The
# Cruise Ship Round Turn

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CRUISE SHIP NATIONAL CENTER OF EXPERTISE

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## A Word from the Director of Inspections and Compliance

**by Captain Wayne Arguin**
*Director of Inspections and Compliance (CG-5PC)*


The global COVID-19 pandemic has presented unique and unprecedented challenges throughout the marine transportation system. Impacts to passenger vessel operations have been particularly severe with cruise line operations all but ceased since March 2020. The Coast Guard's Office of Inspection and Compliance (CG-5PC) remains engaged with the Centers for Disease Control's (CDC) COVID-19 Maritime Unit to address commercial vessel safety related issues. As cruise lines prepare to resume restricted passenger operations in accordance with the Conditional Sail Order (CSO), the Coast Guard stands ready to fulfill examination requirements for all foreign passenger vessels.

As a result of the pandemic, nearly all cruise ships have ceased operations in and from U.S. waters, and have undergone substantial crew reductions, or had large crew turnovers. As such, each cruise ship returning to operation, including those with valid Certificates of Compliance (COC), will be required to undergo a complete annual COC examination prior to resuming passenger operations. The U.S. Coast Guard Cruise Ship National Center of Expertise (CSNCOE) and local Officers in Charge, Marine Inspection (OCMI) are prepared to commence these examinations at the request of vessel owner or operators, however, scheduling requests for COC examinations should coincide with application submissions to the CDC for simulated voyage.

The scope of the Certificate of Compliance examination has not changed. Coast Guard examiners verify compliance with domestic and international safety/security requirements during the exams while also complying with all CDC requirements for personal protective equipment and social distancing. The use of remote or virtual follow-on verification procedures, where appropriate, may also be employed to clear any remaining deficiencies and minimize exposure risks. Any changes to ship systems or configurations to meet CDC CSO requirements should be approved by the Flag Administration and/or Recognized Organization. Additionally, the Coast Guard is aware that many cruise lines have developed novel passenger mustering procedures. These alternative approaches will be observed during the COC exam to ensure crew familiarly with updated procedures and equipment.

For questions regarding the Coast Guard's involvement with passenger vessel safety, please contact LCDR Tom Gibson at Thomas.G.Gibson@uscg.mil.

## Navigating the CDC Conditional Sail Order

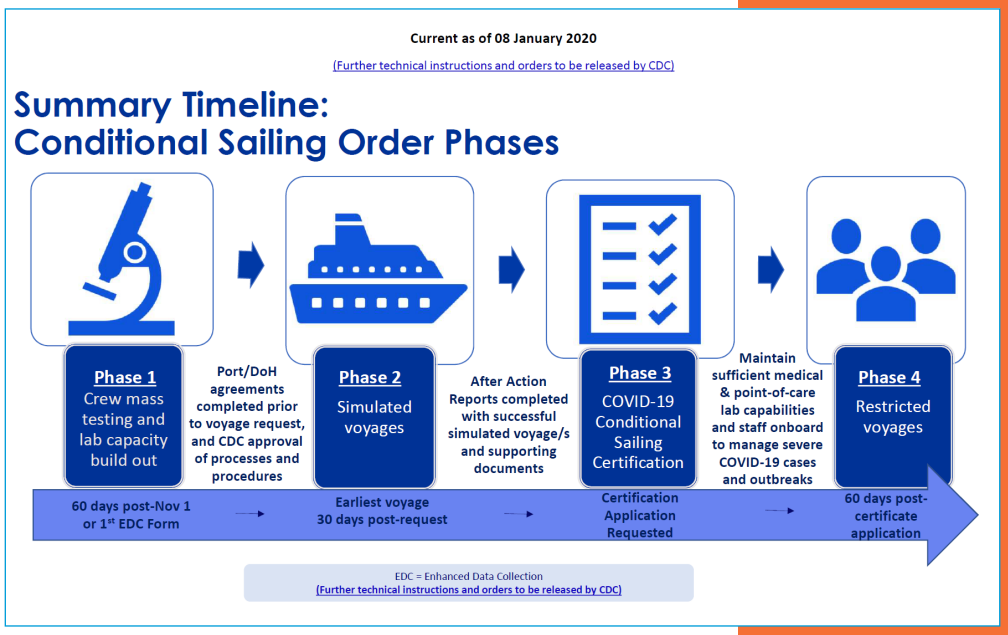
**by Commander Gina Adams**
*Coast Guard Liaison Officer to the Center for Disease Control & Prevention*

On October 30th, 2020, the Center for Disease Control and Prevention (CDC) , released its *Framework for Conditional Sailing and Initial Phase COVID Testing Requirements for Protection of Crew* (CSO). With this order, the agency has taken a phased approach to resumption of cruise vessel operations in U.S. waters considering the spread of COVID-19 worldwide and the risk of infection on cruise ships. The *Technical Instructions for Mitigation of COVID-19 Among Cruise Ship Crew* provide instructions on the initial phases of the CSO.

Subsequent phases will be covered in future instructions and orders released by the CDC. Although subject to changes, these phases include simulated voyages to test capabilities in mitigating infection risks, agreements with port and local health authorities, conditional sailing certifications, and a phased return to passenger operations with restricted voy-

ages. Cruise lines must request approval from the CDC to conduct simulated voyages 30 days in advance. At that time, cruise lines should also request a Certificate of Compliance examination from the USCG. Simulated voyages will reflect future restricted voyages.

The Cruise Ship NCOE is working closely with the USCG Liaison for the CDC, and a Job Aid for Coast Guard Field Units has been created and distributed to your Districts. The image to the right depicts the timeline summarizing each phase of the CSO from the Job Aid. The updated requirements are found in CDC's CSO and those should be consulted for the most current and accurate data, along with CDC's technical instructions *Technical Instructions for Mitigation of COVID-19 Among Cruise Ship Crew | Quarantine | CDC*. For further questions or concerns not addressed, please work with your District Prevention representative who is coordinating with the USCG CDC Liaison Officer. USCG personnel are to defer all industry questions or concerns regarding the CSO to the CDC. Industry members may contact the CDC Maritime Unit directly via email at eocevent349@cdc.gov for all CSO questions or concerns.




## Coast Guard Preparations for Dual-Fueled Cruise Ships

**by Lieutenant Commander Tiea Gaudren**
***Office of Commercial Vessel Compliance, Port State Control Division***

The first dual-fueled cruise ship operations are expected to kick-off in American ports in the second quarter of 2021, and the U.S. Coast Guard has been working behind the scenes to make sure our training and performance standards effectively guide our examiners during this evolution of cruise ship operations. As the cruise industry pursues cleaner fuel sources to meet global emissions caps, Liquefied Natural Gas (LNG) continues to be the preferred alternative fuel. Currently, there are 3 dual-fueled cruise ships in service worldwide, with 26 on the order books in the coming years.

The Office of Commercial Vessel Compliance (CG-CVC) has been working closely with the Liquefied Gas Carrier NCOE, Cruise Ship NCOE, Training Center Yorktown, and field subject matter experts to create the training framework for LNG and other Low Flashpoint Fuels (LFF). This includes a program for domestic vessel inspectors and a program for foreign vessel examiners. We are finalizing the Performance Qualification Standard (PQS) for examining LFF as an addendum to any Port State Control Officer qualification. In the case of cruise ships, this is an extra set of PQS tasks to be completed in addition to the Foreign Passenger Vessel Examiner PQS.

The training and qualification program covers examination of the arrangement, installation, control & monitoring of machinery, equipment, and systems using LFF. Additionally, our team is in the process of building the Tactics, Techniques, and Procedures (TTP) for domestic vessel inspections and foreign vessel examinations that involve ships using LFF. We continue to leverage industry training opportunities to maximize our knowledge and skills when developing these performance standards. The Cruise Ship NCOE is also updating job aids that guide Foreign Passenger Vessel Examiners during Initial, Annual, and Periodic Certificate of Compliance exams. The risk is higher when dealing with cruise ships, and we have done extensive work to make sure our Port State Control teams get it right the first time.

***"...the U.S. Coast Guard has been working behind the scenes to make sure our training and performance standards effectively guide our examiners during this evolution of cruise industry operations."***

# Big Changes for Passenger Musters

**by Mr. Alessandro Lo Piccolo**
*Assistant Director Inspections & Surveys Department,*
*The Bahamas Maritime Authority*

Back in 2019, prior to the COVID pandemic, the BMA was approached by shipowners to consider and review alternative mustering protocols.

"Muster 2.0" was brought to us by RCCL to be reviewed. During this process the BMA found that it was not only covering the SOLAS requirement but in some ways preferential to current mustering protocols. Muster 2.0 provides a tailored customer mustering experience allowing the process to be more efficient as well as enabling a higher level of information retention in both passengers and crew.

These results were gathered during several pilot tests, using a small selection of passengers and crew, carried out onboard ships whilst in operation. These findings have provided solid evidence that the use of technological systems, in the context of alternative mustering methods, does not impair any of the objectives and goals mandated under the applicable IMO instruments.

In the traditional mustering model, the safety information is shared at the muster station via a video and/or spoken by the muster station leaders. As per the airline industry, concerns remain as to how effective such methods really are and how shipping companies can ensure the information is understood by every passenger onboard.

SOLAS III/19.2.2.2 and III/19.2.3, for example, require that "Passengers shall be instructed in the use of the lifejackets and the action to take in an emergency". Traditionally this would have been demonstrated in person, but we are moving towards having a safety video shown on a passenger's phone or in their stateroom on the TV which can be tracked, allowing the crew to intervene if the passenger has not completed watching the safety video.

The BMA has conducted the review using the following steps:

1. Preliminary analysis of the proposal,
2. Comparison with the current regulatory framework,
3. Analysis of the risks and benefits,
4. Considerations of the impact on guests and crew,
5. Feasibility and reliability assessment,
6. Additional gap analysis provided by a Bahamas Recognised Organisation,
7. All digital media review (safety video, mobile app, etc), and
8. Internal discussion and conclusions made.

Muster 2.0 key features are that passengers can access safety videos via their mobile phones during embarkation which speeds up the boarding process and allows passengers to review the information at their own pace. Safety information remains available throughout the entire voyage, acknowledgement of completion is trackable onboard which can therefore facilitate follow ups, if necessary. Safety information is also available on the TV in the passenger stateroom.

Passengers will still physically attend their assigned muster station and confirm their attendance by using the "tap station" provided, although now they will have a 4-to-5-hour window in order to do this. This new approach should solidify the passengers' routes to the muster stations by ensuring that they are paying attention as they muster. Previously, passengers have been able to "follow the crowd", perhaps not taking responsibility for learning their routes sufficiently. Bridge and assembly leaders will have access to a live insight of the completion status and will be able to track progress by the minute.

This approach may reduce the need for PSC full muster drills with passenger and crew as records taken during the latest drill conducted onboard will be available for review. This may allow an opportunity to focus on the associated ISM elements and training.

We believe that Muster 2.0 meets the intent of SOLAS III/8.2 and 19.2, as amended, subject to the following:

a. Announcements are still made;
b. Safety briefings are to be given by PA announcement;
c. Training is to be maintained for the crew for both new and backup mustering protocols;
d. Conditions for ship departure will not change (each vessel must demonstrate that guests have completed muster requirements);
e. Proper follow-ups are given to each passenger that has not acknowledged the safety video and/or tapped in at their muster station;
f. In the event that Muster 2.0 is not available, backup arrangement to be immediately implemented; and
g. If any changes are made to Muster 2.0, Administration acceptance may cease to be valid.

In conclusion, the BMA supports the implementation of Muster 2.0 and we believe it to be an enhanced system to the one that we have currently in place. Furthermore, it will enable vessels to maintain social distancing while the requirement remains in place.

***"This new approach should solidify the passengers' routes to the muster station by ensuring that they are paying attention as they muster. Previously, passengers have been able to 'follow the crowd', perhaps not taking responsibility for learning their routes sufficiently."***

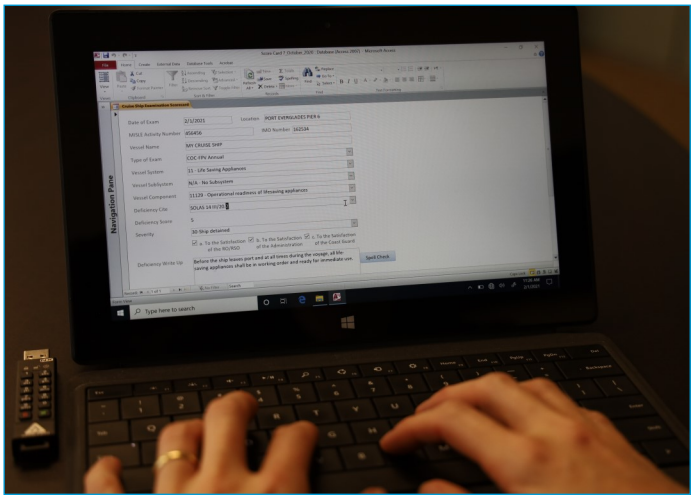
# Cruise Ship Safety Scorecard Raises the Bar on Quality, Consistency, and Efficiency

**by Mr. Brad Schoenwald**
*Senior Marine Inspector, Cruise Ship National Center of Expertise*

*"Imagine you enjoy a particular cup of coffee from a large brand; you expect to have the same experience when you order a coffee in London as you did in Seattle, and expect the same in Hong Kong or New York. Good organizations have processes and values that influence behavior and we needed to improve our organizational processes to improve the quality and consistency of our examinations."*

The Scorecard has been a long term goal of the Cruise Ship National Center of Expertise (CSNCOE) and in development for over ten years. We recognized how well the scoring system for the Centers for Disease Control and Prevention's Vessel Sanitation Programs incentivized positive performance from the ships crews. Their score brought awareness to the public and, more importantly, gave the ships' crew an identifiable result of how well they were doing to maintain compliance. These scores are incorporated as a Key Performance Indicator (KPI) within the major cruise lines' corporate performance measurements. In developing the Cruise Ship Scorecard, however, the main goal was to provide a measurement of how well Coast Guard examiners performed while completing examinations.

Developing a U.S. Coast Guard Score first required establishment of a quality examination process to be consistently followed and audited. Since the Coast Guard operates within a quality management process, guided by the Mission Management System (MMS), the Prevention field should have a metric assigned to measure what we do. Just having a quality management system does not mean you have a quality process within your organization. Business rules have to be established and this was our first goal. Imagine you enjoy a particular cup of coffee from a large brand; you expect to have the same experience when you order a coffee in London as you did in Seattle, and expect the same in Hong Kong or New York. Good organizations have processes and values that influence behavior and we needed to improve our organizational processes to improve the quality and consistency of our examinations. This initial thought led to the development of a long-term quality improvement process involving six implementation steps.



**Port State Control Officer using scorecard application**

The first step was a systematic review of the Foreign Passenger Vessel Examination and the realization that the process itself was the largest impediment to the examination teams' performance. We had knowledgeable examiners; however, the process to conduct the exams was inconsistent and inadequately executed throughout the Coast Guard. Using quality management protocols, we developed the Holistic Examination Process and changed the examiners' perspective and approach to Certificate of Compliance exams. Initially, this holistic process was documented in an MMS work instruction which outlined the workflow to be followed to perform the examination. We then created the first Tactics, Techniques, and Procedures (TTP) within the Prevention Program with the development of the Foreign Passenger Vessel Examination TTP. This internal policy provided the best platform for implementation of the Holistic Exam Process and allowed for continual updates.

The second step involved an overhaul of our training program in order to train examiners on the holistic process. The new Foreign Passenger Vessel Examiners Course exemplified what was considered to be "good performance" during an exam. The rudimentary Port State Control sections were reduced, while human performance and process action were emphasized to promote consistency of exam quality and improved human performance.

The third step was to develop new job aids as performance support tools. We discovered over 3,000 different potential cites within MISLE to record cruise ship deficiencies. With so many potential deficiency entry options, the consistency and quality of data entry into MISLE was compromised. This performance support tool dramatically increased the quality of the MISLE entries and provided better data for review and reporting.

With the development of the MISLE user guide and the new Performance Job Aids, we were able to move on to building the Scorecard. The CSNCOE re-

searched for the best way to develop a numerical scoring value to measure Prevention. The problem was: How do you measure prevention accurately? How do you prove a negative? Then a thought….we should be measuring OUR performance instead of what happens to a ship when under the control of its crew. We should recognize that when a quality process is implemented, the examinations themselves reveal the results of that process. And yes, we can measure this.

In late 2016, our Cruise Ship Scorecard project was selected for the Research and Development Test and Evaluation Program by the U.S. Coast Guard Research and Development Center (RDC). Development began in October of 2018 and the final product, and report, from the RDC was completed in March of 2020. The RDC successfully developed the risk-based methodology using our desire to define a quantitative risk metric found during cruise ship examinations. During the design phase, we included subject matter experts from units with a high number cruise ship exams, and coordinated with the MIPSA and INSPECT APP teams, in order to build a robust tool able to be incorporated into a future product hosted in a cloud environment. The ground rules required that the process must: save examination time, be a true mission support tool, be able to work with existing Coast Guard IT infrastructure, and provide quality data output.

The Scorecard measures team performance and provides a human performance incentive with better deficiency data that can be understood and analyzed. With the Scorecard, identified deficiencies are entered into a database that determines the risk profile associated with each deficiency. Analysis of deficiencies measures the total risk reduction, or the potential negative consequences, which were mitigated by examination findings. The Scorecard application auto-fills the deficiency cites into the required Port State Control forms, CG-5437A (Form A) and CG-5437B (Form B), thereby increasing efficiency and eliminating the use of hand-written forms. As a performance support tool, it saves the examination team time aboard the ship, and in the office, while producing easy-to-read exam forms.

Ahead of program implementation, each unit conducting cruise ship exams will receive a *Surface Pro* tablet from the CSNCOE. The tablets will be pre-loaded with the Scorecard application and associated hardware and software to include training aids and procedures. Additionally, an approved secure thumb drive will be included to transfer the completed Form A and B to the ship for printing and then uploading into MISLE from the examiner's Coast Guard workstation. A video overview of the Scorecard in use is also available on the CSNCOE CGPortal Page. The CSNCOE will provide life cycle maintenance, upgrades, and field support for the Scorecard. We will review cruise ship examination activities, provide feedback, and validate scores. The Coast Guard intends to use this data to determine trends, inform the Foreign Passenger Vessel Examiner training program, and enhance overall safety while increasing examination performance. If you have any questions regarding the Cruise Ship Safety Scorecard, please contact Mr. Brad Schoenwald at Brad.A.Schoenwald@uscg.mil.

## First Liquefied Natural Gas (LNG) Fueled Cruise Ship in U.S. - Port Canaveral in the Spotlight

**by Lieutenant Richard Quintana**
***Chief of Inspections & Investigations, Marine Safety Detachment Port Canaveral***

As a cost-competitive and cleaner alternative, it is no surprise that LNG is gaining momentum as a sustainable marine fuel worldwide. This is true in the United States with an increasing number of U.S. flagged commercial vessels operating throughout some of our major ports, and more LNG-powered vessels, including cruise ships being delivered around the world. As a result, it is expected that the tempo of LNG operations will only continue to increase in U.S. waters, bringing an everlasting dynamic change to the Maritime Transportation System, the environment, and our very own Marine Inspectors and Port State Control Officers.

**USCG exam team on MARDI GRAS ICOC**

Carnival Cruise Line's newest ship, MARDI GRAS, is the latest LNG-powered vessel to be delivered from the Meyer Turku Shipyard in Finland. The MARDI GRAS will be the first LNG-powered cruise ship to operate in U.S. waters.

It will be homeported in Port Canaveral, FL, which is the second busiest cruise port in the world. Port Canaveral currently does not have an LNG distribution facility, which presents a unique opportunity for the port. LNG will be transported from Elba Island, GA on a coastwise trade route via the Articulated Tug and barge (ATB) Q-OCEAN SERVICE and Q-LNG 400 (the first LNG bunker ATB in the world). The Q-LNG 4000 was delivered in November 2020 and, upon arrival in Port Canaveral, will bunker LNG to the MARDI GRAS.

The MARDI GRAS is expected to arrive in Port Canaveral in the late winter to early spring of 2021, where she will moor at Cruise Terminal #3, one of the newest and most advanced terminals located in Port Canaveral. Before her maiden voyage across the Atlantic, a team of Coast Guard inspectors comprised of members from the Cruise Ship National Center of Expertise, Marine Safety Center, and Marine Safety Detachment Port Canaveral attended the MARDI GRAS at the shipyard in Finland to conduct the Initial Certificate of Compliance (ICOC) Exam. Singularly unique from other ICOCs was the fact that this exam included a Coast Guard team specifically assigned to assess and test the LNG systems and associated components onboard. The exam was an overall success and no major issues were identified.

The conceptualization of these projects occurred years ago and, ever since, the actualization of bringing LNG operations to Port Canaveral continues to receive major support from stakeholders and port partners. Coast Guard and industry partnerships are essential to ensure the utmost level of public and environmental acceptance. Members of the Canaveral Unified Command, including Coast Guard, Canaveral Port Authority, Canaveral Fire Rescue, and Brevard County Sheriff's Office, worked together tirelessly with representatives from Shell, Q-LNG Transport, and Carnival Cruise Line to assess potential hazards/risks associated with LNG operations within the port and create mitigating measures to avoid any unwanted events. This risk analyses resulted in the procurement of a brand new Fire Boat outfitted with the proper firefighting capabilities and equipment to combat potential marine fires, thus increasing the overall readiness of the port for emergency response.

The committed teamwork from the port's Unified Command and stakeholders was noteworthy. The collaboration required immense coordination and advanced technical understanding of the cruise ship industry and LNG operations; however, it proved to be a crucial and necessary step to overcome all challenges prior to the arrival of the MARDI GRAS. The successful management of this project served to support LNG as fuel, strengthen maritime partnerships, and gain public trust.

As a result of continuous involvement in this project, Coast Guard Cruise Ship Examiners strengthened their expertise through training and field experience to meet the technological advantages onboard vessels using low flash point fuels. While the MARDI GRAS will be the first cruise ship in the U.S. using LNG as fuel, more are scheduled to arrive in 2022 and in the years to come. Amidst all of the advances, one thing is for certain: the Coast Guard is poised to provide the highest quality vessel examinations in the execution of safe maritime operations.

***"The conceptualization of these projects occurred years ago and, ever since, the actualization of bringing LNG operations to Port Canaveral continues to receive major support from stakeholders and port partners."***

## ICOC Program Perseverance Despite COVID-19

**by Lieutenant Kimberly Glore**
*Port State Control Officer, Cruise Ship National Center of Expertise*

Let us take a moment to travel back to January 2020, as the social consensus confirmed that THIS would be our year. As "new year, new me" was declared around the world, there was no indication that a viral pandemic was on the brink, and life as we knew it, would be altered in unprecedented ways. The effects of the COVID-19 pandemic reverberated at a global level. Travel restrictions, social distancing measures, quarantines, and lockdowns infiltrated our daily lives.

The pandemic sent shockwaves throughout the maritime industry and its associated supply chains. To cope with pandemic-related disruptions,

**SILVER MOON at Fincantieri Shipyard, Ancona, Italy**

players in the maritime sector adjusted their operations, finances, sanitary and safety protocols as well as working practices and procedures. Likewise, the Coast Guard encountered the challenge of balancing ever-changing COVID-19 protocols with successful mission execution. In "semper paratus" fashion, the Coast Guard remained vigilant amongst the inauspicious COVID-19 environment, particularly the Marine Safety Field.

The Cruise Ship National Center of Expertise was not excluded from encountering these tough, unforeseen operational dilemmas. With major impacts to the cruise vessel industry, navigating a way forward was disrupted by numerous obstacles including but not limited to government travel restrictions, shipyard entry requirements, vessel construction delays, etc.

ENCHANTED PRINCESS ICOC exam team

The CSNCOE worked closely with the USCG Marine Safety Center, and Activities Europe to ensure Coast Guard participation in overseas ICOC examinations for foreign passenger vessels. This was not an easy feat, but since September, the Coast Guard successfully completed four FPV ICOC examinations:

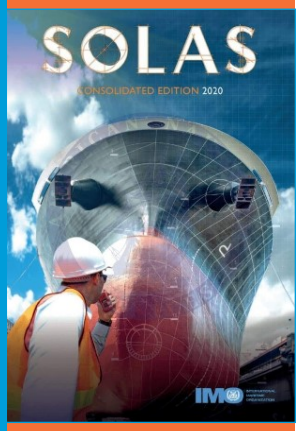
- ENCHANTED PRINCESS; Monfalcone, Italy
- SILVER MOON: Ancona, Italy
- MARDI GRAS: Turku, Finland
- NATIONAL GEOGRAPHIC ENDURANCE: Rotterdam, Netherlands

All attending personnel adhered to the highest COVID-19 safety measures. As a shipyard requirement, USCG examiners received rapid COVID-19 tests prior to any international travel, received daily temperature checks prior to shipyard entry, and remained masked for the entirety of the ICOC examinations. Although there are extra hurdles to overcome, the ICOC exam process is actively being carried out quite seamlessly.

Although cruise ships still are not operating in U.S. ports, cruise lines have resumed operations in Europe and Asia; German-based Hapag-Lloyd Cruises was one of the first, sailing out of Hamburg starting in July 2020. New safety precautions onboard ships include a mandatory health questionnaire, staggered boarding, daily temperature checks, reducing total passenger load, installing onboard testing labs, and application of antiviral disinfectant throughout the ship.

Despite the impacts and uncertainty surrounding COVID-19, travelers are eager to return to the seas. Cruise lines are adhering to Center of Disease Control and Prevention (CDC) requirements and diligently working on a safe return to operating in U.S. waters. The Coast Guard remains dedicated to implementing the highest quality examination program thereby ensuring safety of cruise ship operations.

## Standards Updates




**SOLAS Consolidated Edition 2020** — Amendments enter into force on 1 January 2020.

**Lifeboat Maintenance:** Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats & rescue boats, launching appliances and release gear. Regulations III/3 and III/20.

**Damage Control Drills:** Requirements for drills to take place at least every three months. Regulations II-1/19-1, III/30, and III/37.

**Evacuation Analysis:** Requirements for escape routes to be evaluated by evaluation analysis in the design process on passenger ships carrying more than 36 passengers. Regulation II-2/13.

**Damage Stability:** Updates to probabilistic damage stability requirements to increase survivability in case of flooding after collision or grounding. Updated stability information to be available to the master after flooding. Regulations in Chapter II-1.

**Fire Integrity of Windows on Passenger Ships Carrying Not More than 36 Passengers:** Clarified fire integrity requirements as A-0 for windows facing survival craft, escape slide, embarkation areas, and windows below such areas. Regulation II-2/9.4.1.3.

## Training Updates

**FPVE Underway Course.** Due to the COVID-19 pandemic, the Coast Guard Cruise Ship National Center of Expertise (CSNCOE) had to cancel the Foreign Passenger Vessel Examiner (FPVE) courses scheduled for May and June 2020. We are currently working on obtaining a new contract for Fiscal Year 2021 with the hope of holding an underway course this fiscal year. At the same time, we recognize the challenges of conducting an underway course during this pandemic, and there is a large degree of uncertainty of when cruise ships will again be operating in U.S. waters. We are working on a contingency plan to pursue a shoreside course if we are unable to arrange the underway course. We will not hold the typical three courses this year, and we will likely not have course seats for industry this year. We will continue to update our CGPortal site and add entries to the CID notes as necessary. **FPVE Qualification Currency.** Due to the cruise industry shutdown in March 2020, we expect that most units will not be able to maintain currency with their Foreign Passenger Vessel Examiners (FPVE). To overcome the lack of opportunities to maintain FPVE currency, units should use competency specific refresher training as discussed in MSM Volume II, Section A7.E.1.d. As part of the competency specific refresher training, units should ensure that lapsed examiners conduct a "table-top mock exam." FPVEs should review the appropriate TTP & MSM sections prior to the planned tabletop exam. Units should use different exam scenarios in order to ensure optimal preparedness. The CSNCOE is available to assist with competency specific refresher training.

**FPVE Tailored Training.** CSNCOE has received multiple requests from units to conduct refresher training since qualified FPVEs and trainees have not examined cruise ships in the past year. While the CSNCOE does not offer comprehensive cruise ship training outside the FPVE course, we do offer tailored training that focuses on a specific topic. We have conducted tailored training sessions for field units in Florida, and are available to deploy to your unit. If interested, please reach out to the CSNCOE.

## FPVE Knowledge Check

1. Flammable liquid and gas storage cabinets must be manufactured and approved to what standard?

2. TRUE/FALSE: Aluminum or GRP floor plates, grids, or walkways are acceptable for use in escape routes.

3. TRUE/FALSE: The use of thumb-turn latches, locks, and other devices which do not open when a force is applied in the direction of escape are not appropriate in doors within or leading from public spaces.

4. Pantries containing cooking appliances (not galley ranges), built-in (walk-in) reefer units, office-type furnishings (desk, chair, filing cabinets) shall be given a _____ space categorization.

5. Any partially enclosed area that is covered with an overhanging deck in excess of ___ meters is considered an enclosed space requiring fire protection appropriate for the fire load and use (including sprinklers and detection).

**Answers to Knowledge Check Questions:**

1. EN14470-1, Type 60 or Type 90 are approved
2. FALSE
3. TRUE
4. Category 13
5. 10

**Contact the CSNCOE:**

**We're on LinkedIn**

LinkedIn.com/company/Coast-Guard-National-Center-of-Expertise

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