



**TESTIMONY OF  
REAR ADMIRAL JOSEPH SERVIDIO  
ASSISTANT COMMANDANT FOR PREVENTION POLICY**

**“CRUISE SHIP SAFETY”**

**BEFORE THE  
SENATE COMMERCE, SCIENCE, AND TRANSPORTATION COMMITTEE**

**July 24, 2013**

**Introduction**

Good morning Mr. Chairman, Ranking Member Thune, and distinguished members of the committee. Thank you for the opportunity to appear before you to discuss issues related to cruise ship safety. I would like to provide background into the Coast Guard’s oversight of the cruise industry, highlight what we’ve learned and implemented from recent casualties, and discuss the effectiveness of our Port State Control system in holding cruise industry companies and their vessels accountable for safe passenger operations.

In my role as the Coast Guard’s Assistant Commandant for Prevention Policy, I am responsible for setting standards for safety, security, and environmental stewardship for commercial vessels, facilities, and mariners, ensuring compliance with those standards, and conducting investigations of violations and accidents.

Over the past three years we’ve seen a number of high profile ship casualties within the cruise industry, fires aboard the *Carnival Splendor*, *Carnival Triumph* and *Grandeur of the Seas* highlight serious questions about the design, maintenance and operation of fire safety equipment on board these vessels, as well as their companies’ safety management cultures. As the United States’ lead as a Port State for holding foreign companies accountable for the safe and secure design and operation of these vessels, I am very concerned about these failures. I am working to ensure that the Coast Guard thoroughly reviews each incident to determine causes and identify corrective actions and hold the cruise lines accountable for improving safety aboard vessels through increased examination and oversight. Additionally we will work through the International Maritime Organization (IMO) to update the design and operational standards for cruise ships based on these incidents.

We recently completed our investigation into the *Carnival Splendor* engine explosion and debilitating fire. We are treating the recommendations for Coast Guard action in that report as requirements, and based on that report, the Coast Guard is changing its examination program for foreign cruise ships to examine CO<sub>2</sub> system installations and arrangements more closely. Additionally, we have increased our expectations for successful fire drills. We have also made recommendations to Carnival Corporation to improve their training programs. I will cover these recent developments in more detail a bit later in my testimony.

In late June, I led the U.S. delegation to the 92<sup>nd</sup> session of the IMO Maritime Safety Committee. At this session, we adopted new rules governing cruise ship passenger safety briefings which will become mandatory in July 2015. These new rules ensure that whenever U.S. passengers board a Safety of Life at Sea (SOLAS) regulated passenger ship for more than 24 hours, they will receive a detailed safety briefing either prior to, or immediately after, the vessel gets underway. This regulatory change elevates the standard globally for approximately one third of all cruise passengers who don't embark ships in the U.S.

Further, based in part on our proposals at this June session, IMO has commenced reviewing design standards in order to make cruise ships safer, and even more damage-tolerant, through improved survivability standards.

### **Modern Standards for Cruise Ships**

Over the past decade, the international shipping community, through the IMO and with Coast Guard leadership, has moved decisively toward a proactive approach to passenger ship safety. With cruise ships growing progressively in size and capacity, in May 2000 the IMO agreed to undertake a holistic examination of safety issues pertaining to passenger ships, with particular emphasis on large cruise ships. The outcome of this proactive initiative is an entirely new prevention- and survivability-based regulatory philosophy for cruise ship design, construction, and operation.

The U.S., through the efforts of the Coast Guard, has taken a very active leadership role throughout this initiative, putting forward many of the recommendations for action taken by the various IMO Sub-Committees. This effort identified a number of areas of concern related to cruise ships, and resulted in substantial amendments to major IMO conventions, including SOLAS, International Convention for the Prevention of Pollution From Ships (MARPOL) 73/78, International Tonnage, Standards for Training, Certification, and Watchkeeping (STCW) and Load Line conventions. These amendments address surveys, structures, stability, machinery, fire safety, lifesaving equipment, communications, navigation equipment, safety management, maritime security, pollution prevention, crew competency, watertight integrity, and safe loading.

Significant improvements under the five main pillars of the IMO initiative entered into force in July 2010 include:

- **Prevention:** Amendments to the STCW Code and supporting guidelines focus on navigation safety and resource management;
- **Improved survivability:** New SOLAS requirements for the “safe return to port” concept address essential system redundancy, management of emergencies, and casualty mitigation, including the new concept of dedicated shipboard safety centers to manage emergencies;
- **Regulatory flexibility:** Amendments to SOLAS provide a methodology for the approval of new and innovative safety technologies and arrangements;
- **Operations in areas remote from SAR facilities:** Guidelines on external support from SAR authorities, as well as guidance to assist seafarers taking part in SAR operations have been developed; and finally; and
- **Health safety and medical care:** Guidelines on establishing medical safety programs, and a revised Guide on Cold Water Survival.

Other recent improvements include stability and survivability of cruise ships through new probabilistic subdivision and damage stability regulations, and flooding detection systems;

improved voyage planning, particularly in remote and high latitude areas; and voyage data recorders. As a separate initiative, stemming from the 2006 fire aboard the *Star Princess*, significant improvements have been made to the fire safety features of external areas on cruise ships. Overall, the past decade has been an enormous leap forward in cruise ship safety measures and has been largely proactive to casualties. The U.S. Coast Guard's leadership in the international community with respect to cruise ship safety measures and our support to foreign casualty investigations evidences our dedication to the world wide safety of U.S. passengers.

### **The Safety, Security, and Environmental Protection Net**

The IMO conventions form the basis for the international safety, security, and stewardship net designed to ensure consistent standards across the world wide fleet of cruise ships. Owners and operators, vessel crews, classification societies, flag states (or their recognized organizations when delegated to act on the behalf of the flag state), and port states each have distinct roles in ensuring compliance with those standards. Each of these entities performs specific roles intended to maximize safety, security, and environmental protection.

Flag states have the primary responsibility to ensure their vessels meet international and domestic standards. They often achieve this through recognized third party organizations who certify that vessels meet design, construction, operating, and manning requirements throughout the life of the vessel.

Port states verify substantial compliance with international standards and ensure compliance with applicable domestic requirements for vessels of all flags calling in their ports. As the port state authority for the U.S., the Coast Guard has established a robust control verification program that subjects cruise ships calling in U.S. ports to a much higher level of scrutiny than other foreign flag vessels, and much higher than any other port state requires for foreign flag cruise ships in their ports.

Although we cannot provide total quality control for foreign cruise ships visiting our ports, we do take prompt action to ensure deficiencies we find during our examinations are corrected in an expeditious manner. If a deficiency is serious, we ensure it gets corrected before the vessel leaves port. When one or more deficiencies lead us to conclude a ship is substandard, we detain the vessel. A detention means the vessel cannot leave port until the serious deficiencies are corrected. We report the detention to IMO and list the vessel on international forums as a detained vessel, and we will examine the vessel more frequently for a period of three years.

Most recently, the Coast Guard detained the *Carnival Triumph* after it was found to have three serious deficiencies at its first examination after completing repairs following the February 2013 fire. As described above, the vessel was held in port until these deficiencies were corrected, we reported the detention to IMO and listed the vessel as detained on our website, and the vessel will be subject to quarterly examinations for three years. This detention demonstrates the effectiveness of our control verification program, as well as our willingness to hold substandard vessels accountable.

### **Coast Guard Control Verification Program for Foreign Flag Cruise Ships**

All foreign flag cruise ships arriving in the United States that embark passengers or make a U.S. port call while carrying U.S. citizens as passengers must participate in the control verification

process. Cruise ships that return to U.S. service after a prolonged absence are treated as if they had never been in service in the U.S. and must undergo the entire process again.

The Coast Guard control verification program includes initial, annual, and periodic examinations for foreign flag cruise ships calling in our ports. Further, it includes concept review during the very earliest stages of design and pre-construction planning by Coast Guard naval architects and fire protection engineers, mid-construction inspections at the builder's yard by Coast Guard marine inspectors, an initial operational inspection of the vessel upon completion of construction, and at least annual inspections while the vessel is in service in U.S. ports. This regime allows the Coast Guard to determine that the vessel is in substantial compliance with all applicable international and domestic standards.

The engineering review of plans for structural fire protection arrangements provides an additional level of assurance that shipboard fire safety arrangements meet international standards. After review, these same engineers visit the ship to confirm that the arrangements on the vessel are the same as those shown on the structural fire protection plans. On the basis of this initial examination, the Coast Guard issues a certificate of compliance that allows the vessel to operate in U.S. ports.

The annual examination ensures that foreign cruise ships continue to maintain the systems the Coast Guard previously examined during the initial exam in proper operating condition and that the flag administration has performed annual renewal surveys as required by SOLAS. Inspectors focus on marine environmental protection, firefighting, lifesaving, and emergency systems and witness a comprehensive fire and boat drill by the crew. In addition, inspectors examine the vessel for modifications that would affect the vessel's structural fire protection and means of escape. They also check for modifications completed without the vessel's flag administration approval. After a satisfactory annual examination, the Coast Guard re-issues a certificate of compliance.

Periodic examinations are also conducted, typically midway between the annual examinations. These examinations are more limited in scope but still compliment the more comprehensive annuals, and they are intended to ensure vessels are being operated in a safe manner. The periodic examinations focus on the performance of officers and crew, with specific attention paid to their training on and knowledge of the ship's emergency procedures, environmental protection, security, firefighting, lifesaving systems, and conduct during the drills. To ensure the overall material condition of the ship has not appreciably changed since the annual examination, inspectors randomly select sample items for examination.

Inspectors also vary the scope of the examination depending on such factors as the material condition of the vessel, recordkeeping, the maintenance of the vessel, and the professionalism and training of the crew. At every Coast Guard examination of a foreign cruise ship, the inspectors will determine whether the vessel is in substantial compliance with the international convention standards.

## **Investigations**

Foreign vessels operating in U.S. waters are required by U.S. law to report accidents immediately. Upon accident notification, we proactively investigate casualties meeting a threshold to determine causes and issue safety recommendations to prevent recurrences.

This is a continuous improvement process which incorporates lessons learned from accident investigations to enhance cruise ship safety and ensure compliance with national and international laws.

After the *Costa Concordia* incident, and as a “Substantially Interested State” in accordance with IMO Protocols, the Coast Guard immediately offered technical expertise and support to the Government of Italy's marine casualty investigation. Similarly, following the *Carnival Triumph* fire and the *Grandeur of the Seas* fire, the Coast Guard is participating in the investigations with the vessel's flag state of the Bahamas as a Substantially Interested State. It is long standing practice to cooperate in all manner of accident investigations involving different flag and coastal states and the Coast Guard routinely acts in this accord.

After the *Carnival Splendor* fire in November 2010, the Coast Guard reached out to Panama, the vessel's flag state, to offer assistance. In accordance with international protocols and at the request of Panama, the Coast Guard took the lead for the investigation into this casualty. While this incident did not lead to major damage to the vessel, injury or loss of life, the investigation revealed a number of major safety concerns. As a result, the Coast Guard immediately issued two safety alerts to advise the industry of potential CO<sub>2</sub> system problems.

The Coast Guard report of investigation which was released on July 15, 2013, also contains five safety recommendations. Three of the recommendations are addressed to Carnival and Panama (as the flag state) to ensure that the conditions which contributed to the fire, are addressed appropriately. In addition, there are two safety recommendations which are aimed at exercising and enhancing the Coast Guard's role as the Port State for this and many other foreign flag cruise ships. These recommendations will be implemented by my staff and will ensure that Coast Guard Port State Control Officers are armed with the information needed to not only evaluate the mechanical systems onboard these complex vessels, but the human element as well.

### **Investigations informing the Control Verification Process and other actions**

In its role as a Port State, the Coast Guard employs casualty investigation lessons learned where practical and appropriate to inform the Control Verification process.

For example, as a result of the *Costa Concordia* incident, we directed Coast Guard field inspectors to witness the passenger muster required by SOLAS whenever they are aboard a cruise ship conducting an initial, annual, or periodic examination. Our personnel witness these musters either immediately before or during vessel departure from port. In conjunction, the cruise industry associations announced a new emergency drill policy requiring mandatory muster for embarking passengers prior to departure from port.

As a result of the *Carnival Splendor* casualty, we are directing Coast Guard field inspectors to examine vessel CO<sub>2</sub> systems more closely during examinations. There was evidence that the CO<sub>2</sub> system had not been installed and maintained properly, and we are looking at sister vessels for similar problems. Any similar problems will require swift correction. We have also increased our expectations for the fire drills we witness during our examinations. Too often, ships perform drills for our inspectors which do not address a fire in a high-risk area such as an engine room. We will direct ships to perform an engineroom fire drill during the next examination of all vessels, and will expect such demonstrations periodically thereafter.

Following the *Carnival Triumph* fire in the Gulf of Mexico in February of 2013, we engaged aggressively in Carnival's Safety Management System (SMS) by requesting them and the vessel's flag state (the Bahamas) to hold their annual audit early, with which they complied. We participated in Carnival's company level SMS Document of Compliance audit conducted by Lloyd's Registry in April, and plan to observe one of their shipboard SMS audits. Based on the most recent audit results, we have been generally satisfied with Carnival's SMS implementation, and will continue to keep a close eye on their progress.

A more recent casualty to the *Grandeur of the Seas* yielded several observations which we are taking immediate action to correct. One involves a deluge system valve that protected the mooring deck area that had caught fire. The valve was located in an area made inaccessible due to the fire. Our inspectors will examine sister ships for similar problems. Another observation involved un-insulated aluminum deck hatches which failed and allowed the fire to affect adjacent spaces. Again, our inspectors will examine sister ships for similar problems.

### **Search and Rescue (SAR) and Mass Rescue Operations (MRO)**

The Coast Guard has maintained a sound relationship with the cruise lines regarding search and rescue and medical evacuations. For the Coast Guard, a Mass Rescue Operation involving a cruise ship casualty offshore, with potentially thousands of passengers and crew forced to evacuate into lifeboats and the water, presents our greatest search and rescue challenge.

Working with cruise line and passenger vessel companies, the Coast Guard continues to develop and improve SAR and MRO contingency plans. In addition to internal Coast Guard SAR plans, the Coast Guard holds a copy of cruise ship SAR plans and is able to incorporate the cruise ship plans into our overall SAR planning. The Coast Guard also meets periodically with cruise line medical personnel to discuss plans for medical emergencies.

Coast Guard passenger vessel safety personnel at each of our Districts assist in the conduct and coordination of Coast Guard mass rescue exercises. Over the last five years, the Coast Guard conducted thirty-six mass rescue exercises involving passenger vessels, three of which involved a cruise ship.

Mass rescue exercises have been structured around a five-year cycle. The Coast Guard has directed that, at a minimum, each Coast Guard District conduct and/or participate in one discussion based (e.g., seminar, workshop, game, or tabletop) and one operations based (e.g., drills, functional, full scale) mass rescue exercise over a five year period.

To meet this exercise requirement the Coast Guard initiated a five-year mass rescue exercise series known as "Black Swan." The exercise series commenced in April 2013 with a full scale exercise on a passenger ship in Freeport, Bahamas, and will continue with a full scale exercise in Hawaii in 2015 and Norfolk in 2017. The scope of these exercises provides a valuable opportunity to identify and resolve the difficulties associated with rescuing hundreds or thousands of people. Black Swan will continue to focus on the exercise of Coast Guard mass rescue plans, coordination with other authorities and industry partners, notification and information processes, personnel accountability, and unique challenges of embarking thousands of survivors on rescue ships from the water, lifeboats and rafts, and rescued passenger and crew support.



## **Cruise Ship Security and Crime**

The events of September 11, 2001, spurred the development of the Maritime Transportation Security Act (MTSA) and the IMO International Ship and Port Facility Security (ISPS) Code, both of which are rigorously enforced by the Coast Guard. The Coast Guard examines every cruise ship that visits the U.S. for compliance with MTSA and ISPS requirements during the ship's annual and periodic Control Verification exam, as well as on a random basis throughout the year during unannounced port security checks.

Despite this security compliance regime, there have been serious incidents and crimes that have affected U.S. citizens aboard foreign-flagged cruise ships. This has led to an increased focus on protecting our citizens both in port and while they are at sea. In 2010, Congress enacted the Cruise Ship Security and Safety Act of 2010 (CVSSA) which prescribes security and safety requirements for designated cruise ships.

CVSSA addresses many areas that affect personal safety and security, including: ship design; better public access to information about crime aboard cruise ships; improved precautions, response, medical care, support for victims of sexual assault; preservation of evidence necessary to prosecute criminals; and more consistent and complete reports. Some of these requirements went into effect when the President signed the legislation on July 27, 2010; however, there are areas that require implementation through the publication of regulations.

Thus far, the Coast Guard has completed the following actions with respect to implementing the CVSSA:

- The Coast Guard published policy establishing guidelines for Coast Guard Marine Inspectors examining cruise vessels for compliance to include physical requirements, such as: rail heights; door peep-holes (similar to hotel doors), which allow cabin occupants to see who is outside; and the passenger security guide.
- The Coast Guard established an internet-based portal ([NCC@uscg.mil](mailto:NCC@uscg.mil)) to facilitate electronic submission of crime reports.
- The Coast Guard established a web link to publish cruise ship sexual assault and criminal activity data received from the Federal Bureau of Investigation (FBI) in accordance with the act: <http://www.uscg.mil/hq/cg2/cgis/>.
- An Inter-agency workgroup consisting of Coast Guard, FBI, and the Maritime Administration personnel completed development of a model course addressing crime scene preservation standards and curricula.
- The Coast Guard published policy promulgating training standards and curricula for the certification of passenger vessel security personnel.

## **Closing**

In closing, let me emphasize that the Coast Guard understands and embraces our lead role in protecting our most precious cargo- people, who are carried aboard cruise ships in many of the world's most pristine marine environments. We continue to place the highest priority on enforcing compliance with safety, security and environmental regulations on those vessels that embark passengers in the United States and embark U.S. passengers world-wide.

We have a strong and effective port state control program for foreign cruise ships and will continue to ensure that vessels calling on ports in the United States are in substantial compliance with applicable international and domestic standards.

Through proactive oversight and enforcement, we participate in casualty investigations, even those taking place overseas, and we lead efforts at the IMO to improve maritime safety, security, and environmental protection standards. As those investigation results are analyzed, the Coast Guard will continue to capture the lessons learned and incorporate them into our safety regime, and continue to recommend international requirement updates where necessary. Internally, we are also changing our examination procedures to address the lessons made apparent from other recent cruise ship fire casualties and ensure our port state control examinations target areas of concern.

The Coast Guard looks forward to continued cooperation with this committee, passenger victims groups, and the passenger vessel industry to maximize cruise vessel safety, security, and environmental protection.

Thank you again for the opportunity to testify today. I will be pleased to answer any questions you may have.