available, equipment in proper working order. Work requests written for needed repairs. _____
7. Observe G.P.A.'s performance and correct mistakes _____
8. Check floors, walls, gutters and covers, ceilings, light fixtures, hoods and other hard to clean areas including under counters and bracing, under equipment etc. _____
9. Check garbage containers cleanliness and for lid _____
10. Properly clean and maintain all areas and equipment directly assigned to you. _____
11. Check the dish machine temperatures for wash and final rinse and fill in the log. Use maximum registering thermometer. _____
12. Check silverware soaking, washing, sorting, and handling _____
13. Check the racking and pre-spraying of plates, and dishes _____
14. Check that all glasses, cups, ramikans, and silver are racked upside down in the proper rack. _____
15. Check cleanliness of storage carts, storage racks, shelves _____
16. Inspect each dish machine after every shift for cleaning of machine, spray nozzles, curtain locations, wash plugs etc. _____
17. Be sure water is changed in machines after each sitting. _____
18. GPA's use proper gloves; unranking table clean and dry. _____
19. Follow the procedures manual for dish washing operation. Check each dish washing operation at least twice for each shift. _____

Date _____	CLEANING CHECK LIST FOR MESSROOMS	Area _____
Time _____	(Mark "-" YES OR "X" NO)	Unit # _____
1. Walls and equipment cleaned weekly and in good repair.	_____	_____
2. Ceiling and light fixtures, ventilation covers cleaned	_____	_____
3. Floor, coving, corners, carpeting and areas under equipment clean and in good repair.	_____	_____
4. Tabletops, legs, and chairs clean and in good repair	_____	_____
5. Handwash sink accessible, clean and stocked with diluted surgibac and paper towels. Soap dispenser works.	_____	_____
7. Cleaning lockers clean and organized. All supplies available but not overstocked. Stored after use.	_____	_____
8. Proper cleaning procedures for food contact surfaces followed after service. Soap and bleach dispensed from control towers.	_____	_____
Clean utensils and pans properly stored between uses.	_____	_____
10. Garbage can clean and lid in place. Emptied often.	_____	_____
11. Bulk milk machine clean, sanitized, switched on. Tube cut	_____	_____
12. Milk and coffee machine gaskets and inserts in good repair	_____	_____
13. Ice cream chest O" F. Gasket and lid in good repair.	_____	_____
14. Food baine maries in good working order and sneeze guards and unit properly cleaned. Check underneath and on top.	_____	_____
15. Food properly stored in refrigerator. Unit on Temperature. Logs filled in. approved containers used and covered.	_____	_____
16. Refrigerators in good repair. Gaskets, moulding, shelving, handles, latches, hinges, and other parts. Clean and dry	_____	_____
17. Cleaning schedule followed for the cleaning of equipment. Food contact surfaces after each service and all other areas daily, as needed or at least weekly.	_____	_____
18. Employee understand cleaning schedule and cleaning methods and storage procedures. All cleaning material labeled.	_____	_____
19. All toxic chemicals such as cockroach spray, fly spray, or stainless steel polish absent from area.	_____	_____
21. All hot food menu items fit in baine marie and are 140F or above and in approved containers.	_____	_____

Date _____ FOOD HANDLING CHECK LIST Area _____
 Time _____ (Mark "-" YES OR "X" NO) Unit # _____

1. Employees present clean and neat appearance; hair trimmed, uniforms clean and complete including hat, apron, and chefs towel. Proper shoes and socks. _____
2. Procedure for the daily collection of dirty and distribution of clean aprons and chefs towels. _____
3. Plastic gloves worn for the preparation and handling of ready to eat food or proper utensils used. _____
4. Observe employees to insure they are washing their hands properly after any chance of contamination. _____
5. Insure no employee is handling food if he is sick or has an infection on his hands, arms or face. _____
6. No food containers on the deck or on top of garbage cans. _____
 . All food transferred to food boxes before entering kitchen. _____
8. All frozen food thawed in the designated refrigerator _____
9. All raw fruits and vegetables washed before preparation _____
10. Food on stoves, in baine maries and hot carts above 140F _____
11. Food not being prepared is not left at room temperature. _____
12. Raw food preparation separate from cooked or ready to eat _____
13. Bayonet thermometers used to check food temperatures _____
14. Leftovers, poultry, stuffing, meat mixtures cooked to 165°F. _____
15. Potentially hazardous food requiring cooking heated to 140F _____
16. All cold food on display on cold tops and on ice at 45°F max. _____
17. All food transported in or on clean carts and kept covered. _____
18. Food handlers use the proper sinks for specific jobs. Hand wash sink only for hand washing, etc. _____
19. Observe food handlers for basic mistakes such as wiping hands on apron, not hand washing, dropping food or utensil on floor and reusing, spitting or blowing nose on deck, etc. _____
20. Basic food handling and hygiene mistakes and inadequate temperature control cause most foodborne illnesses. _____

PREPARED STATEMENT
OF
CELEBRITY CRUISES, INC.

BEFORE
THE SUBCOMMITTEE ON MERCHANT MARINE
AND
THE SUBCOMMITTEE ON COAST GUARD AND NAVIGATION
COMMITTEE ON MERCHANT MARINE AND FISHERIES
UNITED STATES HOUSE OF REPRESENTATIVES

SEPTEMBER 28, 1994

At the invitation of the Subcommittee on Merchant Marine and the Subcommittee on Coast Guard and Navigation, Celebrity Cruises, Inc. ("Celebrity") is pleased to provide this written submission to the Subcommittees, in response to their request for information regarding health and safety issues in the cruise industry and, in particular, about the recent incidence of Legionnaire's Disease involving a Celebrity vessel.

Celebrity operates several cruise ships, with ports of call in the United States and elsewhere. Celebrity is proud of its record in safeguarding the health and safety of its passengers, in accordance with its overall corporate goal of providing high-quality leisure opportunities for passengers. Celebrity has participated for many years in the Vessel Sanitation Program of the United States Centers for Disease Control and Prevention (CDC), and Celebrity is proud that its vessels routinely have earned high marks in this inspection program. For example, the M/V Horizon, a Celebrity ship that calls in Puerto Rico and New York on its yearly schedule, received scores of 94 out of 100 in the latest inspections in February and August 1994. Celebrity's other vessels have received comparable high scores, and have long maintained this level of high performance. Celebrity totally respects and fully implements all applicable health and safety guidelines of the United States Public Health Service and the United States Coast Guard, both during construction and operation of its vessels.

The recent reported incidence of Legionnaire's Disease on board the Horizon has distressed many, including the management and staff of Celebrity. Though this does not diminish the seriousness of the events -- not least of all the confirmed cases of Legionnaire's Disease and the one fatality -- the occurrence of the disease was completely unimaginable, given that all safety measures recommended by United States government organizations had been strictly adhered to. Beginning with its earliest contact with CDC on this issue, Celebrity offered its full and complete cooperation in all aspects of CDC's epidemiologic investigation, and with Celebrity's cooperation, CDC identified in due course that the source of infection was the three (3) on-deck whirlpools. As soon as Celebrity had any information that these whirlpools were suspect, Celebrity closed them to use on the Horizon, and use of such whirlpools has been terminated on all other Celebrity ships, pending CDC recommendations.

Celebrity had no forewarning about any possible problem on the Horizon until late in the day on Friday, July 15. On that day, as the Horizon was at sea headed for port in New York City, Celebrity received word from CDC that there may have been cases of Legionnaire's Disease among persons who had been passengers on a previous cruise on the Horizon. CDC also advised that CDC officials would be boarding the ship on Saturday morning, July 16, when the Horizon docked. At that time, throughout Saturday, July 16 (and until Wednesday, July 20, as described below), Celebrity and the CDC had no confirmation that legionella -- the bacterium that causes Legionnaire's Disease -- was present on the Horizon. Indeed, at that preliminary stage in the CDC investigation, it appeared likely that the Horizon passengers could have contracted their infection from land-based sources, such as on common transportation or even at the docks in New York or elsewhere. As the CDC has said in the summary of its investigation, at that time, "it was not possible to determine whether the source of illness among former passengers was aboard the ship, in ports of call, or was related to exposures prior to initial embarkation." CDC Summary, at 2. This CDC summary is attached as Exhibit A.

With this limited knowledge, therefore, the CDC officials on board the Horizon that Saturday indicated that the Horizon could leave, with appropriate warnings to passengers about the investigation, and with enhanced safety measures on board, especially the immediate closing of the whirlpools. In fact, the whirlpools, regularly closed for cleaning as the Horizon came into port in New York, were never even opened for passenger use on the voyage that departed New York that Saturday, July 16. Numerous CDC officials were on the Horizon that day, collecting samples of water from all over the ship and speaking with officers and crew. Celebrity, including its Horizon crew, cooperated fully with all CDC requests. On the evening of Saturday, July 16, before embarkation, Celebrity distributed to all embarking passengers a warning prepared by the CDC (attached as Exhibit B), and with two CDC officials on board to continue the investigation, the Horizon set sail for Bermuda.

The Horizon arrived in Bermuda on Monday, July 18, and on Tuesday, July 19, the CDC, by letter to Celebrity, gave specific instructions on how the Horizon should undertake a process known as "hyperchlorination," in which a high concentration of chlorine is forced through the potable water system, and the system is

flushed, in order to eradicate any living legionella bacteria. Consistent with CDC's instructions to hyperchlorinate the Horizon's water system as an additional precautionary measure, Celebrity disembarked the passengers on Tuesday, July 19, and transported them to the best available hotels throughout Bermuda. This was necessary because it is not possible to complete the process of hyperchlorination with passengers on board. After disembarking passengers, the Horizon departed for the open ocean, where it undertook and completed the hyperchlorination process.

The Horizon returned to Bermuda on Wednesday, July 20. On the same day, on Wednesday, July 20, the CDC informed Celebrity that initial polymerase chain reaction (PCR) tests for DNA conducted on water samples taken from the Horizon on Saturday, July 16, showed the presence of the DNA of legionella on the Horizon. On Wednesday, July 20, therefore, both Celebrity and the CDC learned for the first time that legionella either was or had been present on the ship. Since transmission of disease can occur only from live legionella, since the PCR technique does not distinguish between live and dead bacteria, and since DNA evidence of dead legionella may be found in many (if not most) water sources, the PCR test results available at that point to Celebrity and the CDC were still not firm indicators of whether there was actual risk of disease. Furthermore, the hyperchlorination carried out subsequent to the taking of the samples on which the test results were based would almost certainly have eradicated any such risk. Nevertheless, adopting the most cautious approach, and with the concurrence of CDC, Celebrity immediately took the Horizon out of service and made arrangements to begin transporting passengers back to New York by alternate means. All passengers on the voyage that departed July 16 received by overnight mail refunds of their passage.

As CDC spokesperson Bob Howard stated on July 20 following Celebrity's decision to discontinue the voyage: "We fully support the handling of this matter by Celebrity Cruises and its personnel in all respects. They have cooperated fully with us, have taken every possible step to protect their passengers and crew and throughout have behaved as outstanding corporate citizens."

Celebrity is proud in these circumstances of the behavior of the Horizon's officers and crew, all of whom were acting under the stress of rapidly-evolving information.

The CDC has continued its epidemiologic investigation of this outbreak of Legionnaire's Disease. Although the PCR test results made available to Celebrity on Wednesday, July 20 showed the presence of live or dead legionella in many places on the ship, CDC test results for live legionella became available several days later and showed that live legionella -- the only kind that can transmit disease -- were found only in samples taken from the whirlpools. On August 31, 1994, CDC issued to Celebrity a summary of its investigation. Importantly, based on its matched case-control study, as well as on evidence that CDC's only positive test results for live legionella were from samples taken on July 16 from the whirlpools, CDC concluded that "[e]pidemiologic and laboratory data strongly suggest the whirlpool spa as the source of transmission of Legionella to passengers on the Horizon." CDC Summary, at 5. Therefore, with the closure of the whirlpools on July 16, Celebrity is convinced that any risk to passengers from legionella had been abated. According to information from the CDC, there have been no confirmed cases of Legionnaire's Disease from the July 16 cruise or from any subsequent Horizon cruise. Celebrity currently believes that the ultimate source of legionella on the Horizon was from external sources of water taken into the ship's potable water system at ports of call.

With Celebrity having completed all measures suggested by the CDC to eradicate live legionella, the CDC informed Celebrity that the Horizon could resume its normal sailing schedule on July 30, 1994, and the Horizon has done so. As stated earlier, the whirlpools remain closed, pending further recommendations from the CDC. Celebrity looks forward to the conference on control of legionella on cruise ships that the CDC has scheduled for October 17, and just as it has done in the past, Celebrity will continue to adhere rigorously to all CDC health and safety recommendations.

Celebrity appreciates the opportunity to inform the Subcommittees about these events, and looks forward to continuing to serve its passengers with the highest standards of comfort and safety.

EXHIBIT A



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30333

Harry Haralambopoulos
President, Celebrity Cruises Inc.
5200 Blue Lagoon Drive
Miami, FL 33126

August 31, 1994

Dear Mr. Haralambopoulos,

This letter summarizes the findings of an investigation of pneumonia among passengers on the cruise ship *Horizon* conducted by the Centers for Disease Control and Prevention (CDC). We describe our investigation, discuss the results of the epidemiologic and laboratory studies, and provide recommendations for prevention of further transmission of Legionnaires' disease aboard the ship.

On July 14, 1994, a physician in Toms River, New Jersey, notified the New Jersey State Department of Health that three persons recently traveling on the cruise ship *Horizon* (June 25 - July 2 cruise) had been hospitalized for pneumonia. On July 15, upon learning of three additional cases of pneumonia in persons who had traveled on the same cruise, the State Epidemiologist of New Jersey contacted the Centers for Disease Control and Prevention (CDC) for assistance in conducting an investigation. That evening, Drs. Jo Hofmann and Daniel Jernigan of the Childhood and Respiratory Diseases Branch, Division of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, departed for New York City, where they met the vessel the next morning, following its scheduled arrival to the Port of New York City.

During the evening of July 15, Dr. Paul Edelstein of the University of Pennsylvania reported that his laboratory had detected *Legionella pneumophila*, serogroup 1 (Lp1) antigens in urine from three of the former passengers with pneumonia, confirming the diagnosis of Legionnaires' disease in these persons. This information suggested that an outbreak of Legionnaires' disease was associated with the week-long trip.

To collect information on illness and potential sources of exposure for Legionnaires' disease, a questionnaire was developed and transmitted to the ship by facsimile on July 15 (Appendix A). The questionnaire was distributed to the passengers and crew that evening. A health warning was also sent from CDC by facsimile to the ship, and distributed to the passengers (Appendix B).

On July 16, officials from CDC (Drs. Hofmann, Jernigan, and Robert Breiman of the National Center for Infectious Diseases, Steve Blackwell of the Vessel Sanitation Program, National Center for Environmental Health, Donald Spatz and Greg Reitz of the Division of Quarantine, National Center for Prevention Services), and the New York City Department of Health (Dr. Benjamin Mojica, Kevin Mahoney, and Peter

Abatangelo) met aboard the *Horizon* with staff of the ship and representatives of the cruise line. Master Captain Fokian Ardavanis and Chief Engineer Panagiotis Rentis described the ship's principal elements and provided an overview of the ventilation and water systems (Appendix C).

Completed questionnaires were collected from 559 of approximately 640 members of the crew and staff and from 1022 of approximately 1500 passengers as they disembarked on July 16. Urine was collected from 63 passengers who had respiratory symptoms (fever and cough) during the cruise, 29 of whom also had blood drawn for serologic testing. Investigators began collecting water samples from potential sources of *Legionella* including tap faucets, showers, and whirlpool spas. The three whirlpool spa tubs had been drained and cleaned before docking, a practice reported to be routinely performed at the end of each cruise. Water used for the whirlpool spas remained only in the overflow tanks and in the whirlpool filtration system.

On the basis of the preliminary investigation, it was not possible to determine whether the source of illness among former passengers was aboard the ship, in ports of call, or was related to exposures prior to initial embarkation. Therefore, on the afternoon of July 16, public health officials gave the following initial recommendations:

1. The ship's water system be hyperchlorinated ("shock treatment" with high levels of chlorine) to a level of 50 parts per million (ppm) in the water heater and water storage tanks with a free chlorine residual level of 10 ppm at the faucets and showers.
2. Use of the whirlpool spas be discontinued pending additional investigation.
3. Environmental sampling and epidemiologic investigations of the ship by two CDC medical epidemiologists be continued.
4. A letter from CDC discussing the risk for developing Legionnaires' disease while traveling on the ship be distributed to all passengers embarking for the July 16 cruise (Appendix D).

The investigation continued after the ship departed on Saturday evening, July 16. The goals were to determine the magnitude of the outbreak, to identify the source(s) of transmission, and to implement additional interventions to prevent further illnesses if necessary. To determine the magnitude of the outbreak, a surveillance network was established with state health departments in New York, New Jersey, Connecticut, and Pennsylvania, and with the New York City Health Department. Approximately eighty percent of the passengers of the June 25 cruise were residents of these five jurisdictions. In addition, state epidemiologists in all U.S. states and territories were notified about this outbreak, as were public health officials in Canada and Great Britain. Using passenger lists from cruises sailing on June 25 and July 2 provided by Celebrity Cruises, Inc., CDC mailed survey questionnaires (inquiring whether illness

had occurred within 2 weeks of cruising) to approximately 3,000 former passengers. A bulletin designed to make physicians aware of the outbreak and to encourage appropriate therapy and reporting of cases of Legionnaires' disease was published in the *Morbidity and Mortality Weekly Report* on July 22 (Appendix E).

As of August 30, 1994, 16 confirmed cases of Legionnaires' disease and 33 additional cases of pneumonia (for which the diagnosis of Legionnaires' disease is under investigation) have been identified among *Horizon* passengers. Four persons required mechanical ventilatory support, and one person died. Cases of pneumonia have been reported among passengers of nine separate week-long cruises embarking from April 30 to July 9, 1994 (Appendix F). For the purpose of this investigation, a case of Legionnaires' disease was defined as a febrile respiratory illness with laboratory evidence of *Legionella* infection (isolation of *Legionella* from respiratory secretions, detection of Lp1 antigens in urine, or fourfold rise in antibody titers to Lp1 by indirect fluorescent antibody assay between paired serum specimens) in any passenger or crew member with onset of symptoms within 2 to 21 days from the first day of the cruise. A suspected case of Legionnaires' disease was defined as pneumonia diagnosed either clinically or radiographically occurring in a passenger or crew member. Persons with either confirmed or suspected cases must have traveled on the *Horizon* between March 1, 1994, and July 20, 1994. Among persons with confirmed Legionnaires' disease, nine patients had Lp1 antigens detected in urine, six had serologic evidence of disease (fourfold rise in antibody titers to Lp1 by indirect fluorescent antibody assay between paired serum specimens), and one patient had Lp1 isolated from respiratory secretions.

To identify the source(s) of transmission, we conducted both laboratory and epidemiologic studies. After the ship arrived in Bermuda on July 18, the second of two shipments of environmental water specimens from the ship were sent to CDC for bacterial culture and DNA analysis for the presence of *Legionella* (Appendix G). Medical epidemiologists from CDC met with officials from the Bermuda Ministry of Health and assisted in an investigation for potential sources of transmission of *Legionella* from sites on the island frequented by passengers from the *Horizon*. Cooling towers in Hamilton, Bermuda were identified by the island's Chief Environmental Health Officer, Estlyn Harvey. Dr. Brenda Davidson, Acting Medical Director for the Bermuda Ministry of Health, provided data that showed there had been no increase in admissions for pneumonia to Bermuda's hospital in the previous months.

Initial environmental specimens were tested at CDC using the polymerase chain reaction (PCR) assay. PCR is a genetic tool that is capable of finding DNA unique to *Legionellae* and Lp1 in water specimens. The technique is not able to distinguish whether this DNA is from live or dead *Legionella* bacteria. Only microbiologic culture is able to verify that the *Legionella* bacteria are alive at the time of environmental sampling. On July 19, Lp1 DNA was detected by PCR in 15 of 27 water samples. Specimens from the whirlpool spa circulation and filtration system and water from a passenger cabin shower were strongly positive by PCR. On July 20, the results of

PCR testing were conveyed to Celebrity Cruises. CDC repeated the recommendation that the ship's water supply be hyperchlorinated. This was begun on July 20 with guidance from CDC.

A matched case-control study was conducted with the assistance of local and state health departments to identify the source(s) of transmission of Legionnaires' disease to passengers (Appendix H). For each person who had pneumonia (case-patient), an attempt was made to identify three non-ill former passengers who had traveled on the same cruise as the case-patient and who were of similar age and underlying health characteristics (matched controls). A questionnaire was administered to case-patients and to their matched controls addressing activities while on board the ship and in ports of call including water consumption, exposure to whirlpools, showering, and excursions to Bermuda from the ship. Enrollment of passengers into the case-control study ended on July 31, 1994.

Preliminary analyses of the case-control study shows that exposure to the whirlpool spas was strongly associated with illness (odds ratio = 16.4; 95% confidence interval = 3.7 - 72.3). Presence in the area around the whirlpool spa, without using the whirlpool, was also associated with Legionnaires' disease (odds ratio = 12.43, 95% confidence interval = 1.5 - 105.4). No other activity, on or off the ship, was significantly associated with illness.

Water specimens from multiple sites on the ship were cultured to allow the growth of *Legionella* (Appendix G). Lp1 was isolated (greater than 3000 colony-forming units/ml of water) from one of the sand filters used for recirculation of whirlpool spa water. No other sample grew Lp1. The isolates from the sand filter and the clinical isolate from one of the passengers with Legionnaires' disease had indistinguishable monoclonal antibody subtyping patterns (MAb 1,2,3,6). These isolates were also indistinguishable when compared by arbitrarily primed PCR, a genetic subtyping procedure.

Pending Issues

1. Determination of the total number of persons who developed Legionnaires' disease after travel on the *Horizon*.
2. Completion of the final analysis of data from the case-control study.
3. Completion of analysis of passenger survey questionnaires from cruises embarking June 25 to July 9, 1994.
4. Completion of serologic test results from crew and staff members.

Conclusions

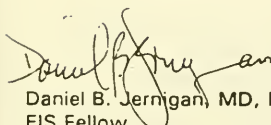
1. Through August 30, 1994, 16 confirmed cases of Legionnaires' disease and 33 cases of pneumonia under investigation have been identified from nine cruises embarking between April 30 and July 9, 1994.
2. Epidemiologic and laboratory data strongly suggest the whirlpool spa as the source of transmission of *Legionella* to passengers on the *Horizon*.

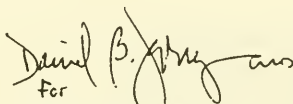
Recommendations

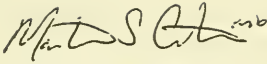
Further efforts to prevent the transmission of Legionnaires' disease aboard the *Horizon* should include the measures listed below.

1. Use of the whirlpool spas aboard the ship should be discontinued until further recommendations can be made that will ensure safe operation.
2. The sand filters used for recirculation of whirlpool spa water aboard the *Horizon* should be removed.
3. To ensure that interventions were appropriately targeted, public health personnel should continue surveillance to identify any further cases of Legionnaires' disease occurring among passengers traveling on the *Horizon*.
4. Further recommendations to prevent the transmission of *Legionella* aboard cruise ships and from whirlpool spas will be discussed during a meeting of industry representatives and public health officials in October, 1994.

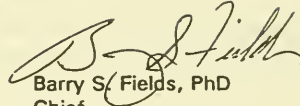
Sincerely yours,


Daniel B. Jernigan, MD, MPH
EIS Fellow
Childhood and Respiratory
Diseases Branch
National Center for
Infectious Diseases

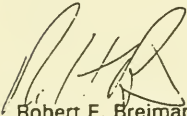

For
Jo Hofmann, MD
EIS Officer
Childhood and Respiratory
Diseases Branch
National Center for
Infectious Diseases



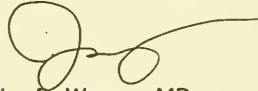
Martin S. Cetron, MD
 Medical Epidemiologist
 Childhood and Respiratory
 Diseases Branch
 National Center for
 Infectious Diseases



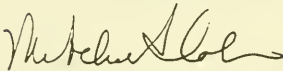
Barry S. Fields, PhD
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 Infectious Diseases



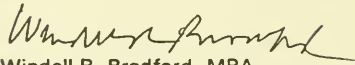
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 and Mycotic Diseases
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Windell R. Bradford, MPA
 Deputy Director
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cc: Linda Anderson, MPH
 Steven Blackwell
 Willard Cates, Jr., MD
 Brenda Davidson, MD
 Paul Edelstein, MD
 Isabelle Guerrero, MD
 James Hadler, MD, MPH
 John Horan, MD, MPH
 James M. Hughes, MD

Benjamin Mojica, MD, MPH
 Dale Morse, MD
 Tom O'Toole, MPH
 Tony Perez
 James Rankin, DVM, MPH, PhD
 Harvey Rogers, MS
 Don Spatz
 Kenneth Spitalny, MD

Appendix A

Passenger Survey Questionnaire

The U. S. Public Health Service is conducting a survey of the health status of passengers on this vessel. To assist us, please answer the following questions.

1. Last Name _____ First name _____

2. Age _____

3. Sex Circle One: a. Male b. Female

4. Address
 Street _____ City _____
 State _____ Zip _____ Country: USA ^{circle} or Other
 Country _____ Telephone (area code) _____

5. Cabin Number _____

6. Number of persons in your cabin _____

7. Dining table number _____

8. Circle the average number of glasses of ship's water you drank per day
 0 1 2 3 4 5 6 7 More than 7 Don't know

9. Circle the average number of beverages containing ice you drank per day
 0 1 2 3 4 5 6 7 More than 7 Don't know

10. Did you use whirlpools or jacuzzis on the ship?
 circle Yes No Don't know; if Yes, how many times?
 circle 0 1 2 3 4 5 more than 5

11. Have you used a sauna or steam room while on the ship?
 circle Yes No Don't know; if Yes, how many times?
 circle 0 1 2 3 4 5 more than 5

12. Did you take a shower in your cabin while on the ship?

circle Y N; if Yes, how many times

circle 0 1 2 3 4 5 more than 5

13. Did you take a shower outside your cabin while on the ship?

circle Y N; if Yes, how many times and where? _____

circle 0 1 2 3 4 5 more than 5

14. Did you use the air conditioning in your cabin?

circle Y N;

15. Were you ill at any time while on the ship?

circle Y N; if Yes, please continue, if no go to #__

a. Which symptoms did you experience?

Circle "Yes", "No", "Unsure"

	1	2	3
Cough?	Yes	NO	unsure
Fever?	Yes	NO	unsure
Shaking chills?	Yes	NO	unsure
Diarrhea?	Yes	NO	unsure
Nausea?	Yes	NO	unsure
Headache?	Yes	NO	unsure
Sore throat?	Yes	NO	unsure
Muscle aches?	Yes	NO	unsure
Short of breath?	Yes	NO	unsure
Runny nose?	Yes	NO	unsure

16. When did these symptoms begin? Date ____/____/____

17. Were you seen by the ship's medical staff during the cruise?

circle Yes No Don't know

18. Are you still ill?

circle Yes No Don't know

Survey Questionnaire -- Crew and Staff

The U. S. Public Health Service is conducting a survey of the health status of crew and staff on this vessel. To assist us, please answer the following questions.

1. Last Name _____ First name _____
 2. Age _____
 3. Sex Circle One: a. Male b. Female
 4. Address
 Street _____ City _____
 State _____ Zip _____ Country: USA or Other
circle
 Country _____ Telephone (area code) _____
 5. Cabin Number _____
 6. Were you ill at any time while on the ship?
 circle Y N; if Yes, please continue, if no go to #__
 - a. Which symptoms did you experience?
 Circle "Yes", "No", "Unsure"
- | | 1 | 2 | 3 |
|------------------|-----|----|--------|
| Cough? | Yes | NO | unsure |
| Fever? | Yes | NO | unsure |
| Shaking chills? | Yes | NO | unsure |
| Diarrhea? | Yes | NO | unsure |
| Nausea? | Yes | NO | unsure |
| Headache? | Yes | NO | unsure |
| Sore throat? | Yes | NO | unsure |
| Muscle aches? | Yes | NO | unsure |
| Short of breath? | Yes | NO | unsure |
| Runny nose? | Yes | NO | unsure |

7. When did these symptoms begin? Date ____/____/____

8. Were you seen by the ship's medical staff during the cruise?

circle Yes No Don't know

9. Are you still ill?

circle Yes No Don't know

Appendix B

Health Notice-- July 16, 1994

Recently, a few passengers on cruises of this vessel have experienced respiratory illnesses. The cause and source of these illnesses is being investigated by the U.S. Public Health Service. While it is unlikely that you will become ill, in the event you develop fever and cough during the next two weeks, please see a health care provider and have him/her contact your state health department.

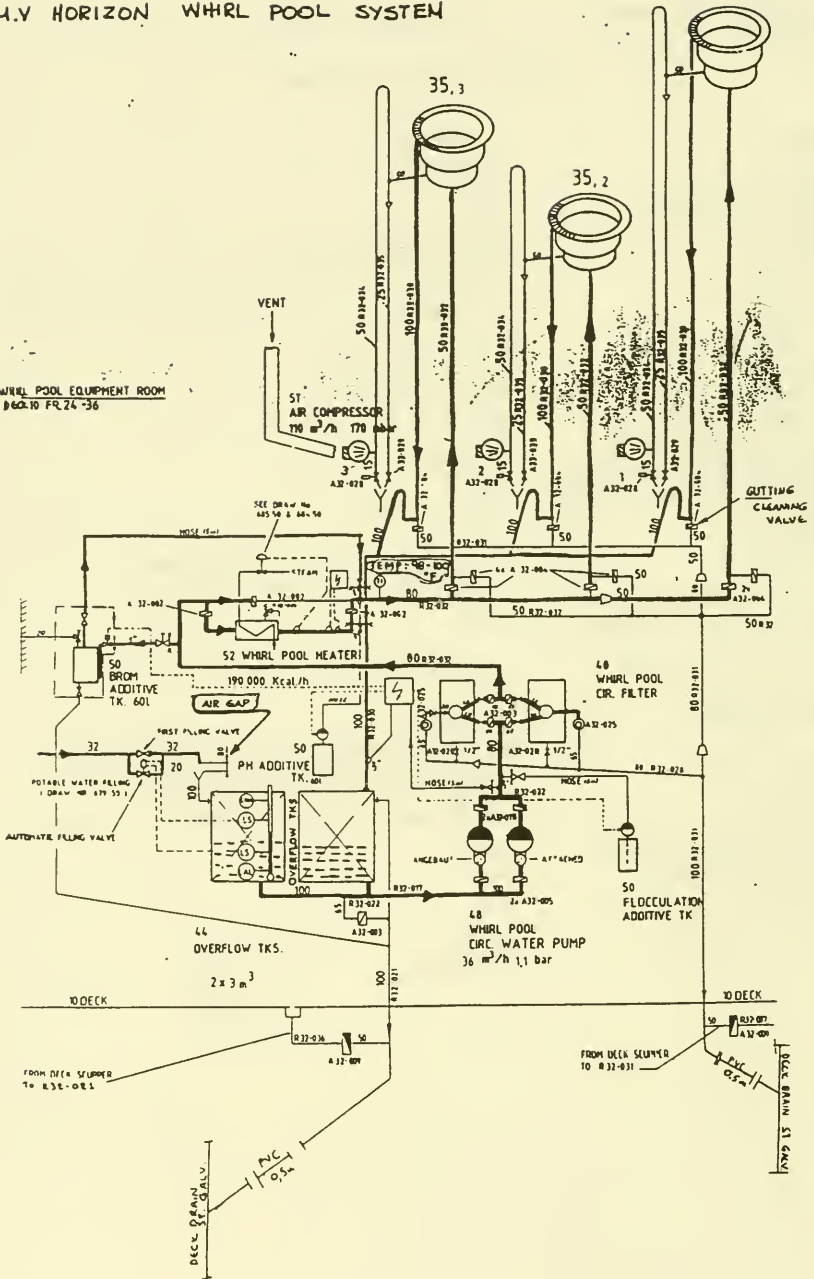
Appendix C

**CELEBRITY CRUISES
MV HORIZON**
SHIP'S PRINCIPAL ELEMENTS

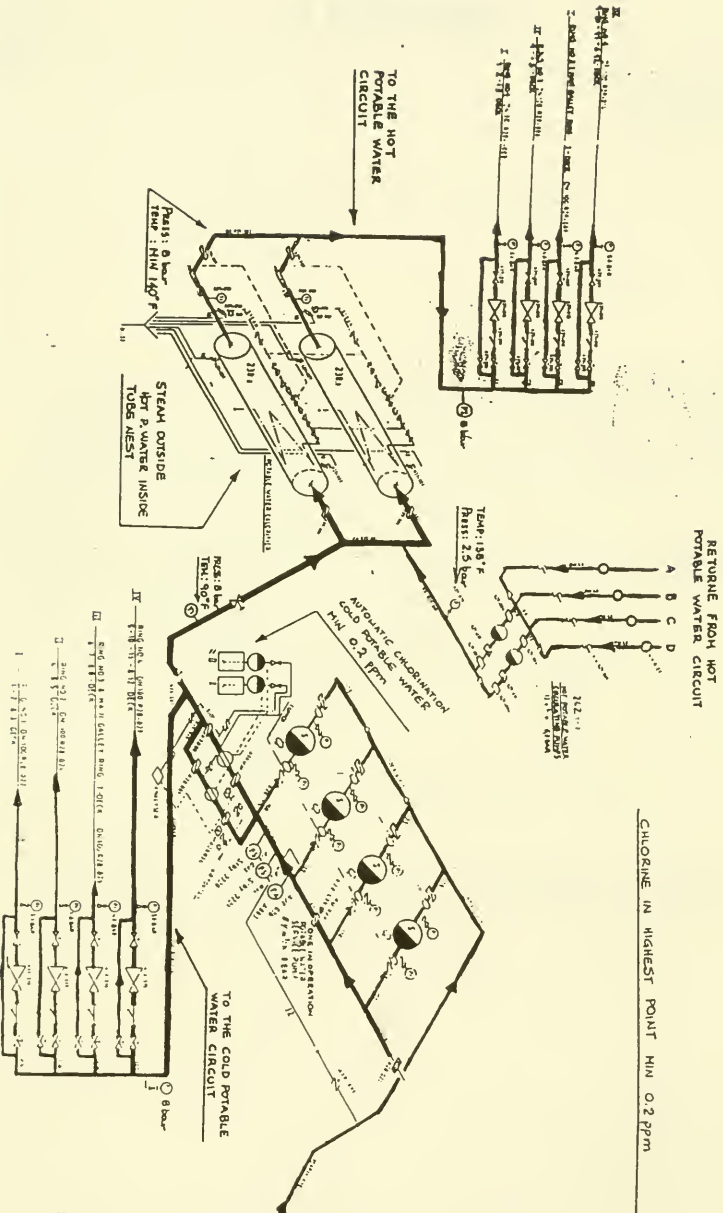
NAME	MV HORIZON
FLAG	LIBERIA
PORT OF REGISTRY	MONROVIA
OFFICIAL NUMBER	9341
INTERNATIONAL CALL SIGN	ELNG 6
OWNERS	FANTASIA CRUISING INC.
MANAGERS	CHANDRIS INC. 900 THIRD AVE., NEW YORK, NY 10022
DATE KEEL LAID	27 MAY 1988
BUILDERS	JOS. L. MEYER GMBH & CO, PAPPENBURG. WEST GERMANY
HULL NO:	619
LENGTH OVERALL	208.00M (682.4 FT)
LENGTH BP	175.00M (574.14FT)
BREADTH MOULDED	29.00M (95.14FT)
GROSS TONNAGE	46811 T
NET REGISTERED TONNAGE	24471 T
SUMMER DRAFT	7.40 M (24FT 3IN)
SUMMER LOAD DISPLACEMENT	25583 T
SUMMER LOAD DEAD WEIGHT	5555 T
T.P.C.	45.5 T
FREEBOARD	2708 MM
ENGINES	2 FATHER MAN B & W 9 L40/54 - 5994KW 2 SON MAN B & W 9L40/54 - 3996KW
MAIN ENGINES TOTAL KW	19,980
MAIN ENGINES TOTAL BHP	27,172
AUXILLARY ENGINES	3 MAN B & W 6L40/54 - 3300KW
MAXIMUM SPEED	21.4 KNOTS
BOW THRUSTERS	TWO (2) TRANSVERSE CONTROLLABLE PITCH BOW PROPELLER WITH AN OUTPUT OF 1600 KW EACH
STERN THRUSTER	ONE (1) TRANSVERSE CONTROLLABLE PITCH STERN PROPELLER WITH AN OUTPUT OF 1000 KW
RUDDERS	TWO BECKER TYPE RUDDERS (AREA 18M2 EACH)
PASSENGER ELEVATORS	9
TOTAL PERSONS ON BOARD	2439
TOTAL PASSENGERS	1798
TOTAL CREW	641
SAT. COM NUMBERS	TELEFAX (871) 1243532 TELEPHONES (871) 1243537 1243554 1243555
	TELEX (871) 1243527 1243554

M.V HORIZON WHRL POOL SYSTEM

WHRL POOL EQUIPMENT ROOM
 Dec 10 FR 24-36



M.V. HORIZON HOT WATER SYSTEM



CHLORINE IN HIGHEST POINT MIN 0.2 ppm

COLD POT. WATER TANKS
CHLORINATED AT THE...

Appendix D



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30333**Health Warning for Passengers Embarking
on the Horizon**

July 16, 1994

Seven passengers on the June 25 cruise of this vessel developed pneumonia; thus far, three of these illnesses have been confirmed to be Legionnaires' disease. While additional cases of Legionnaires' disease have not been identified on the two most recent cruises of this vessel, the health investigation is early, and the possibility of continued risk cannot be ruled out. An investigation is ongoing to determine whether the source of these illnesses is on this ship or in ports of call.

Legionnaires' disease can be transmitted by inhaling aerosols or fine mists containing the bacteria called Legionella. Persons who are at particularly high risk of contracting Legionnaires' disease include:

- the elderly
- those who smoke cigarettes
- those who are immunocompromised
- those who have underlying medical conditions including:
 - chronic lung disease
 - heart disease
 - kidney disease
 - diabetes
 - cancer
 - HIV infection or AIDS
- those who are taking immunosuppressive drugs

While the apparent risk is low, this advisory is provided so that embarking passengers be aware that there may be some risk. Recommendations from the U.S. Public Health Service are being implemented to minimize the risk. We will provide additional information as it becomes available.

Appendix E



M M W R

MORBIDITY AND MORTALITY WEEKLY REPORT

- 505 Outbreak of Hepatitis C Associated with Intravenous Immunoglobulin Administration — United States, October 1993–June 1994
- 509 Adults Taking Action to Control Their Blood Pressure — United States, 1990
- 518 Status of Poliomyelitis Eradication — Europe and the Central Asian Republics, 1993
- 521 Outbreak of Pneumonia Associated with a Cruise Ship, 1994
- 522 Notices to Readers

Epidemiologic Notes and Reports

Outbreak of Pneumonia Associated with a Cruise Ship, 1994

On July 15, 1994, the New Jersey State Department of Health notified CDC of six persons hospitalized with pneumonia. An investigation was initiated to determine the etiology and potential sources and modes of transmission of the illness. These persons traveled between New York City and Bermuda aboard the cruise ship *Horizon* (Celebrity Cruise Line, port of origin: New York City) from June 25 through July 2. Subsequent investigations have identified 16 additional persons with pneumonia who had traveled on the vessel since May 28, 1994. Initial laboratory tests indicate *Legionella* sp. infection (Legionnaires' disease) has been confirmed in four of the 22 patients; specimens for laboratory testing are being collected from the other patients.

Physicians evaluating persons who developed pneumonia within 2 weeks after travel aboard the *Horizon* are encouraged to report these cases immediately to CDC through local or state health departments. Updated information is available from CDC's Division of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, telephone (404) 639-3057.

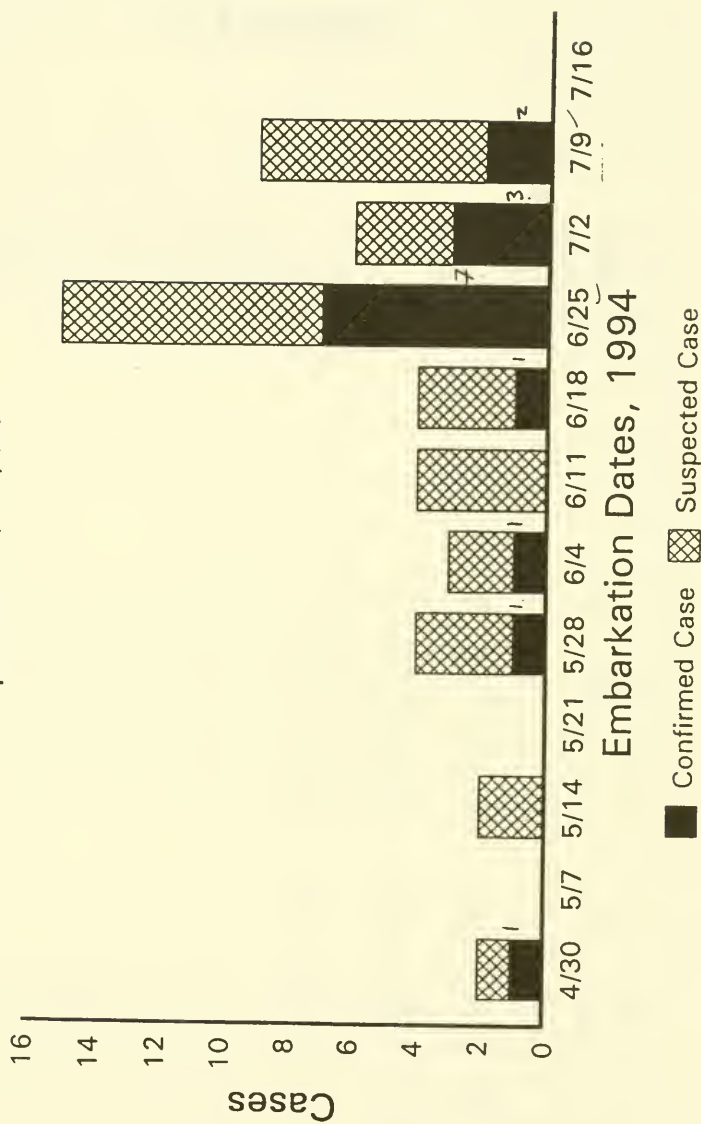
Reported by: C Genese, MJ Hung, S Paul, MD, J Brook, MD, L Finelli, KC Spitalny, MD, State Epidemiologist, New Jersey State Dept of Health. BA Mojica, MD, KJ Mohoney, MSW, RT Heferman, MPH, Div of Disease Intervention, New York City Dept of Health; SF Kondracki, DL Morse, MD, State Epidemiologist, New York State Dept of Health. JT Rankin, Jr, DVM, State Epidemiologist, Pennsylvania Dept of Health. JL Hadler, MD, State Epidemiologist, Connecticut Dept of Public Health and Addiction Svcs. Child and Respiratory Diseases Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases; Div of Quarantine, National Center for Prevention Svcs; Office of the Director, National Center for Environmental Health; Div of Field Epidemiology, Epidemiology Program Office, CDC.

Appendix F

Legionnaires' Disease by Embarkation Date

Horizon Cruise Ship Outbreak

Updated 8/30/94



Appendix G

Project Result Summary
Date of Report: 08-09-1994
Page No. 1

Project ID	CDC Number	Spc Src	Type	Sample Information	Test	Result/Interpretation
1894-1-01	95036152-01	F	W	#5 POTABLE WATER TANK STARBOARD, 1 L	PCR - LEGIONELLA PCR - PNEUMOPHILA	++ +
1894-1-02	95036153-01	F	W	#6 POTABLE WATER TANK STARBOARD, 1 L	PCR - LEGIONELLA PCR - PNEUMOPHILA	+ +/-
1894-1-03	95036154-01	F	W	#13 POTABLE WATER TANK STARBOARD, 1 L	PCR - LEGIONELLA PCR - PNEUMOPHILA	++ ++
1894-1-04	95036155-01	F	W	#13 POTABLE WATER TANK PORT, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	+/- +/-
1894-1-05	95036156-01	F	W	#4 POTABLE WATER TANK STARBOARD, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	+++ ++
1894-1-06	95036157-01	F	W	MAKE UP FEED DECK 10 OVERFLOW, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	+++ +
1894-1-07	95036158-01	F	W	DECK 10 JACUZZI OVERFLOW TANK OUTBOARD, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	++ ++
1894-1-08	95036159-01	F	W	TRITON FILTER BLEED DECK 10 JACUZZI, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	+++ +
1894-1-08	95036159-02	A-15 MIN	W	TRITON FILTER, FILTERED SAMPLE	PCR - LEGIONELLA PCR - PNEUMOPHILA	++ ++
1894-1-08	95036159-03	A-30 MIN	W	TRITON FILTER, FILTERED SAMPLE	PCR - LEGIONELLA PCR - PNEUMOPHILA	++ ++
1894-1-09	95036160-01	F	W	DECK 10 JACUZZI OVERFLOW PUMP VALVE, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	+++ +++
1894-1-09	95036160-02	A-15 MIN	W	JACUZZI PUMP VALVE, FILTERED SAMPLE	PCR - LEGIONELLA PCR - PNEUMOPHILA	++ ++
1894-1-09	95036160-03	A-30 MIN	W	JACUZZI PUMP, FILTERED SAMPLE	PCR - LEGIONELLA PCR - PNEUMOPHILA	++ ++
1894-1-10	95036161-01	F	W	DECK 10 JACUZZI OVERFLOW TANK INBOARD, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	+++ +++
1894-1-10	95036161-02	A-15 MIN	W	JACUZZI OVERFLOW TANK INBOARD, FILTERED SAMPLE	PCR - LEGIONELLA PCR - PNEUMOPHILA	++ ++
1894-1-10	95036161-03	A-30 MIN	W	JACUZZI OT INBOARD, FILTERED SAMPLE	PCR - LEGIONELLA PCR - PNEUMOPHILA	+ -
1894-1-11	95036162-01	F	W	ROOM 9041 SINK, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	++ ++
1894-1-12	95036163-01	F	W	ROOM 9041 SHOWER, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	+ -
1894-1-13	95036164-01	D	W	ROOM 9041 SINK, SWAB	PCR - LEGIONELLA PCR - PNEUMOPHILA	++ ++
1894-1-14	95036165-01	D	W	ROOM 9041 SHOWER, SWAB	PCR - LEGIONELLA PCR - PNEUMOPHILA	INHIBITED I
					PCR - LEGIONELLA PCR - PNEUMOPHILA	+ +/-

Project Result Summary
Date of Report: 05-09-1994
Page No. 2

Promet ID	QC Number	Spc Src	Type	Sample Information	Test	Result/Interpretation
1894-1-15	95036166-01	F	W	ROOM 9020 SHOWER, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦ ♦
1894-1-16	95036167-01	F	W	ROOM 9020 SINK, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦ ♦
1894-1-17	95036168-01	D	W	ROOM 9020 SINK, SWAB		
1894-1-18	95036169-01	D	W	ROOM 9020 SHOWER, SWAB		
1894-1-19	95036170-01	F	W	ROOM 5020 SINK, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦ ♦
1894-1-20	95036171-01	F	W	ROOM 5020 SHOWER, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦♦ ♦
1894-1-21	95036172-01	D	W	ROOM 5020 SINK, SWAB		
1894-1-22	95036173-01	D	W	ROOM 5020 SHOWER, SWAB		
1894-1-23	95036174-01	F	W	ROOM 9054 SINK, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦ ♦/-
1894-1-24	95036175-01	F	W	ROOM 9054 SHOWER, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦ -
1894-1-25	95036176-01	D	W	ROOM 9054 SINK, SWAB		
1894-1-26	95036177-01	D	W	ROOM 9054 SHOWER, SWAB		
1894-1-27	95036178-01	D	W	SWIMMING POOL FILTER 1, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦ -
1894-1-28	95036179-01	D	W	SWIMMING POOL FILTER 2 STARBOARD, 500ML	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦ -
1894-1-29	95036180-01	D	W	HOT WATER HEATER POST, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦♦ ♦♦
1894-1-30	95036181-01	F	W	#4 POTABLE WATER STORAGE TANK PORT, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦ -
1894-1-31	95036182-01	F	W	#5 POTABLE WATER STORAGE TANK PORT, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦ ♦/-
1894-1-32	95036183-01	F	W	#6 POTABLE WATER STORAGE TANK PORT, 1L	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦ ♦
1894-1-33	95036184-01	F	W	WATER FOUNTAIN SAMPLE 2, 500 ML	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦ ♦/-
1894-1-34	95036185-01	F	W	WATER FOUNTAIN SAMPLE 1, 500ML		
1894-1-35	95036186-01	D	W	DECK 10 FLASH HEATER DISTAL, 50 ML	PCR - LEGIONELLA PCR - PNEUMOPHILA	♦ ♦/-

Project: Result Summary
 Date of Report: 08-09-1994
 Page No. 3

Object ID	CDC Number	Spc. Src	Type	Sample Information	Test	Result/Interpretation
94-1-36	95036187-01	D	W	PORTSIDE JACUZZI INFLOW, SWAB	PCR - LEGIONELLA	I INHIBITED
94-1-37	95036188-01	D	U	JACUZZI SAND FILTER STARBOARD RIGHT, 500 ML	PCR - PNEUMOPHILA	I INHIBITED
94-1-37	95036188-02	A	15 M H W	JACUZZI SAND FILTER, 500ML	BIPLATE RESULT C1	♦ L. PNEUMOPHILA SGT MAG 123
					BIPLATE RESULT C2	♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦
					BIPLATE RESULT C3	♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦

Appendix H

Protocol for a Case-Control Study of Legionnaires' Disease on the Horizon

I. Background

Outbreaks of disease due to *Legionella pneumophila* serogroup type one have been associated with inhalation of aerosol from devices such as evaporative cooling systems (like cooling towers and evaporative condensers), showers, whirlpool baths, humidifiers, and respiratory therapy devices (in health care settings like hospitals); association of disease with maritime vessels has not been previously described.

On July 14, 1994, the New Jersey Department of Health was notified of three passengers from a recent cruise who had developed atypical pneumonia after a week-long trip on the cruise ship "Horizon". The cruise departed New York City on June 25, 1994 and sailed to the Bermuda ports of Hamilton and St. George, returning to New York City on July 2, 1994. Officials at the New Jersey Department of Health notified the Centers for Disease Control and Prevention (CDC) on July 15 of the possible outbreak. Positive urine antigen tests for *Legionella pneumophila* serogroup 1 from all three passengers confirmed the pneumonias as Legionnaires' disease. Water samples from the Horizon taken on July 16 were positive for *Legionella*. An investigation of this outbreak of Legionnaires' disease among passengers of the Horizon will be conducted in a cooperative effort involving the Departments of Public Health from New Jersey, New York State, and New York City, and the United States Public Health Service, CDC and Vessel Sanitation.

II. Objective

To identify risk factors for developing pneumonia among passengers on the cruise ship "Horizon" in order to determine the source(s) of transmission of Legionnaires' disease.

III. Methods

A case-control study will be performed among passengers of the Horizon utilizing the following criteria:

- A. Case: a passenger with pneumonia diagnosed either clinically or radiographically with onset of symptoms within two to twenty-one days from the first day of the cruise. Passengers must have traveled on the Horizon between March 1, 1994 and July 20, 1994.

B. Control: a passenger on the Horizon, chosen from the cruise manifest list, matched on the following variables:

1. age +/- 10 years
2. date of cruise
3. health status, categorized as the following:
 - a. healthy non-smoker, must have quit smoking at least one year prior to this study
 - b. healthy smoker
 - c. non-immunosuppressing chronic disease:
 - i. chronic obstructive pulmonary disease
 - ii. congestive heart failure
 - iii. diabetes mellitus
 - iv. chronic renal insufficiency
 - d. immunosuppressing conditions:
 - i. HIV/AIDS
 - ii. organ transplantation, including bone marrow transplantation
 - iii. kidney dialysis
 - iv. immunosuppressive illnesses such as cancer (excluding skin cancers other than melanoma), and hematologic malignancies
 - v. use of immunosuppressive medications such as steroids, cyclosporine, azathioprine, or methotrexate

Controls will be selected based on a hierarchy of underlying conditions; e.g. if a case has medical conditions that would place him/her in both category c. and d. above, the matching controls would be required to have a condition that would place them in category "d". For each case, a list of passengers from the same cruise will be formulated from the ship's manifest in order of birthdate most closely matching that case. Potential control-passengers will be called in the order that they appear on this list. Eligibility for inclusion in the study will be determined using a standardized interview instrument.

Passengers will be excluded from participation as controls if they have experienced at least one of the symptoms of fever, cough, or pleuritic chest pain, any time during the period from the first day of the cruise until fourteen days after the cruise.

Control passengers will be identified from cruise manifest lists and will be contacted by telephone to determine their eligibility for the study (See Cruise Control Screening Questionnaire). Those passengers who meet inclusion criteria regarding absence of fever, cough, or pleuritic chest pain will then be asked questions regarding health status.

Passengers who fulfill the screening criteria will then have a standardized case-control questionnaire (see Pneumonia on the Horizon Case/Control Questionnaire) administered to them or will be recontacted by phone at a later date where necessary.

The standardized questionnaire is intended to determine various risk factors from travel during the period before the cruise in New York City, during the cruise on the Horizon, and during excursions while in Bermuda. The questionnaire will be administered by telephone interviews to cases and controls, or their surrogates where necessary, by study team members. Data will be analyzed using Epi-Info epidemiologic software.

Cruise Control Screening Questionnaire

Hello, I'm _____ with the _____ State Health Department and the Centers for Disease Control. I am calling you to ask you some questions about your recent cruise on the Horizon. We are collecting information from passengers who have NOT been sick in the last few weeks. If it is alright with you, I would like to ask some questions about your health if you have a few minutes. The information you give will be confidential and will be used to help us understand how some of the other passengers got sick during their cruise.

First of all, let me verify some information that was given to me by the cruise ship company.

Last Name: _____ First Name: _____

Age: __ years Sex: M or F (circle one)

Address:

Street: _____

State: __ Zip: _____

Home Phone:
Other Phone:

Cruise: choose the date that the cruise began, circle one

March:	3/05	3/12	3/19	3/26	
April:	4/02	4/09	4/16	4/23	4/30
May:	5/07	5/14	5/21	5/28	
June:	6/04	6/11	6/18	6/25	
July:	7/02	7/09	7/16		

Cabin Number: _____

The next questions I am going to ask you concern your health around the time of the cruise. I am interested only in the time from the day the cruise started and continuing through fourteen days after the END of the cruise.

1. Were you ill at any time during the period from the day the cruise started until 14 days after the END of the cruise?
Yes or No (circle one, if no, skip to question #5)

2. Which of the following symptoms did you have? Answer yes or No.

Cough	Y N DK	Fever	Y N DK
Chills	Y N DK	Diarrhea	Y N DK
Sore Throat	Y N DK	Musc Ache	Y N DK
Nausea	Y N DK	Headache	Y N DK
Shortness of Breath	Y N DK	Runny Nose	Y N DK
Chest pain when you breath deep or cough			Y N DK

3. Did you visit a doctor when you returned from the cruise? Y N DK

If yes, what was the reason for your visit? _____

If yes, doctor's name, address, and telephone #

(_ _) _ _ - _ _ _

4. Were you hospitalized? Y N DK

If yes, where were you hospitalized?

****If passenger answers yes to fever, cough, or pleuritic chest****
****pain then proceed to end of questionnaire to end the interview****

The next set of questions I am going to ask you are about your health in general.

5. Do you have ongoing problems with your lungs? (for instance: chronic asthma, chronic obstructive pulmonary disease, emphysema, or chronic bronchitis)? Y N DK

6. Do you have a problem with your heart known as congestive heart failure? Y N DK

7. Do you have any problems with your kidneys? Y N DK

8. If yes, what kind of problem? _____

9. Do you require kidney dialysis? Y N DK

10. Do you have diabetes? Y N DK

11. If yes, do you take insulin or pills for diabetes? Y N DK

12. Have you ever been told you had cancer or have been treated for a cancer? (Do not include skin cancers unless known to be melanoma, and do include all hematologic malignancies such as leukemia, lymphoma, and multiple myeloma) Y N DK

13. Are you taking any medications that may suppress your immune system such as prednisone, steroids, Imuran, or Methotrexate? Y N DK

14. Have you ever had an organ or bone marrow transplant? Y N DK (do not include corneal transplant)

**If the patient has answered yes to #5-14, please get name, address and telephone # of primary physician

(_ _ _) _ _ _ _ _

15. Are you a current cigarette smoker? Y N DK
(answer yes if they quit less than 12 months ago)
If yes, answer those below:

16. How many packs do you smoke a day? Y N DK

17. How many years have you smoked? _ _ years

18. Finally, do you have any conditions that weaken your immune system? Y N DK

if yes, please specify below: (examples are chronic granulomatous disease, sickle cell anemia, HIV/AIDS, or hypogammaglobulinemia, myelodysplastic disease)

That's all the questions I have. We appreciate you taking the time to answer these questions. We may be contacting you again in the next few days to ask you some more in-depth questions. What is the best way to contact you? If you have any further questions please feel free to contact us at (_ _ _) _ _ _ _ _ . What is the best time to call you back. (write below)

Pneumonia on the Horizon - Case/Control Questionnaire

IDENTIFIER

1. ID Number _ _ _ _ _ Case/Control (circle one)
 Passenger/Surrogate-specify _____
 (circle one)

DEMOGRAPHICS

2. Age _ _ 3. Sex _ (1=female, 2=male)
 4. Zip Code _ _ _ _ _ 5. Area Code _ _ _

EXPOSURE - NEW YORK CITY

6. Did you travel with a tour group _
 (0=no, 1=yes, 9=don't know)
 If yes, specify name and telephone number of group leader
 _____ #(_ _ _) _ _ _ _ _
7. Do you live in New York City _
 (0=no, 1=yes)
8. How long did you stay in New York City before boarding the
 cruise ship? _
 0=less than 2 hrs 4=1 day-1 week
 1=2-4 hrs 5=more than 1 week
 2=5-8 hrs 6=I live in NYC
 3=9-24 hours 9=don't know
9. How long did you wait in the terminal before boarding the
 ship? _
 0=less than 1 hour 3=more than 4 hours
 1=1-2 hours 9=don't know
 2=3-4 hours

EXPOSURE - HORIZON

10. What was your cabin number aboard the ship _ _ _ _
11. How many people stayed in your cabin _
12. Please estimate the amount of time you spent in your cabin
 (including time asleep) each day while the ship was at sea.
 number of hours per day _ _ (99=don't know)

13. Please estimate the amount of time you spent in your cabin (including time asleep) each day while the ship was docked in Bermuda.

number of hours per day _ _ (99=don't know)

14. Did you eat outside on the deck in the rear of the ship (cafe tables with umbrellas?) _ _
(0=no, 1=yes, 9=don't know)
if no, skip to question 17

15. If yes, how many times during the cruise _

16. How long would you usually sit there _

0=less than 15 minutes

1=15-30 minutes

2=31-45 minutes

3=46-60 minutes

4=more than 1 hour

9=don't know

For each area of the ship described below, ask the passenger in an open-ended manner to estimate the amount of time they spent in each area. Then assign the most appropriate number from the list of numbers below:

0=never

1=walked through or by

2=less than 30 minutes

3=30 minutes-1 hour

4=>1-4 hours

5=>4-8 hours

6=more than 8 hours

9=don't know

Florida Deck 4

17. Children's Play Room _

18. Beauty Parlor _

Europa Deck 5

19. Lobby/Excursion Desk _

Galaxy Deck 7

20. Starlight Restaurant (formal) _

21. Rendezvous Lounge and Bar _

22. The Palladium Auditorium _

23. The Card Room or Photo Gallery or Library _

Fantasy Deck 8

24. Zodiac Club/Gemini Disco _

25. Casino Royale _

26. Duty Free Shop and Mall _

27. Plaza Bar _

28. Video Game Room _

46. When did you first use the whirlpool/jacuzzi

- | | |
|--------------|--------------|
| 1=first day | 5=fifth day |
| 2=second day | 6=sixth day |
| 3=third day | 7=last day |
| 4=fourth day | 9=don't know |

47. How many times did you use it during the

entire cruise?
(choose a number, 99=don't know)

48. How long would you usually stay in _
 0=<15 minutes 3=45-60 minutes
 1=15-30 minutes 4=more than 1 hour
 2=30-45 minutes

49. Did you ever put your head under water _
(0=no, 1=yes, 9=don't know)

50. Did you use the whirlpool/jacuzzi in your room _
(0=no, 1=yes, 8=didn't have one, 9=don't know)

51. If yes, please estimate the number of times __
(choose a number, 99=don't know)

52. Please estimate the number of times you used the
showers near the pool or whirlpools _
(choose a number, 99=don't know)

EXPOSURE - BERMUDA

The following questions are about your activities while your ship was docked in Bermuda.

53. Did you leave the ship while in Bermuda _
(if no, end the interview here and go to last page)
(0=no, 1=yes, 9=don't know)

54. Did you take an excursion planned by the cruiseline _

(0=no, 1=yes, 9=don't know)

55. If yes, how many excursions? _
(choose a number, 99=don't know)

Did you visit any of the following locations ?
(0=no, 1=yes, 9=don't know)

56. Royal Navy Dockyard _
57. Gibbs Hill lighthouse _
58. Botanical Gardens _
59. Museum, Aquarium and Zoo _
60. Enterprise submarine _
61. Walking tour of St. George _
62. Glass bottom boat cruise _
63. Hamilton Princess Hotel _
64. Clayhouse Inn _
65. Washington Mall _
66. Leamington Caves _
67. Crystal Caves _
68. Front Street shopping area in Hamilton _

69. Did you walk from the ship to the Hamilton Princess Hotel along Front Street? _
(0=no, 1=yes, 9=don't know)

70. Did you go snorkeling? _
(0=no, 1=yes, 9=don't know)

71. If yes, where did you snorkel? _____

72. If yes, how many times _

73. Did you go sailing? _
(0=no, 1=yes, 9=don't know)

74. If yes, what was the name of the boat? _____

75. Please estimate the total amount of time off the ship while it was docked in Bermuda. (prompt: do this by adding the time you spent during each of your trips ashore; I will be happy if you can provide an approximate estimate of the number of hours).
_ _ hours (please write number of hours, 99=don't know)

This completes the interview. Thank you for your cooperation. If it's alright with you, we would also like to collect a sample of blood from you. The blood sample will be tested to see whether you have been exposed to the bacteria that causes Legionnaire's Disease, and will help in analyzing your answers to these questions. We may need to call you back again in the near future. Thank you for your participation.

Statement of Royal Caribbean Cruises Ltd.

for

*Hearing Before the Subcommittees on Merchant Marine
and Coast Guard and Navigation of the
Merchant Marine and Fisheries Committee*

U.S. House of Representatives

Royal Caribbean Cruises Ltd.

September 28, 1994

Royal Caribbean Cruises Ltd. (Royal Caribbean) is pleased to submit this statement for the hearing concerning cruise ship health and safety practices before the Subcommittees on Merchant Marine and Coast Guard and Navigation of the Merchant Marine and Fisheries Committee. Royal Caribbean is committed to ensuring that all of its passengers are provided the safest and most sanitary environment during their cruise. One of the principal reasons that the cruise industry in general, and Royal Caribbean in particular, has enjoyed such strong growth over the past two decades is because the concern for the safety and well-being of our passengers and crew is a major goal in everything we do. Our record over the last 25 years demonstrates that we have been extraordinarily successful in fulfilling that goal.

Background

Royal Caribbean was founded in 1969 through the merger of three prominent Norwegian shipping companies. The maiden voyage of the company's first cruise ship, the *SONG OF NORWAY*, occurred in November 1970. The fleet expanded with the addition of two more ships during the next three years. As demand for cruise travel increased dramatically in the late 1970's, Royal Caribbean expanded the capacity of its existing ships and added new vessels which were considerably larger than those in its original fleet. The *SONG OF NORWAY* had a capacity of 700 passengers. The *SONG OF AMERICA*, launched in 1982, can carry 1,400 passengers and the megaships *SOVEREIGN OF THE SEAS*, *MONARCH OF THE SEAS*, and *MAJESTY OF THE SEAS* each carries some 2,300 passengers.

As the number of ships in its fleet has expanded, so have the number of Royal Caribbean's itineraries. In addition to the Caribbean, the line's vessels now sail on routes that include stops in Bermuda, Alaska, Mexico, and Europe. Total capacity continues to grow at a significant rate. Between 1988 and 1992, Royal Caribbean's capacity has tripled. Although the company has grown rapidly, it has never wavered from its dedication to quality and safety. The company's efforts have been recognized by our passengers and our business partners. The members of the American Society of Travel Agents named Royal Caribbean the best in the cruise industry when it awarded us the coveted REX Award (Recognizing Excellence). Royal Caribbean was recently awarded the International Safety Management Certificate by the Norwegian Maritime Directorate and several of its cruise vessels have been named "Ship of the Year" by the World Ocean and Cruise Liner Society.

The company continues to expand with four new vessels to be launched over the next two and one-half years. During every stage of the company's expansion Royal Caribbean has been quite deliberate in ensuring that the same quality and safety that characterized the new cruise line 25 years ago has continued through every phase of its operation. All employees are required to receive extensive training in areas that range from sanitation techniques to proper disposal of waste. Our dedication to safety and quality has never wavered. That dedication is an integral part of Royal Caribbean's heritage and tradition.

Incidence of Shigellosis on Voyage of VIKING SERENADE

Late last month, when Royal Caribbean executives first learned of the outbreak of an intestinal illness involving several hundred of the 2,300 passengers and crew on the August 29, 1994 sailing of the 40,000 GRT *VIKING SERENADE*, we were greatly surprised and even more concerned. We were concerned because passengers who had sailed on the *VIKING SERENADE* were expecting a pleasant experience, but a small number were sick enough to have to be hospitalized in Ensenada, Mexico, and several hundred others were sick enough to cause the Captain to decide to make an early return to port. In order to make sure that a similar outbreak did not occur on a subsequent voyage, top management at Royal Caribbean wanted to take all steps necessary to remove the causal agent of the illness.

In any incident like that on the *VIKING SERENADE*, the first suspicion is that there has been a breakdown of sanitation in a food preparation area of the ship. But a check of the records kept by the Center for Disease Control and Prevention (CDC), an agency of the U.S. Public Health Service (PHS), revealed that all areas on the *VIKING SERENADE* had been inspected by PHS on July 18, 1994 and had received a total score of 92 out of a possible 100. Any score above 85 is considered acceptable by the PHS and any score above 90 is generally considered to be excellent. There was no evidence that the protocols for sanitation that had been followed to earn that score had changed or deteriorated in the five weeks since the inspection had been held. Although the CDC only requires immediate notification if the total number affected by an illness represents 3% of the total number traveling, Royal Caribbean management contacted the agency

immediately upon learning of the illness, well before reaching the 3% threshold. Royal Caribbean does many things well but recognizes that the CDC is the expert in determining the cause of illnesses.

At the same time that the CDC was notified on August 30, staff on the ship tried to make the ill passengers as comfortable as possible until the ship could return to its home port. Great care was taken to notify all passengers via on-board announcements by the Captain as well as written notification that Royal Caribbean was concerned about the number of cases of this intestinal disorder. The *VIKING SERENADE* has a medical facility on-board staffed by one physician and two nurses. This staff provided medical treatment to the ill patients for the duration of the shortened trip.

When the ship arrived at its home port of San Pedro, California on September 1, staff from the CDC boarded the ship and immediately began their investigation of the outbreak's cause. When the CDC recommended cancelling the September 2 cruise, Royal Caribbean immediately accepted the recommendation and decided on its own to cancel the following September 5 voyage to ensure that the CDC would have adequate time to thoroughly isolate and identify the cause of the outbreak and to facilitate passenger scheduling. Passengers booked on the September 2 voyage received a complete refund plus a certificate for \$250 per cabin off any future Royal Caribbean cruise.

After examining laboratory tests performed on a number of the passengers who had become ill, the CDC determined on September 5 that the cause of the illness was a bacterium known as *Shigella flexneri*, the second most common species of *Shigella*. The CDC did not determine the mode of transmission of this bacterium aboard the ship. *Shigella* can be spread from food, water, or through direct contact between people. As a precaution, the CDC requested that all pre-prepared or handled food be removed, that all food handlers on the ship be tested for *Shigella*, and that all water systems on the ship be tested and monitored. Additionally, the CDC recommended that a complete sanitation and inspection of the vessel be completed before sailing again.

All of the recommendations made by the CDC were followed by Royal Caribbean. Not only was all the pre-prepared and handled food on the *VIKING SERENADE* removed, but similar items provided by the same suppliers to Royal Caribbean's other ships were also removed. Furthermore, all crew members -- not just food handlers -- were tested. Any crew member who displayed symptoms or tested positive for the *Shigella flexneri* bacterium was removed from the vessel and not allowed to return until they were re-tested and all signs of the bacterium had disappeared.

Additionally, concurrent news releases were issued by Royal Caribbean's public relations department and by the CDC informing the public and affected passengers about the cause of the outbreak. Hundreds of media interviews were given by Royal Caribbean public relations staffers

to keep the public as informed as possible regarding this entire issue and to express the company's deep regret that such an incident took place.

By September 9, Royal Caribbean and the CDC were satisfied that all precautions that could be taken had been taken and a cruise left that evening.

Royal Caribbean is especially appreciative of the role CDC personnel played during this entire incident. Their counsel was timely, professional, and straightforward. Their cooperative attitude and professionalism were very much appreciated by all management and crew at Royal Caribbean.

Closing Comments

Royal Caribbean is totally dedicated to ensuring that each passenger it carries is provided a safe and sanitary environment. We want to continue to work with the Centers for Disease Control and Prevention in assuring that periodic routine sanitation inspections are conducted on all ships. Some years ago when the PHS ceased its cruise ship health and safety inspections, the cruise industry hired a private inspection service to continue the PHS inspection program. After considerable lobbying, the PHS inspection program was reinstated and is now voluntarily funded by the cruise lines. Royal Caribbean welcomes these inspections as we believe that anything that helps make our ships safer is of paramount importance to us and to the entire cruise industry.

COMMENTS ON BEHALF OF REGAL CRUISES
SEPTEMBER 28, 1994
BEFORE THE HOUSE OF REPRESENTATIVES
SUBCOMMITTEE ON MERCHANT MARINE AND
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION

Chairman Lipinski and Chairman Tauzin, members of the Subcommittees on Merchant Marine and Coast Guard, my name is Sten Bergquist. I am a master mariner and Senior Vice-President of Marine Operations with International Shipping Partners, a vessel management company based in Miami, Florida which operates and manages, among others, the vessel REGAL EMPRESS under contract with Regal Cruises. My responsibilities include overseeing and management of technical matters and training of the deck and engine departments of the REGAL EMPRESS.

I am here today at the invitation of Chairman Lipinski to Regal Cruises to describe the facts surrounding an accidental fire on board the REGAL EMPRESS as the vessel was approaching the New York Harbor Passenger Ship Terminal on August 19, 1994.

My description of the accident is based on the reports of various persons and entities who conducted investigations of the fire.

About the Vessel

The REGAL EMPRESS is a classic beauty of pleasure cruising which sailed as the OLYMPIA, flagship of Greek Lines until 1983. Then she was purchased, extensively refurbished and renamed the CARIBE I by Commodore Lines where she was the centerpiece of the Commodore Cruise Line fleet. In 1993, the present operators acquired the vessel and renamed her REGAL EMPRESS. We oversaw her refurbishment to guarantee that she met modern standards of safety and comfort in compliance with international conventions and applicable standards of U.S. law. She is presently deployed during summer months in cruises from New York to the Canadian maritime provinces and back. In the winter months, she will be deployed from Tampa Bay in the Caribbean passenger cruise market.

This vessel has a complete and well functioning sprinkler system and is subject to regular U.S. Coast Guard inspections which apply to large foreign flag passenger vessels calling at U.S. ports. She is and has at all relevant times been in class, with Lloyd's Register of Shipping free of any outstanding recommendations. While the vessel was undergoing her recent repairs, she satisfactorily completed her quarterly U.S. Coast Guard inspection a month ahead of the required date. REGAL EMPRESS passed her annual U.S. Coast Guard inspection in June of 1994.

The ship has no outstanding class recommendations and passed her most recent U.S. Public Health survey with a score of 95 on May 16, 1994. She has, to our knowledge, no outstanding safety citations of any kind.

Statement of Facts

The vessel departed New York under the command of Captain Skjerve on August 14, 1994 on a Scheduled five-night cruise to New England and Canadian ports. Completing a routine voyage, the vessel returned to New York on Friday morning, August 19, 1994, taking the pilot on board at 0600. During her transit of New York Harbor, a member of the ship's crew on routine rounds detected a smoke condition in the Main Deck thwartships passageway. He inspected the area in an attempt to locate the source of the smoke and to determine if a fire was burning. The crewman observed light gray smoke flowing from a vent in a containment locker, checked the surrounding bulkheads for heat, opened the door to the locker and discharged a portable CO₂ fire extinguisher into the space. Observing no flames from within the 10' x 5' locker, he closed the door and reported the situation to the bridge via a nearby phone.

Safety Officer David Ryan immediately reported to the scene, conducted an investigation of the locker and adjoining spaces and reported his findings to the bridge.

The vessel's three fire-fighting squads were outfitted and deployed at 0707, fire hoses were stretched in the area and water sprayed into the locker.

In excess of 500 passengers were eating breakfast in the restaurant one deck above as the vessel continued her voyage up the Hudson River. As the smoke began to spread to the dining room, the passengers were evacuated by the crew to the exterior decks. The fire squads and the crew continued to seek the source of the smoke as the vessel approached the dock. The general alarm was sounded at 0808. A small fire broke out in the wood paneling in the now empty dining room and the crew began the fire extinguishing efforts.

The Captain made several announcements over the PA system instructing the passengers to remain calm and to evacuate the interior spaces in an orderly fashion. Two passenger gangways were deployed as soon as the vessel came alongside and the passengers disembarked in a quick and efficient manner. Shoreside fire-fighting units boarded the vessel and assumed command of the joint fire-fighting efforts of both shore-based and crew firefighters. The fire was brought under control. The sprinkler system in the dining room functioned properly as did all of the vessel's firefighting equipment.

A second unrelated fire began in a mattress in a passenger's cabin. This fire was extinguished quickly by the ship's sprinkler system alone.

Origin of Fire

A smoldering fire apparently originated inside the after end of the engine exhaust casing just below the Restaurant Deck level. Cork insulation contained in steel duct work carrying unused brine pipes ignited and spread smoke into an adjoining locker located in the Main Deck thwartships passageway. The smoldering fire developed at the bottom end of this duct immediately below the Restaurant Deck level, immediately adjacent to the engine casing bulkhead. The smoldering fire inside the duct spread upwards through the cork insulation. A fire then developed in the restaurant, causing fire damage to the decorative wood panels and ceiling panels in the restaurant.

Extent of the Damage

The most serious damage was caused to the dining room on the Restaurant Deck. The decorative wood panels, in the forward end of the dining room were burned and subsequently stripped. The ceiling was damaged by the fire. As part of the fire-fighting ventilation operation, most of the windows were broken by the New York City fire-fighters to release the smoke, heat and gases in the dining room. Additional ceiling panels 50 feet aft of the engine casing had been stripped down as part of the fire-fighting operation. The dining room furniture, including decorative pillars and panels near the engine casing, were damaged mostly from fire-fighting efforts. Of course, the water used to fight the fire soaked the carpet and also caused damage to other areas.

Injuries

At the time of the casualty, the vessel was carrying 1,005 passengers (907 U.S. citizens and 98 aliens) and a crew of 387, of whom 23 were U.S. citizens. We learned that a total of 17 persons suffered smoke inhalation, including 5 New York City fire-fighters, and that 4 passengers had been taken to local hospitals on account of prior medical histories and/or age. The four passengers were treated and released. To our knowledge, no serious injuries were reported.

We understand that it is impossible to eliminate all risk of mishap or accidental fire on board a vessel, particularly one designed to carry a large number of passengers. For that reason, the vessel's crew has been well-trained, not only in the deck and engine departments, but also among the hotel, food and beverage and other support staff who also participated in the evacuation of the REGAL EMPRESS on August 19th.

We were gratified to see that there were no serious injuries resulting from this accident and that the crew of the vessel responded in a calm, diligent and responsible manner reflecting their training and quality. The crew undergoes intense weekly firefighting training, consistent with SOLAS requirements. As further testimony to their performance, I have attached to my written remarks a letter of commendation dated August 25, 1994, from the Chief in Charge, Manhattan Borough Command, Fire Department of the City of New York. The Chief, on behalf of the

Fire Department, commended the Regal Cruises staff on board for their cooperation extended to the Fire Department on August 19th - and noted that this was not always the case in shipboard fires, in their experience. The Chief in particular cited Captain Skjerve and Safety Officer David Ryan for their input and assistance.

As is customary after incidents of this sort, there are several investigations pending mainly by the U.S. Coast Guard, the National Transportation Safety Board, the Bahamas government and the Classification Society to determine the cause of the fire and the extent of damage. All repairs to the vessel were completed in eight days by August 26, 1994 and the vessel went back into service. All cork was removed and new insulation was installed where required on the damaged bulkhead during the post-accident repairs.

Thank you for affording us the opportunity to discuss this incident with you as well as the response of the company and its employees of which we are justly proud. I am available for any questions that the members of the Subcommittees may have today.

MANHATTAN BORO COMMAND



ASSISTANT CHIEF EDWARD C. BUTLER
 DEPUTY ASSISTANT CHIEF KENNETH CERRETA
 142 WEST 31ST STREET
 NEW YORK, NEW YORK 10001
 212 714-9573
 FAX = 212 714-9471

August 25, 1994

Peter Arevalo
 President Regal Cruises
 4199 34th Street South
 Suite B 103
 St. Petersburg, Fl. 33711

Dear Mr. Arevalo:

On behalf of all of the Chief Officers, Company Officers and Firefighters assigned to Manhattan Borough Command who operated at the fire aboard the Regal Empress let me commend your staff for the cooperation extended to us during the fire on August 19, 1994.

In the past when we in the Fire Service were faced with difficult and/or unusual fires aboard ships, in high rise buildings etc., we did not always get reliable, professional assistance or meaningful intelligence from the Management personnel on the scene.

Such was not the case aboard the Regal Empress. In particular my thanks go to Captain Skjerve and Safety Officer David Ryan for their input and assistance.

We in the Fire Department pride ourselves on professionalism, and these two men and their staffs made our job much easier.

Hopefully, the Regal Empress will be sailing again shortly.

Yours Truly,

Edward C. Butler
 Chief in Charge
 Manhattan Borough Command

FIRE DEPARTMENT • CITY OF NEW YORK
 142 West 31st St. • New York, N.Y. 10001



William J. ...
 3rd Commander

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ICCL
**INTERNATIONAL COUNCIL
OF CRUISE LINES**

1 November 1994

*Carnival Cruise Lines**Celebrity Cruise Lines**Commodore Cruise Line**Costa Cruise Lines NV**Crown Cruise Line**Crystal Cruises**Cunard Line Ltd**Dolphin Cruise Line**Epirotiki Lines**Fantasy Cruise Lines**Holland America Line**Majesty Cruise Line**Norwegian Cruise Line**Premier Cruise Lines, Ltd.**Princess Cruises**Regency Cruises, Inc.**Royal Caribbean Cruises, Ltd.**Royal Cruise Line**Royal Viking Line**Seabourn Cruise Line**Sun Line Cruises, Inc**Windstar Cruises*

Mr. William O. Lipinski
Chairman, Sub-Committee on Merchant Marine
Committee on Merchant Marine and Fisheries
United States House of Representatives
Room 543, Ford House Office Building
Washington, DC 20515

Dear Chairman Lipinski:

During the September 29, 1994 hearing before your committee we promised to furnish answers to various questions.

Set forth below are the questions, as we understood them and as relayed to our membership, and answers which consist of consolidated or composite responses. This will hopefully furnish you with what is an industry norm, recognizing that in some instances the practice may be in excess of or below that norm. Question number 6 is in response to your letter dated October 3, 1994.

QUESTION ONE:

What is the average number of years Ship Captains and Staff Captains in your company have been licensed?

Response:

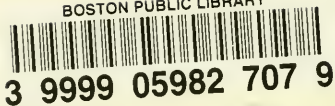
Masters and Staff Captains average from ten to more than twenty years experience with the upper end of that range being more prevalent.

QUESTION TWO:

What is the average number of different Ship Captains that sail a vessel in a 12 month period?

Response:

A Master will serve on an average of 1.3 to 2 ships per year. A normal routine would consist of 8 months sea duty, followed by 4 months vacation. In any calendar year there would be usually two Masters per ship, although several respondents indicated 3 Masters during that period may not be unusual, depending on the conditions of employment and duration of tours of duty in relation to periods of leave.



William O. Lipinski
November 1, 1994
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QUESTION THREE:

How many licensed Ship Captains does your company employ?

Response:

This varies quite a bit, depending on the number of ships the company has in the water. The most reported was 15 Masters. However, it should be noted that it is normal, in addition to the Master, for the Staff Captain and the First Officer to hold an unlimited Master's license. In several companies this also extends to the Second Officer.

QUESTION FOUR:

Would your company have an objection if U.S. law required all of your Ship Captains, for vessels regularly calling at U.S. ports, to carry American licenses?

Response:

Only U.S. citizens are eligible for American licenses. On that basis, there was unanimous objection, particularly a nationality requirement is frequently - though not exclusively - imposed (as in the United States) by the country whose flag the vessel flies. The Captains employed by the industry come from developed countries with long standing seafaring traditions which have high standards for training, education and rigorous examination procedures for the award of officers licenses.

QUESTION FIVE:

Is there a standard company testing procedure to determine if water taken on board vessels in foreign countries is safe to drink?

Response:

Water samples are regularly and routinely taken and tested for chlorine level and re-chlorinated as necessary, consistent with standard test procedures and recommendations of the United States public Health Service.

QUESTION SIX:

What is your company's policy to deal with the remains when a U.S. citizen dies? Is a refund given for the unused portion of the cruise? Are medical expenses for the deceased charged? If so, to whom?

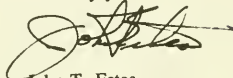
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Responses:

In almost all situations reimbursement is sought from the next of kin or estate for medical care rendered to the deceased (similar to routine practices followed by land-based medical facilities). In one case, however, such a practice was not followed if the death was caused by an onboard accident. Also, in many instances, travel insurance is offered to passengers covering such circumstances. Normally the remains are landed at the first U.S. Port, although not in all cases. Ships routinely have storage facilities similar to those found in municipal morgues. It is also not normal to refund passage fare for any unused passage should a death occur prior to completion of the cruise.

Please let me know if you need any additional information.

Sincerely yours,



John T. Estes

cc: John Fox
Sten Bergqvist

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