Foreign Passenger Vessel Exam Scorecard

2022 Annual Report

I.   Introduction

Background

This report is prepared for CG-CVC as indicated in CVC-PR-022(1). The Foreign Passenger Vessel Exam Scorecard was released in February 2021 as a quality measurement tool for Port State Control (PSC) exams performed on Foreign Passenger Vessels (FPV). PSC exams on FPVs are recorded using the Scorecard in accordance with Procedure MPS-PR-CSNCOE-07.

Calendar year 2022 marks the first full year of FPV compliance exam activity levels, and serves as the benchmark for Scorecard data analysis. Use of the Scorecard has been observed to be universal among units performing Port State Control exams on FPVs. The initial deployment of the Scorecard came with hardware, including a *Microsoft® Surface Pro®* device and an external encrypted hard drive, although many examiners are now using the Scorecard on their issued *hp®* mobility workstations. Scorecard functionality and reliability has improved over the past year due to increased experience of the field units, and increased information technology knowledge of the Cruise Ship NCOE staff. This report highlights the initial analysis of Scores of all FPV exams performed nationwide.

Contents

II.   National Rundown

The U.S. Coast Guard performed 262 COC exams on 201 FPVs with a national Scorecard average of 10.27. The score 10.27 serves as the benchmark metric for the average amount of noncompliance recorded during a COC exam. Figure 1 illustrates the breakdown of exam activity among unit tiers[1], showing the majority of exams occurring at Tier 1 Units. Figure 2 outlines the monthly distribution of mission demand throughout the calendar year, highlighting the predictable seasonal workload, especially in the northeastern and northwestern ports.
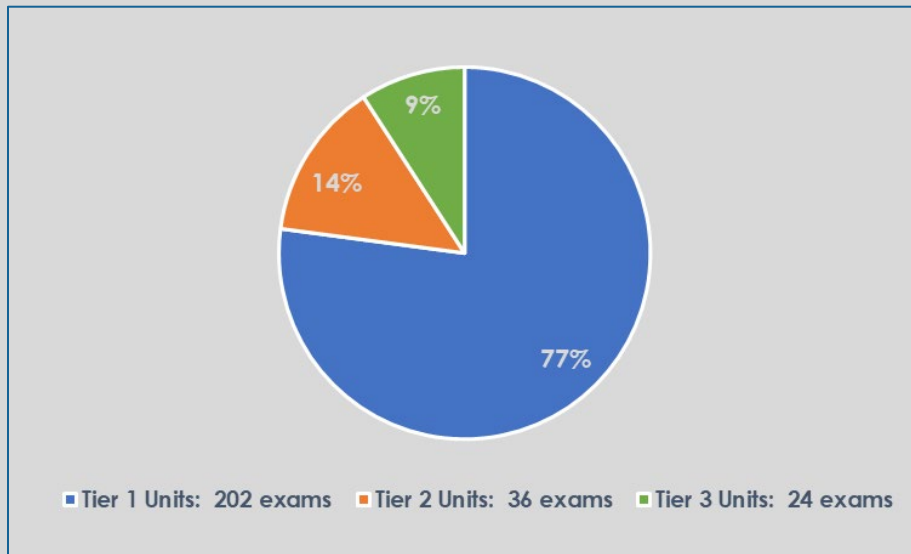

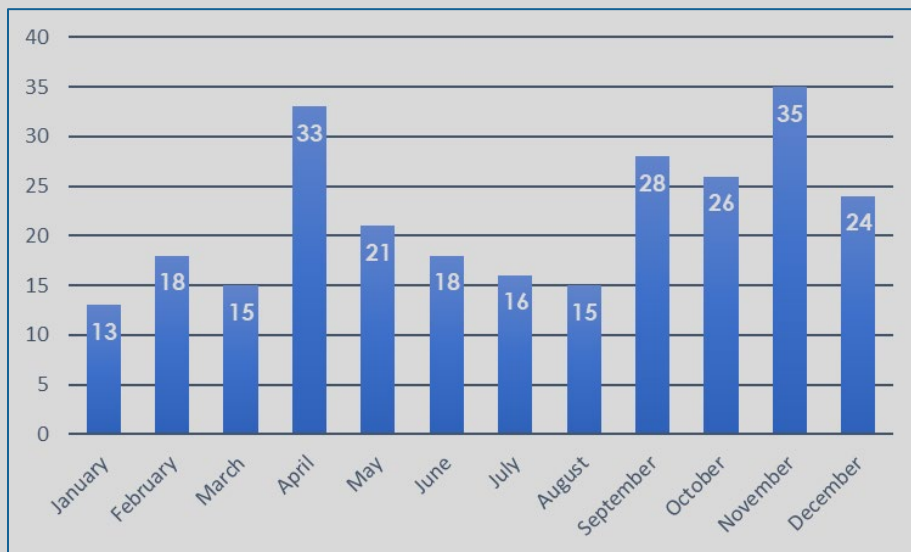Figure 1. Calendar year 2022 workload distribution among unit tiers

Figure 2. Calendar year 2022 monthly exam distribution

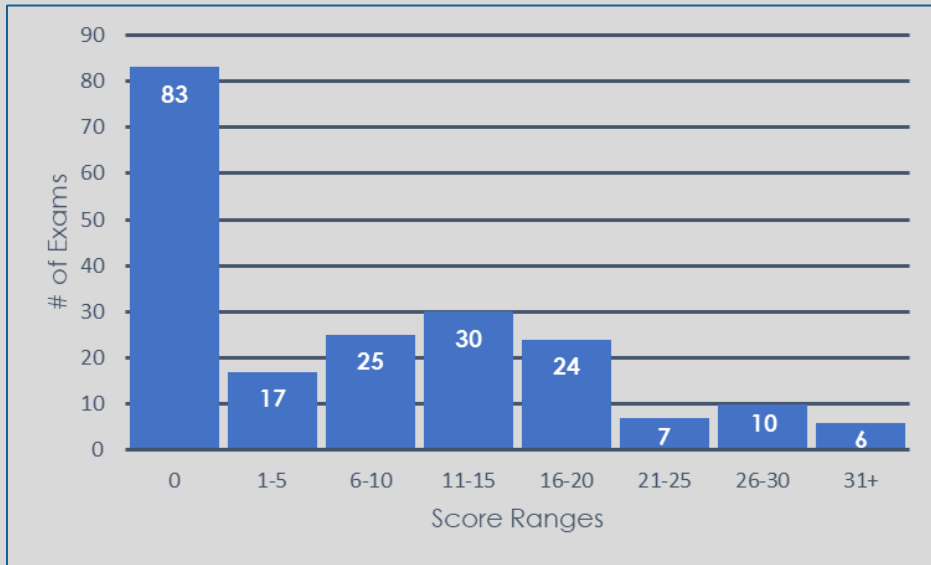[1] Unit tiers are defined in MPS-WI-CSNCOE-04.

III. Tier 1 Units

Figure 3. Score distribution for Tier 1 Unit exam group

Sector Puget Sound

10 Exams

Scorecard Avg. **8.74**

Sector New York

25 Exams

Scorecard Avg. **13.71**

Sector Boston

8 Exams

Scorecard Avg. **1.57**

Sector LA/LB

19 Exams

Scorecard Avg. **6.81**

MSD Port Canaveral

24 Exams

Scorecard Avg. **4.52**

All Tier 1 Units

202 Exams

Scorecard Avg. **8.51**

Sector Juneau

14 Exams

Scorecard Avg. **18.32**

Sector Miami

63 Exams

Scorecard Avg. **5.90**

Sector Honolulu

6 Exams

Scorecard Avg. **4.43**

MSU Texas City

12 Exams

Scorecard Avg. **5.49**

Sector San Juan

21 Exams

Scorecard Avg. **15.13**
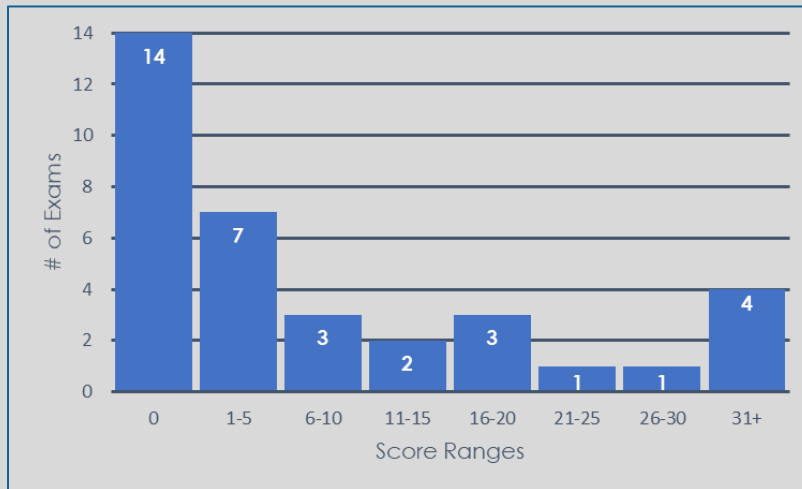
IV. Tier 2 Units

Figure 3. Score distribution for Tier 2 Unit exam group

Sector Anchorage – **7** Exams – Scorecard Avg. **10.86**

Sector San Diego – **7** Exams – Scorecard Avg. **8.99**

Sector New Orleans – **6** Exams – Scorecard Avg. **3.52**

Sector Buffalo – **6** Exams – Scorecard Avg. **0**

Sector St. Petersburg – **6** Exams – Scorecard Avg. **45.23**

MSD Belfast – **2** Exams – Scorecard Avg. **0**

MSD St. Thomas – **2** Exams – Scorecard Avg. **0**

All Tier 2 Units

36 Exams

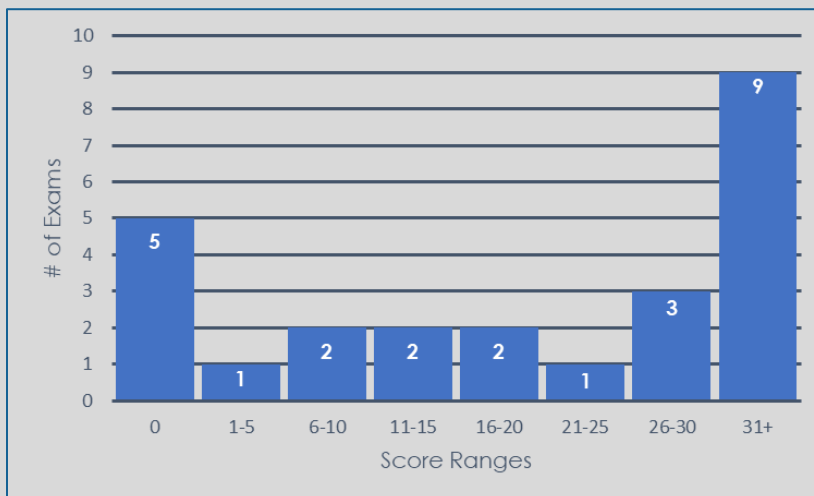Scorecard Avg. **11.98**

V. Tier 3 Units

Figure 4. Score distribution for Tier 3 Unit exam group

All Tier 3 Units

24 Exams

Scorecard Avg. **22.51**

VI. Breakdown by District

Of the 262 COC exams performed in U.S. waters in 2022, 124 exams were carried out in the 7th Coast Guard District. It is expected that much of the compliance activity occurred in the Southeastern U.S., considering South Florida is the cruise capitol of the world. A large portion of the remaining COC exam workload took place in the 1st, 11th, and 17th districts, as shown in Figure 5, with significant cruise ship movements in those regions. The Scorecard summary is also indicated below showing variance between districts.
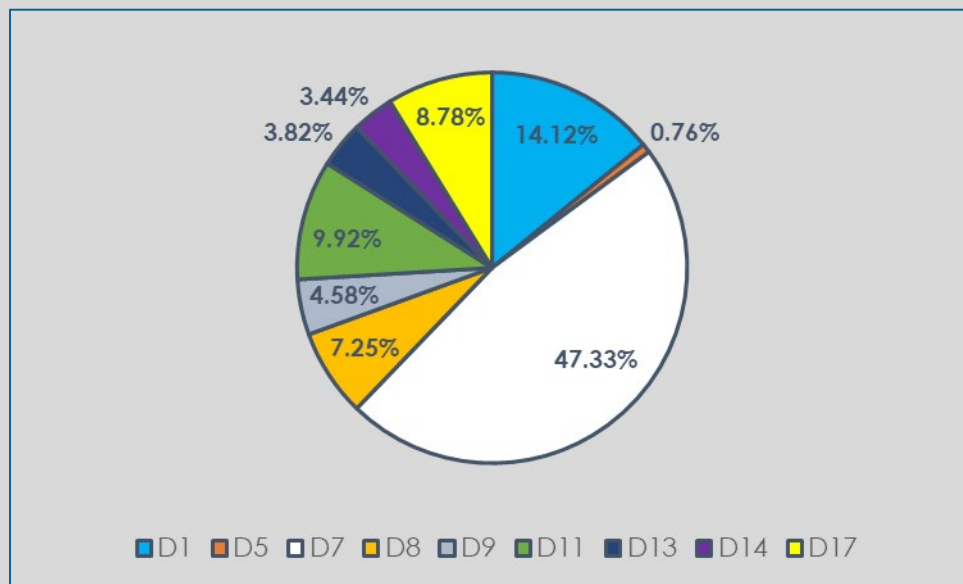

Figure 5. Regional breakdown showing percentage of total exams performed in each district

D13	D9	D1
10 Exams	**12** Exams	**37** Exams
Avg. **8.74**	Avg. **10.15**	Avg. **10.58**

D11		D5
26 Exams		**2** Exams
Avg. **7.39**		Avg. **25.71**

D17	D14	D8	D7
23 Exams	**9** Exams	**19** Exams	**124** Exams
Avg. **15.84**	Avg. **9.63**	Avg. **4.58**	Avg. **10.75**
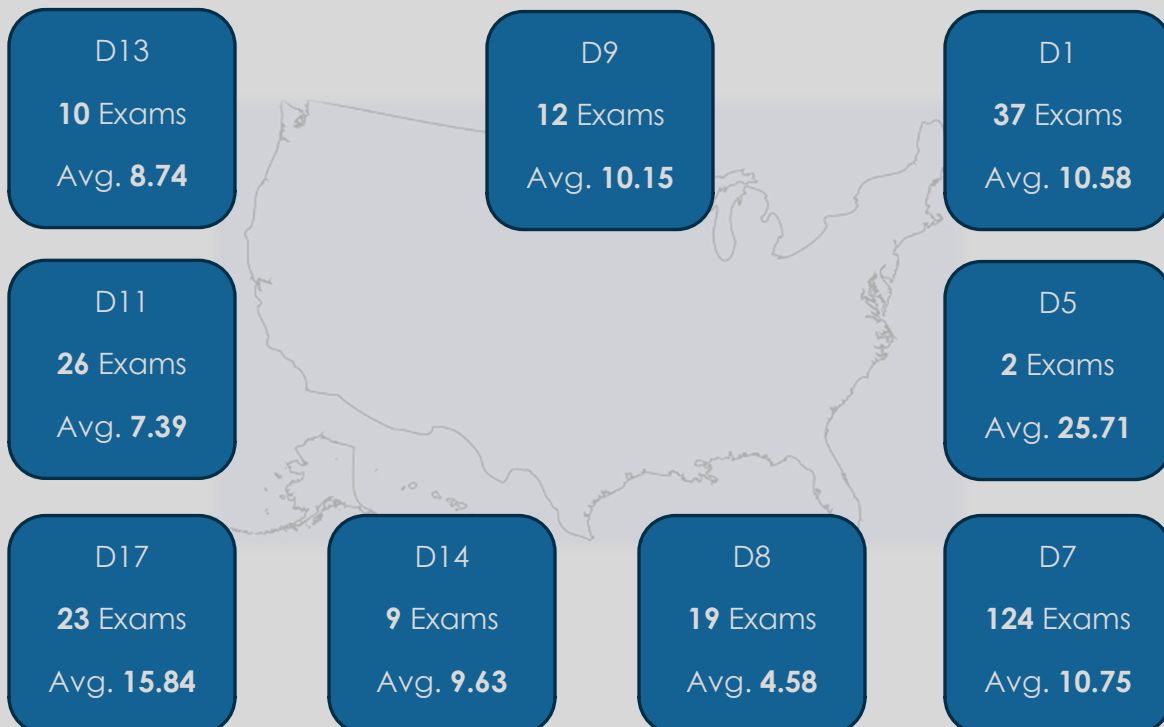
VII. Deeper Dive into Findings

While CSNCOE does not have a big enough data set to draw comprehensive conclusions regarding overall workforce performance, comparisons can be made between different groups. Table 1 shows the comparison between unit tiers. While the exam averages of Tier 1 and Tier 2 units are closer to the national average of 10.27, the Tier 3 unit average of 22.51 is notable. Known external factors for COC exams in Tier 3 ports include smaller operators or older ships. Known internal factors for these exams include less experienced FPV examiners and CSNCOE attendance during the COC exams. While the higher score average cannot be related to any one specifically mentioned factor, the combination of factors can explain the higher Scorecard average. Another notable observation is the score variance between units in the tier groups. For example, as shown on page 3, within the Tier 1 group, 3 units had averages less than 5, while 3 units had averages greater than 13. The above-mentioned factors do not apply in this case because the variables are similar, which warrants further investigation by CSNCOE.

Unit Tier Group	Number of Units	Number of Exams	Scorecard Average
1	10	202	8.51
2	7	36	11.98
3	13	24	22.51

Table 1. Scorecard comparison between unit tier groups

A similar comparison is considered among Coast Guard districts to see if there is a regional trend in Scorecard performance. Table 2 below shows the comparison between districts. The district with the highest Scorecard average is D5, but is excluded for comparison since it only involved 1 unit and 1 ship. The next highest average is D17 with 15.84, while the lowest average is D8 with 4.58. There is a known variance between the ships that operate in Alaska versus the Gulf of Mexico, with external factors being operator and ship age. However, the internal factors are analogous with both districts exhibiting a distribution of Tier 1, 2, and 3 unit experience and expertise. CSNCOE currently perceives this variance as a potential indication of inconsistency, but must investigate further into the documentation of exams performed in the different districts. It is not surprising to note the averages of the top two districts by exam volume, D1 and D7, as being close to the national average of 10.27. As the data sets get larger, the average within that group converges towards the national average. Recalling the score distribution shown in Figure 3, despite 83 exam teams scoring at 0, the great number of exams with higher scores drives the Tier 1 group average (8.51) closer to 10.27.

District	Number of Units	Number of Exams	Scorecard Average
1	4	37	10.58
5	1	2	25.71
7	8	124	10.75
8	3	19	4.58
9	5	12	10.15
11	2	26	7.39
13	1	10	8.74
14	2	9	9.63
17	4	23	15.84

Table 2. Scorecard comparison between districts

A deeper dive into which deficiencies are most issued should inform what is driving the total score values. Table 3 shows the top ten ship components reported for noncompliance during COC exams in 2022. Historically, fire doors are the most commonly found noncompliance item on FPVs, and the same remains for 2022. Note that 7 of the top 10 components are in the system category *Fire Safety* (07), the system which included 322 of the total 576 deficiencies issued in 2022. Also, note the number of deficiencies issued under code 07199, which has a low-risk score of 1.571. This component *Other* is non-discrete and undervalues the risk of the finding. The updated MISLE User Guide[2] specifies how deficiencies should be categorized, so during future COC exams, less deficiencies should be recorded under component category *Other* for each of the 14 FPV system categories.

Deficiency Code	Description	# Found	Scorecard Value
07105	Fire Doors/openings in fire-resisting divisions	108	7.857
07120	Means of escape	71	4.714
07103	Division-decks, bulkheads and penetrations	23	7.857
11101	Lifeboats	21	5
07199	Other (fire safety)	21	1.571
09209	Electrical	19	1.714
11129	Operational readiness of lifesaving appliances	17	5
07110	Fire fighting equipment and appliances	16	6.286
07106	Fire detection and alarm system	14	7.857
07108	Ready availability of fire fighting equipment	14	6.286

Table 3. Top 10 deficiencies reported in 2022

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[2] Foreign Passenger Vessel Marine Information for Safety and Law Enforcement (MISLE) Vessels User Guide, Version 1.5

VIII. Summary

After reviewing the first full year of data from the FPV compliance program, CSNCOE considers the Scorecard a success. The application created a valuable metric to U.S. Coast Guard prevention efforts that allows CSNCOE to dynamically update training and mission guidance. The Scorecard motivated PSC teams to record all findings by standardizing the deficiency-writing process regardless of number of findings, including those corrected on the spot. It also improved efficiency with its automation features linking the relevant statutory requirements to the PSC teams' observations. The cumulative score for all 681 compliance activities in 2022, which included all other PSC actions beyond COC exams, was 2,880. The risk reduction value, or Scorecard value, may be totaled for any period of time, and then a potential marine casualty factor applied. The factor assumes that for every 1,000 Scorecard units (the equivalent to 100 significant risk deficiencies) units discovered on PSC exams, the U.S. Coast Guard potentially prevented a marine casualty. Please note, any factor level is debatable for this measure, but the 100 factor is supportable[3]. If a factor of 100 is applied to the cumulative Scorecard metric, it can be demonstrated that the U.S. Coast Guard potentially prevented 2.88 marine casualties on FPVs in 2022.

The U.S. Coast Guard is obligated by 46 U.S.C. § 3505 to verify that each FPV complies with the SOLAS Convention prior to departing a U.S. port. If our PSC teams find that a vessel does not comply, it is our duty to report such findings and measure the significance of such noncompliance. The Scorecard has provided the U.S. Coast Guard with a metric to inform our teams of how well they are doing in executing the statutory mission. All those working in the mission of Prevention understand that it is difficult to measure what does not occur. As the U.S. Coast Guard continues to learn about the Scorecard model, we may continue to correlate prevention of marine casualties attributed to noncompliance found during PSC exams.

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[3] FC-AEMMS White paper: A methodology to determine prevention performance measures