FINAL REPORT

Coast Guard National Maritime Center's Oversight of Merchant Mariner Training and Examinations
December 18, 2023

MEMORANDUM FOR: Jeff Lantz
Director of Commercial Regulations and Standards for Marine Safety, Security, and Stewardship
United States Coast Guard

FROM: Joseph V. Cuffari, Ph.D. JOSEPH V CUFFARI
Inspector General

SUBJECT: Coast Guard National Maritime Center’s Oversight of Merchant Mariner Training and Examinations

Attached for your action is our final report, Coast Guard National Maritime Center’s Oversight of Merchant Mariner Training and Examinations. We incorporated the formal comments provided by your office.

The report contains seven recommendations aimed at improving the management and oversight of merchant mariner credentialing training and examinations. Your office concurred with all recommendations. Based on information provided in your response to the draft report, we consider recommendations 1 through 7 open and resolved. Once your office has fully implemented the open recommendations, please submit a formal closeout letter to us within 30 days so that we may close the recommendations. The memorandum should be accompanied by evidence of completion of agreed-upon corrective actions and of the disposition of any monetary amounts. Please send your response or closure request to oigispfollowup@oig.dhs.gov.

Consistent with our responsibility under the Inspector General Act, we will provide copies of our report to congressional committees with oversight and appropriation responsibility over the Department of Homeland Security. We will post the report on our website for public dissemination.

Please contact me with any questions, or your staff may contact Thomas Kait, Deputy Inspector General, Office of Inspections and Evaluations, at (202) 981-6000.

Attachment
What We Found

The United States Coast Guard’s National Maritime Center (NMC) struggled to approve merchant mariner training offered by NMC-approved third-party training providers in a timely manner, and it routinely extended merchant mariner training courses and programs past their 5-year regulatory approval period. NMC also did not have adequate quality control measures, resulting in training providers offering training that did not meet all regulatory and policy standards.

Although NMC recognized the need for improvement to its course oversight audit program and has taken steps to strengthen the program, challenges remain. Specifically, NMC has not established clear requirements for the frequency of course oversight audits and did not ensure that audit results were used to improve operations. NMC did not audit some aspects of mariner training, such as training sites and third-party course approvers, which has allowed inadequate courses to operate without oversight.

Finally, NMC has conducted assessments and received recommendations to modernize its mariner examination process, but it has not done so for years, leaving it vulnerable to credentialing fraud.

Coast Guard Response

Coast Guard concurred with all our recommendations. We consider all seven recommendations resolved and open.
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Abbreviations

   CFR        Code of Federal Regulations
   CIR        Continual Improvement Recommendation
   COAP       Course Oversight and Approvals Program
   MTP        mariner training provider
   NMC        National Maritime Center
   QSS        Quality Standard System
   REC        Regional Examination Center
   STCW       International Convention on Standards of Training, Certification, and
              Watchkeeping for Seafarers
Background

The United States Coast Guard (Coast Guard) maintains the safety of U.S. waterways. The Coast Guard has broad authority to issue and enforce regulations to promote safety of life and property on waters subject to the jurisdiction of the United States, which includes establishing the experience, professional qualifications, and processes required for the issuance of merchant mariner credentials.\(^1\) The International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW) sets the qualification standards for personnel on seagoing ships, and those requirements have been incorporated into U.S. regulation and policy.\(^2\) Requirements for a merchant mariner credential generally include sea service, completion of approved training, demonstration of having met a standard of competence, and completion of an examination. Credentialed mariners are entrusted with the safety and security of commercial vessels.

Within the Coast Guard, the National Maritime Center (NMC) is responsible for evaluating and issuing merchant mariner credentials in accordance with statutes and regulations. Credentialed mariners are authorized to serve aboard vessels in any capacity for which they have earned an endorsement, which is a statement of a mariner’s qualifications to serve in a specific capacity.\(^3\) For instance, one endorsement type would be a National Officer Endorsement as a “chief engineer.”

To obtain credentials, mariners must pass examinations and/or complete relevant training courses or programs offered by Coast Guard-approved mariner training providers (MTP), which are privately owned and located throughout the United States. A training program is a combination of courses, practical assessments, and sea service that provides the program participant with the necessary knowledge and proficiency required for a specific qualification.\(^4\) NMC is responsible for the approval of MTP course and program curricula, development and administration of mariner examinations, and oversight through audits of MTPs.

Within NMC, the main divisions and branches responsible for course approvals, audits, and examinations are shown in Figure 1.

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1. Per 46 Code of Federal Regulations (C.F.R.) § 10.201(a), a merchant mariner credential is a credential combining the elements of the merchant mariner’s document, merchant mariner’s license, and certificate of registry, as well as the STCW endorsement issued pursuant to the STCW Convention and STCW Code. Those items are no longer issued as separate documents, and all qualifications formerly entered on those separate documents appear in the form of endorsements on a merchant mariner credential.
2. Specifically, 46 C.F.R. Subchapter B.
3. Requirements are described in 46 C.F.R. parts 11, 12, and 13. Endorsement classifications are listed in 46 C.F.R. § 10.109.
The Mariner Training and Assessment Division includes the Mariner Course Approvals Branch, which evaluates and approves all required training courses and programs. MTPs must demonstrate that their course or program meets regulatory training requirements and submit a course curriculum package to the Course Approvals Branch. In accordance with Federal regulations,\(^5\) course evaluators use Coast Guard policy\(^6\) to assess MTP course requests and issue approvals.

The Mariner Training and Assessment Division also includes the Mariner Examinations Branch, which develops and maintains mariner examinations required to obtain a merchant mariner credential. Mariners may take exams at one of the 17 Regional Examination Centers (RECs) located throughout the country, or at one of the two Monitoring Units located in Alaska and Puerto Rico. Alternatively, if a mariner attends one of the six state maritime academies or the

\(^5\) 46 C.F.R. Subchapter B, Part 10, Subpart D.
\(^6\) Coast Guard Navigation and Vessel Inspection Circular No. 03-14, CH-1, Apr. 11, 2019.
United States Merchant Marine Academy, the final Coast Guard credentialing exams are proctored at those institutions by academy instructors and NMC staff who travel to the academies.

The NMC also includes the Regional Exam Center Operations and Oversight Division, which conducts audits of Coast Guard-approved mariner training and ensures MTPs administer training in accordance with the course or program approval granted by NMC. Across 17 RECs, 13 course oversight auditors are responsible for approximately 300 MTPs with approximately 2,500 total courses. Audits consist of auditors traveling to the MTP location and reviewing student records, reviewing and re-grading exams, checking instructor lists against approved instructors, reviewing site approvals, and conducting a classroom visit if classes are in session. In addition, a team called the Compliance Team at NMC is responsible for providing direction on audit policies and procedures.

Recent incidents of credentialing fraud have raised concerns about the integrity of the credentialing process. For example, in October 2020, four employees of an MTP in Norfolk, Virginia, were charged with selling counterfeit course completion certificates, which are required to obtain a merchant mariner credential, to over 252 mariners. This incident allowed untrained mariners to carry out responsibilities on vessels for which they were unqualified. Additionally, in November 2020, 31 people, including three former Coast Guard employees, were indicted for their involvement in an approximately 7-year long scheme, taking bribes to fix examination scores for individuals who had not taken the examinations and selling examination questions and answers to individuals before they took their credentialing examinations.

The impact of credentialing fraud can be significant. For example, on February 24, 2018, a mariner with a fraudulent credential had an accident in which the mariner’s vessel capsized and the mariner drowned. The Coast Guard investigation into this incident found that the mariner had obtained a fraudulent course completion certificate to obtain a credential. The Coast Guard concluded that incomplete training and an unapproved instructor were both contributing factors to this tragedy.

We conducted this evaluation to determine if the NMC oversight program complied with the standards and regulatory requirements for auditing and approving training courses and programs for merchant mariners.

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7 According to the U.S. Department of Transportation’s Maritime Administration, these academies offer 4-year undergraduate programs and “include all the instruction, theory, and at-sea training required to become a commissioned officer and Merchant Marine (a U.S. Coast Guard license).” To ensure a consistent supply of capable and well-trained merchant mariners, the Maritime Administration funds and operates the United States Merchant Marine Academy and provides limited Federal assistance and training vessels to the state academies through a memorandum of agreement.
Results of Evaluation

NMC struggled to approve merchant mariner training in a timely manner and routinely extended mariner training courses and programs past their 5-year regulatory approval period. NMC also did not always adhere to its quality control policies and procedures, resulting in MTPs offering training that did not meet all regulatory and policy standards. We also identified areas for improvement in NMC’s course oversight audit program. NMC recognized the need for improvement and has taken steps to strengthen the program, but challenges remain. Specifically, NMC has not established clear requirements for the frequency of course oversight audits, and it did not ensure audit results were used to improve operations. NMC did not audit some aspects of mariner training, such as training sites and third-party course approvers, which allowed inadequate courses to operate without oversight. Finally, NMC conducted assessments and received recommendations to modernize its mariner examination process, but it has not done so for years, leaving it vulnerable to credentialing fraud.

NMC Struggled to Approve Training in a Timely Manner and Routinely Extended Training Approvals Past the 5-Year Regulatory Approval Period

NMC has struggled to approve MTP training courses and programs in a timely manner for various reasons, including longstanding staffing challenges and disruptions from incidents such as the COVID-19 pandemic. As a result, NMC has at times had a significant backlog of courses awaiting approval. To help reduce its approval backlog, NMC routinely extended course and program approvals beyond the 5-year period allowed by Federal regulations and Coast Guard policy.

NMC Struggled to Approve Merchant Mariner Training in a Timely Manner

The Course Approvals Branch has a goal of 90 days for course approval net processing time, which it defines as the time from the date an MTP submits the approval application to the date NMC issues approval, not including any time spent waiting for MTPs to respond to requests for additional information during the review.8 However, as shown in Figure 2, net processing time during our fieldwork (July 2022 to March 2023) exceeded the 90-day goal during most months. From 2017 to 2022, the average monthly net processing time increased from approximately 47 to 138 days. For 2022 overall, the average monthly net processing time was 138 days; as of June 2022, 45 percent of approvals had been issued within the 90-day goal.

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8 Prior to January 2022, the goal for net processing time was 30 days. NMC revised the 30-day goal because it determined it would be unachievable even with full staffing.
At times, the Course Approvals Branch has also had significant backlogs of courses waiting to be evaluated by course approvers (defined as more than 150 courses). For most of 2022, the branch had a significant backlog, with over 250 requests pending during the first 4 months of that year.

NMC staff identified several factors that contributed to the backlog, including the 35-day partial U.S. Government shutdown that began in December 2018⁹ impacts to NMC operations from COVID-19, and longstanding NMC staffing shortages. Other contributing factors cited by NMC included not staggering course expiration dates, and regulation changes. One NMC official described these factors together as “a perfect storm.” During COVID-19, for example, NMC began allowing some MTPs to deliver courses online, on a case-by-case basis. This change resulted in MTPs submitting course modification packages¹⁰ to the Course Approvals Branch for approval, which further increased the backlog.

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⁹ From December 22, 2018, until January 25, 2019, the Federal Government partially shut down, and non-exempt employees were furloughed. During this time, furloughed NMC employees were not permitted to work.

¹⁰ Per Coast Guard Navigation and Vessel Inspection Circular No. 03-14 (4)(c), any time an MTP wants to make a substantial change to an approved course, it must first submit a change request and receive approval before that change is implemented.
According to a staffing analysis completed by a contractor in April 2022, the Course Approvals Branch did not have sufficient staffing to meet its MTP course, program, and other evaluation requirements. Based on an analysis of processes and workload, the contractor’s report recommended five additional full-time equivalents for the Course Approvals Branch to address staffing shortages. The report also stated that “an increase in personnel would allow for more careful, robust evaluations, reducing the risk of approvals for MTPs that do not adhere to standards and requirements.”

NMC has taken steps to try to address staffing shortages, including exploring various hiring and recruiting alternatives, adjusting the qualifications for certain positions to expand the candidate pool, and conducting the staffing analysis discussed above. In addition, in January 2022, an NMC staff member was detailed from the Examinations Branch to the Course Approvals Branch temporarily to assist with the backlog, and NMC submitted a fiscal year 2024 budget request for more full-time equivalents. However, according to NMC officials, NMC did not receive any new full-time equivalents for FY 2024.

**NMC Routinely Extended Mariner Training Courses and Programs Past Their 5-Year Regulatory Approval Period**

Federal regulations and Coast Guard policy state that course and program approvals are “valid for up to a maximum of 5 years.” The standard renewal process for a course nearing the end of its 5-year approval is outlined in Coast Guard policy. This policy is the Coast Guard’s interpretation of the relevant Federal regulation and indicates that MTPs should submit a request for the renewal to NMC at least 90 days prior to the course approval expiration date. Given backlogs, NMC has at times, extended course or program approvals past the 5-year regulatory maximum, for varying lengths of time. This allows MTPs to continue teaching the course or program until NMC renews its approval for another 5 years. Extensions are not defined in the regulations, nor has NMC developed internal guidance describing when it is acceptable to extend a course or program approval or for how long an extension can be granted.

For more than a decade, NMC has routinely extended MTP course and program approvals past their regulatory period of validity. NMC has issued over 3,800 course and program approval

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11 Full-time equivalent is used to quantify employment as a function of hours worked rather than by the number of individual employees.

12 United States Coast Guard NMC Manpower Requirements Analysis, Apr. 26, 2022, p. 34.

13 For courses, 46 C.F.R. § 10.402(d) sets requirements for time periods course approvals are valid, and 46 C.F.R. § 10.402(f)(3) pertains to the renewal of course approvals. For programs, 46 C.F.R. § 10.407(e) sets requirements for time periods program approvals are valid, and 46 C.F.R. § 10.407(g)(3) pertains to the renewal of program approvals.

14 Coast Guard Navigation and Vessel Inspection Circular No. 03-14(5)(b)(5).

15 Coast Guard Navigation and Vessel Inspection Circular No. 03-14(5)(c).

16 46 C.F.R. § 10, Subchapters B and D.
extensions since 2012.\textsuperscript{17} As shown in Figure 3, the number of course and program approval extensions issued by NMC has steadily increased over time.

**Figure 3. The Number of Course and Program Approval Extensions NMC Has Issued Yearly Since 2012**

![Graph showing the number of course and program approval extensions issued by NMC yearly since 2012.](source: DHS OIG analysis of Coast Guard NMC data)

Between 2012 and 2015, NMC issued course and program approval extensions on an individual, case-by-case basis. NMC also issued collective extensions on at least four other occasions, for various reasons, including a high NMC backlog of course approvals,\textsuperscript{18} the 35-day partial U.S. Government shutdown in late 2018, and challenges related to COVID-19.

These extensions resulted in MTP courses and programs being valid for 1 month to 10 years past their 5-year regulatory approval period. For example, Figure 4 shows that three courses extended in 2022 were valid for 13 years. To remain valid for 13 years, NMC issued consecutive extensions to those courses and, as a result, the courses could be taught by MTPs for the full 13 years before undergoing an NMC renewal review by course evaluators.

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\textsuperscript{17} The extension data NMC provided goes back to 2009; however, we provided the total count of yearly extensions since 2012 to show extension trends over a 10-year period.

\textsuperscript{18} In January 2022, NMC extended 742 course approvals to address its course approval backlog and individually assigned new expiration dates to “mitigate the unequal distribution of course approval expirations.” From then until October 2022, NMC issued approximately 171 additional extensions.
Figure 4. Number of Courses NMC Extended Past the 5-Year Regulatory Limit, by Cumulative Duration of Extensions, in Calendar Year 2022

Source: DHS OIG analysis of Coast Guard NMC extension data through October 2022

Note: We rounded our calculations to the nearest whole number. Of the 913 extensions NMC issued in 2022 (through October), 64 slightly exceeded the regulatory 5-year approval period and are excluded from this figure.

On January 13, 2022, NMC issued a bulletin notifying MTPs that NMC would individually assign new expiration dates for all courses and programs that expired between January 31, 2022, and October 31, 2022. In the bulletin, NMC wrote:

In order to maintain a reasonable distribution of work moving forward, we will monitor the distribution of course and program expirations and may assign expiration dates that do not coincide with a “normal” 5-year approval.

The bulletin further explained that the extensions would allow NMC to reduce its approval backlog to acceptable levels.

Regardless of NMC’s rationale for granting extensions, we found no authority in the regulations to do so. NMC did not provide a valid basis for the course and program approval extensions it had granted except for those related to COVID-19. We believe the course approval extensions NMC issued to mitigate the impacts of COVID-19 were consistent with Executive Order No. 13924, Regulatory Relief to Support Economic Recovery, issued on May 19, 2020. On March 30, 2020, NMC issued its first course or program approval extensions as a result of COVID-19, in response to questions and concerns raised by the maritime industry and mariners as their schools were shutting down. On August 20, 2020, Coast Guard issued its second round of extensions due to COVID-19.

We conducted a survey to further understand the potential impact of extensions and approval delays on MTPs. Forty-two percent of the respondents said the amount of time it took NMC to evaluate and conduct approval actions had a negative impact on their MTPs. Some respondents said the approval delays resulted in various hardships for MTPs, including loss of instructors, course cancellations, and scheduling delays.

Course approval extensions also resulted in non-compliance with another requirement related to the 5-year course approval period. Midway through the term of a course’s 5-year approval, MTPs are required to conduct an internal audit. In a meeting on February 17, 2021, course oversight auditors were told that dates for internal MTP audits must be calculated using the new date of expiration and that only one internal audit would be required regardless of the length of an extension. For example, if NMC extended a course approval for an additional year, the new midway period for the internal audit would be 3 years, instead of the 2.5-year midway period that is required by Federal regulations.

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20 In a January 18, 2022, email exchange between the Coast Guard Commercial Regulations and Standards Directorate and NMC, Regulations and Standards Directorate leadership appeared to acknowledge the questionable authority for issuing extensions. In the email to the NMC Commanding Officer, a senior Regulations and Standards Directorate official wrote that the regulations were “reasonably clear” that course approvals were valid for a maximum of 5 years, and that NMC needed to “try and adhere to that.”

21 This Executive Order directed agencies to “address this economic emergency by rescinding, modifying, waiving, or providing exemptions from regulations and other requirements that may inhibit economic recovery, consistent with applicable law.... They should also give businesses, especially small businesses, the confidence they need to re-open by providing guidance on what the law requires....” The Executive Order, issued on May 19, 2020, provided a basis for the March 30, 2020, course extensions related to COVID-19 retroactively.

22 Any course approval that was set to expire from January 1, 2020, to July 31, 2020, was extended for 6 months from its current expiration date.

23 Any course approval that was set to expire from January 1, 2020, to December 31, 2020, was extended for 6 months from its current expiration date.

24 We developed and disseminated a survey instrument to 276 MTPs. The survey remained open for 24 days, from October 7, 2022, to October 31, 2022. We received and analyzed responses from 109 MTPs. See Appendix C for the full text of survey questions.

25 46 C.F.R. § 10.403(a)(8).
NMC also did not consider an MTP's prior audit findings when issuing blanket extensions as a result of COVID-19, or when, in January 2022, NMC issued extensions to 52 percent of its MTPs. One MTP received an extension of its September 2016 course approval to April 2027 — almost 6 years past the 5-year limit — despite a July 2021 NMC audit that showed the MTP had 13 findings resulting from its failure to maintain key records. The records pertained to course instructor information, student completion certificates, and student exams.

Finally, course approval delays could potentially lead to lapsed mariner credentials. As noted in a National Security Directive on Sealift, the United States relies on an adequately prepared mariner workforce to meet the needs of the maritime industry and to respond during times of peace, crisis, and conflict. One Coast Guard official viewed the backlog as a national security issue, citing its potential impact due to the industry’s mariner shortage and concern there would be an insufficient number of mariners if the Ready Reserve Force were activated. Until the backlog is addressed adequately, a potential security risk for mariners continues to exist.

NMC Did Not Always Adhere to Its Quality Control Policies and Procedures to Ensure Mariner Training Complied with Federal Regulations

According to Coast Guard policy, NMC must establish and adhere to quality assurance procedures. However, NMC has struggled to implement adequate quality assurance processes for course approvals. An internal audit of the Course Approvals Branch conducted in 2019 identified a lack of quality control. The audit found:

The [Course Approvals Branch] has not put into place formalized procedures or quality control mechanisms to help ensure the resultant work product conforms to requirements…. the lack of work product inspections or formalized procedures for quality control have led to significant rework at the end of the process.

The audit report made several recommendations, including to establish a quality control process and assign adequate staff and resources for development, maintenance, and support of quality controls and procedures.

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27 The Ready Reserve Force is a subset of vessels (approximately 48) within the Maritime Administration’s National Defense Reserve Fleet (approximately 100 vessels) ready to support the rapid worldwide deployment of U.S. military forces.
In February 2021, based on the internal audit results, branch staff used the Continual Improvement Recommendation (CIR) process³⁰ (which elevates requests to leadership) to suggest enhancements to the peer review process to improve quality assurance. The division chief of the Mariner Training and Assessment Division denied the CIR, reasoning that without increased capacity, implementing quality assurance reviews would only create backlogs, producing a negative impact on customer service, throughput, and morale. The division chief routed his decision through senior leadership for review, but NMC did not resolve or close out the CIR as required.

In addition to not implementing the CIR, the Course Approvals Branch also did not always adhere to the existing policy for conducting peer review of course approvals. The peer review process is intended to identify any corrections or revisions to a course or its approval paperwork that the original evaluator will need to make prior to issuing the final, signed approval. According to NMC staff, the peer review process rarely happened unless the evaluator was new because the workload was too burdensome due to the high backlog. In addition, the policy requires a second quality control review to be completed by the branch chief. However, the branch chief position was vacant for approximately 2 years, during which time the division chief would have been responsible for conducting the review. On October 31, 2022, a new branch chief assumed the position, but then resigned on January 31, 2023.

Finally, the contractor-performed staffing analysis completed in 2022 (mentioned previously) also found that the Course Approvals Branch did not perform the work associated with quality assurance reviews for its processes and products. The report suggested additional staffing resources were needed to successfully complete those tasks on a timely basis. According to the report, an increase in personnel would enable more robust evaluations and reduce the risk of approvals for MTPs that do not adhere to standards and requirements.

Without adequate quality control processes, approved courses could potentially violate Federal regulations and place mariners at risk due to sub-standard training. We found instances of auditors and MTPs discovering errors months after course approvals were issued that had not been identified during the course approval process. Errors included courses without re-test exams, re-test policies, site information, or processes for internal audits that MTPs must conduct midway through the term of the course. Some of the errors identified led MTPs to request course modifications or other remedies.

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³⁰ A CIR is a recommendation to improve an existing NMC process or to create a new process to resolve a current issue.
NMC Can Improve its Course Oversight Auditing Program to Enhance Effectiveness

NMC has taken steps to improve its course oversight audit program, including making an organizational change to strengthen program management, but some longstanding challenges caused by a decentralized organization remain. In addition, NMC has not established clear requirements for the frequency of course oversight audits. Failure to establish requirements has led to staff confusion about how and when to perform audits. Further, NMC has not ensured that audits are consequential, meaning that enforcement policies for audit results were not clear and uniformly applied. Finally, NMC did not conduct audits of mariner training sites and third-party course approvers, for which clear and standardized policy needs to be developed.

The Course Oversight Audit Program Has Longstanding Challenges but Has Taken Recent Steps to Improve Oversight

RECs audit training courses offered by MTPs in their region. Course oversight auditors travel to the MTP locations and review student records, read and re-grade exams, check instructor lists against approved instructors, review site approvals, and conduct a classroom visit if classes are in session. Audits identify nonconformities if MTPs are not in compliance with the conditions of their course approval. Nonconformities are resolved by report to the auditor or submission of a course modification request to the Course Approval Branch.

The NMC has an auditor located at 13 of the 17 RECs where they are supervised by the REC chiefs. Although an auditor’s primary role is auditing MTPs, REC chiefs can obligate them to perform duties in support of REC operations. In addition to auditing MTPs, auditors may perform a range of other tasks, such as filling in for REC staff vacancies (including as acting REC chief), administering and grading exams, processing merchant mariner endorsement applications, and more. Auditors have taken on these additional operational duties because RECs were short staffed.

The audit workload assigned to the auditor at each location is driven by the number of schools operating in each geographic area. As shown in Figure 5, the number of schools in each REC location varies, which means audit workloads can vary significantly across locations. For example, there are three MTPs in the Honolulu area of responsibility, in contrast to 29 MTPs in the New Orleans area of responsibility.

31 In the past, there have been 15 auditors located at 17 RECs. At the time of our fieldwork, the current staffing level was 13 auditors.
Auditor prioritization of audits and REC management support for an auditor’s responsibilities related to audits varies by REC. We asked all 13 auditors what percentage of their time was spent on audit duties and what percentage was spent on collateral duties for REC operations. Their answers varied. Some auditors reported they were able to devote approximately 80 percent of their time to audits, and others reported they were able to devote 20 percent. Regardless of the amount of time spent on auditing, some auditors reported that it was challenging to balance REC operations with their auditing duties. In addition, the amount of time devoted to audits did not correlate to the number of MTPs in a location; in fact, some RECs with more MTPs assigned reported they had less time available to spend on audits. Other high-workload auditors also said that they spent the vast majority of their time on REC duties due to staffing shortages.

We also found auditor processes varied by location, resulting in inconsistencies across the audit program. One example of field policy differences was in the resolution of MTP nonconformities identified during audits. When asked how nonconformities were resolved, some auditors replied they wrote up all nonconformities and submitted them for review to the Compliance Team; others said they allowed MTPs to make “on-the-spot” corrections; and still others said they told MTPs to submit resolutions to minor issues during the next course renewal. One contributing
factor to these inconsistent processes is deficient auditor training. Several auditors told us about dissatisfaction with the training process. One auditor said they shadowed another auditor as part of training but had not received hands-on guidance from NMC on the process for completing an audit. Consequently, audit practices could have occurred with limited NMC approval or oversight.

As early as 2010, NMC identified a critical need for REC operations to be standardized. NMC has implemented recent changes to address some of these issues, including creating the NMC Compliance Team in July 2021. Prior to 2021, the course oversight and audits function was managed by a single nonsupervisory employee in the REC Operations and Oversight Division. Due to competing demands for human resources at RECs there was frequently a conflict of interest in delegating resources to MTP oversight. NMC created the Compliance Team, consisting of a branch chief and two additional employees, to assume program oversight of REC auditors. The Compliance Team is responsible for interpreting and creating course oversight audit policy, documenting standardized processes, creating tools to track MTP oversight activities, and serving as a liaison between other divisions and course oversight auditors. However, the Compliance Team only maintains partial operational control of course oversight auditors, as REC chiefs supervise the auditors directly.

Around this time, Coast Guard headquarters (in conjunction with NMC) initiated the “Commercial Regulations and Standards Directorate’s Sponsored Concentrated Audit Campaign of Mariner Training Providers.” The goals of the campaign were to perform an independent audit of MTPs, determine the effectiveness of the current audit program, and identify areas for improvement. The program issued a final report in August 2022 that identified some of the same issues discussed above.

The audit campaign’s final report highlights the need for more centralized supervisory control of the auditors. In addition, the Compliance Team plans to shift one auditor position to address the largest REC MTP workload and has removed auditors from two RECs and redistributed their audit caseloads. These changes are relatively new or in progress; the Compliance Team plans to institute additional changes to the audit program but had not finalized these changes at the time of our fieldwork.

NMC Has Not Established Clear Requirements for the Frequency of Course Oversight Audits

Federal regulations do not clearly state how frequently NMC must conduct course oversight audits. NMC has interpreted the regulations to indicate its oversight pertains to MTPs, not individual courses.32 In 2013, Coast Guard published a final rule that states STCW course

32 NMC cited a section of Federal regulations requiring that organizations with a specific Coast Guard designation (Quality Standard System) are subject to audits at least twice in a 5-year period and must cooperate with Coast Guard audits. See 46 C.F.R. § 10.410.
providers will undergo an internal and external audit every 5 years.33 However, NMC’s internal policy, the *Guide for Course Oversight and Auditing*, appears to contradict this interpretation and instead provides auditors with goals for the frequency of auditing courses rather than MTPs. The guide states that an audit of “all STCW courses holding Coast Guard approval shall be held at least once every 5 years in accordance with STCW Code Section A-I/8,” and non-STCW courses “shall be audited once in a 5-year period.”34

As a result, there has been confusion within NMC about the policy requirements for frequency of course audits, which has been documented in prior reports. A 2021 *Root Cause Analysis & Intervention Selection Report* commissioned from a third party found “a lack of clarity about how many audits should be conducted per MTP (e.g., 1 audit per MTP or 1 per course).”35 The auditors we interviewed were split on whether audits were required for every course or every training provider in a 5-year period. This was also reflected in how auditors chose to audit. A few mentioned auditing courses every 5 years, others said they audited MTPs every 5 years, and still others said they audited only MTPs with STCW courses every 5 years.

Failure to set clear audit requirements has resulted in the requirements changing over time to fit the needs and priorities of NMC. As shown in Figure 6, from 2009 to 2017, the course oversight audit program conducted an average of 32.1 audits per year. In response to a need for increased scrutiny following the discovery of a large fraud ring, this number increased to nearly 100 audits per year in 2018 and 2019, and more than 100 audits per year in 2021.36 The increased number of audits is a positive trend. Yet without clear standards, there is little to prevent the number from declining again in the future.

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34 *Guide For Course Oversight and Auditing*, Doc. MCP-MA-NMC0-08, at page 4-5 (June 4, 2020).
36 Audit frequency decreased in 2020 due to the COVID-19 pandemic.
Figure 6. Number of Audits Per Calendar Year

Source: Coast Guard NMC audit data. No audits were completed in 2013 when NMC halted its audit program for 1 year to make changes following an update to regulations.

The audit program is currently on track to visit a few MTPs that had never been audited as of 2022. Without established policy and audit requirements, these priorities could change at any time.

We found examples where MTPs went a long time between audits despite having nonconformities. For example, one MTP that was audited in 2022 had not been audited since 2015, 7 years earlier. The audit noted that this MTP’s records showed that, in 2022, a student had been allowed to retake an exam three times in one day, and a fourth time the next day, without completing remediation studies (required after two failures) or retaking the entire course (required after three failures), as required by the course approval. This audit followed a 6-month suspension of another course at the same MTP for awarding completion certificates to students.
who had not completed the entire course as approved.37 This MTP has 37 courses and 16 STCW courses.

NMC Has Not Regularly Suspended or Withdrawn Course Approvals Based on Audit Findings

Federal regulations and Coast Guard policy identify enforcement actions for not meeting the provisions of course approvals or not providing quality mariner training.38 In the Guide for Course Oversight and Auditing, NMC lists audit nonconformities that may warrant suspension and directs auditors in the case of certain serious nonconformities to inform NMC “immediately, during the audit if possible.” In practice, suspension or withdrawals of course approvals in response to audits that identified serious issues or nonconformities were extremely rare for a good portion of the audit program’s history. The first withdrawal action reported to OIG was taken against a course provider in 2018, at least 9 years after the audit program began. Of the 11 additional suspension or withdrawal actions taken since then, 9 were initiated after June 2021.

Our review of audit reports found instances of MTPs not keeping records (in one instance, shredding course records); using unapproved instructors; adjusting course schedules; using unapproved teaching aids; combining courses without prior approval; and other nonconformities, without strong enforcement action such as suspension or withdrawal. In some cases, these findings resulted in the MTP being required to submit an explanation or course modification without facing any enforcement action. In instances where Coast Guard imposed enforcement action, it appeared to be in reaction to marine accidents, deaths, or investigations rather than as a result of audit findings. NMC employees also expressed concern about the lack of enforcement actions pursued by NMC as a result of audit findings.

In addition, audits in their current form do not serve as effective quality control for course approvals. The current audit checklist, updated in 2019, focuses on MTP recordkeeping as prescribed by Federal regulation.39 The checklist does not include items reviewed during the course approval process, such as whether the evaluations, lesson plans, or course framework comply with regulation or whether the handouts contain any practice questions duplicated on final exams. The audit checklist prior to 2019 contained these course approval review items, but NMC removed them due to reservations about MTPs being held accountable for course approval mistakes after course approval letters had been issued. Items found during audits that relate to course approvals were dealt with in various ways by auditors. Some wrote the issues up as “observations,” or hoped they would be caught during the next course renewal; others wrote issues up as nonconformities.

37 A field investigation of a marine accident found that two mariners involved had not completed the required hours for a Radar Unlimited Course and were not properly certified. (The investigation did not conclude the lack of training caused the accident.) The course was suspended for 6 months as a result.
38 46 C.F.R. § 10.402(g)–(h); Guide for Course Oversight and Auditing, sections 1.13–1.16.
39 46 C.F.R. § 10.403(a)(6).
The NMC’s main enforcement method is issuing non-conformities in their audit reports. However, when audits identify nonconformities, NMC does not effectively track their closure. Observations or nonconformities that require a course modification are emailed to the Course Approval Branch. That request goes into the same inbox as all other course approvals and, the report states, “tracking the non-conformity becomes difficult.” The Course Oversight and Approvals Program (COAP) database does not have a mechanism to notify auditors when modifications are approved, and auditors do not have access to the course approval section of COAP. Communication breakdowns between the Course Approval Branch and the audits section frequently mean auditors are not aware when course modifications resulting from a nonconformity are approved. We reviewed data for 731 nonconformities being tracked in COAP, going back to 2019, and found that only 36 were marked as “completions.” In addition, only 92 had any status updates – of which, 50 percent were marked “follow-up.” The communication breakdown is noted in the August 2022 report as a “visible [source of] frustration among the [auditors].”

NMC Did Not Routinely Conduct Oversight Audits of Alternative Mariner Training Sites or Third-Party Course Approvers

Coast Guard policy and the Guide for Course Oversight and Auditing outline the process for approval of mariner training locations used by MTPs for courses. General requirements for these training locations are outlined in Federal regulations. MTPs are required to submit training site information with their initial course approval package, and they also submit alternate site information for each location where courses will be taught, or practical demonstrations held. Submissions for all site approvals need to include photographs of the space, the course name, and diagrams of the space and all items within the space. Coast Guard policy states that if these items are submitted, a site visit will often not be necessary.

While policy allows for audits of alternative site approvals, in practice they are rarely performed. Submissions are generally reviewed and approved as written on paper without onsite verification. Course oversight audits usually audit the location where course records are kept. We identified instances in which auditors flagged that classes were being held in additional unapproved sites. Another audit found an MTP did not maintain any list of classroom sites.

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41 Final Report: Regulations and Standards Directorate Concentrated Audit Campaign of Mariner Training Providers, Aug. 18, 2022, p. 5. The Course Approval Branch also does not prioritize course modifications resulting from audits over standard renewals or initial course approvals. The wait for the response to an audit outcome is also subject to the backlog.
42 Guide for Course Oversight and Auditing, pp. 39–40; Coast Guard Navigation and Vessel Inspection Circular No. 03-14, p. 5.
43 46 C.F.R. § 10.403.
44 Coast Guard Navigation and Vessel Inspection Circular No. 03-14, p. 5-6.
In addition to not routinely auditing training sites, NMC did not routinely audit organizations approved to serve as third-party course approvers. Federal regulation$^{45}$ allows certain entities other than the Coast Guard, known as Quality Standard System (QSS) organizations, to approve and monitor training on behalf of the Coast Guard. When approving mariner training on behalf of the Coast Guard, QSS organizations must have processes for reviewing, accepting, and monitoring training that are equal to the Coast Guard’s course approval and oversight processes. Coast Guard policy requires NMC to audit each Coast Guard-accepted QSS organization at least once every 5 years.

At the time of our review, NMC had one QSS organization providing third-party oversight for one MTP with multiple courses. Although NMC is responsible for auditing third-party approval organizations to ensure proper oversight, NMC had not conducted an audit of this third-party approver. In a May 2022 meeting, NMC officials agreed an audit of the third-party approval organization was necessary and should take place within 90 days. Initially, NMC planned to audit the third-party approval organization in July 2022, but as of October 2022, NMC had not conducted the audit.

The Coast Guard Has Not Modernized its Outdated Examination Processes

Since 2010, the NMC merchant mariner examination program has been evaluated at least six times, consistently resulting in recommendations that NMC modernize its manual examination practices, but NMC has made little progress in doing so. NMC’s paper-based testing processes have left the examination system susceptible to fraudulent activity and prevented the Coast Guard from collecting and analyzing credentialing examination data. Staff and database limitations have also hindered NMC’s ability to replace credentialing examination questions that are largely available online.

Past Evaluations Consistently Recommended Coast Guard Modernize its Paper-Based Examination Process

Part of the process to obtain or renew credentials includes the requirement that mariners submit an application to NMC, with documentation verifying the completion of relevant training and examinations. Mariners may take the credentialing examination at one of the 17 RECs and Monitoring Units, or mariners who attend one of the maritime academies can take exams administered at those institutions. The mariner credentialing examination process is completed almost entirely by hand. For example, after an NMC examination specialist creates a new “deck” or “engine” question or examination module,$^{46}$ they upload the examination module to a

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$^{45}$ 46 C.F.R. § 10.408(b).

$^{46}$ “Deck” and “engine” refer to two categories under which officer endorsements fall based on the nature of the work a mariner will perform once properly credentialed. The requirements for each endorsement type (e.g., chief
database. Once the examination module and answer sheets are uploaded to the database, REC staff may download and print them for use. After REC staff print a selected examination module and provide it to a test taker, an examination administrator manually grades it and enters the score into the database.

Over the last decade, various Coast Guard entities and contractors have evaluated the NMC merchant mariner examination program and recommended that NMC modernize its manual and paper-based examination practices. Coast Guard has made little progress in implementing changes in response to these recommendations, which has made the examination process susceptible to fraud.

In 2010, a contractor conducting an internal analysis completed several Coast Guard reports on the NMC Mariner Credentialing Program that envisioned certain examinations being available electronically to expand access for mariners. Coast Guard did not implement the report’s recommendation to pilot a program for third-party testing sites.

The Coast Guard Authorization Act of 2015 required the Coast Guard to complete a formal review of the merchant mariner credentialing examination program. In October 2019, the Coast Guard’s Force Readiness Command Performance Technology Center completed the Merchant Mariner Credentialing Front End Analysis report, which recommended that NMC implement electronic examinations and the use of third-party examination centers to deliver examinations to mariners. The report also outlined the next steps NMC should take, such as creating an implementation plan to improve the examination process using the recommendations from the report.

Subsequently, NMC completed several reports and other work products that addressed issues with NMC’s outdated examination process or recommended that NMC provide examinations electronically. For example, a July 2020 draft report titled, NMC Examination Program Audit, Summary Report, concluded:

> The current system of downloading examinations from [the Merchant Mariner Licensing and Documentation System] allows vulnerabilities. The best solution for control would be moving towards an electronic testing process.

(engineer) are in 46 C.F.R. § 11 and include sea service, training, and examination subject requirements. The Coast Guard maintains hundreds of examination modules that encompass the subjects required to obtain any officer endorsement. Each examination module is generally made up of 50 to 70 questions, although some have fewer. For example, the chief engineer (limited) endorsement requires at least six core examination modules be taken by a mariner, each containing 70 questions. As of October 2022, NMC’s examination question database included approximately 10,465 active “engine” questions and 13,291 active “deck” questions, most of which are publicly available online.
In addition, a November 2021 report, titled *Root Cause Analysis & Intervention Selection Report*, found that personnel administering exams “frequently rely on antiquated manual methods and outdated policy, leading to an increased probability of error and slower processing times.” It recommended that NMC develop and implement an electronic system to let examinations be administered, scored, and recorded electronically. Additionally, it recommended that NMC determine the feasibility of third-party examination administration. NMC staff also submitted CIRs about the need for electronic examination administration due to vulnerabilities in NMC’s paper-based examination practices. For example, some CIRs reported concerns about examination question security and the potential for students to cheat or memorize examination questions.

At the time of our fieldwork, NMC was assessing its options to improve and update its current examination process and needs by developing an analysis of alternatives report, but prior initiatives have faced obstacles. NMC officials cited various challenges, such as arduous government processes, system limitations, budget constraints, cybersecurity challenges, lack of independent authority to implement a new system, and internal office politics, as reasons why NMC has not made more progress toward implementing an electronic examination system.47

The COVID-19 pandemic exposed the need for modernization. In March 2020, all RECs and Monitoring Units closed. For months, mariners did not have access to examinations to obtain or renew credentials. All RECs and all but one Monitoring Unit reopened for examinations by December 2020, or 9 months later. Although certain challenges related to COVID-19 were outside the Coast Guard’s control, having electronic examinations or third-party testing sites available might have mitigated disruptions mariners experienced. A January 2021 presentation NMC created for the Coast Guard Deputy Commandant for Operations stated, “Particularly in light of COVID, the Coast Guard needs to move forward with the implementation of electronic exam delivery.” The presentation added that NMC’s current system was capable of electronic examination delivery but that attempts to move forward had not been supported by the Coast Guard’s Information Technology office “because mariners are not vetted for access behind the [Coast Guard] Firewall.”

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47 Both current and former NMC staff said that internal office politics were at play when it came to delays in implementing an electronic examination system for mariners and that some REC staff feared losing their jobs if the system was implemented. Others suggested Mariner Training and Assessment Division leadership did not want the additional responsibility of implementing and managing an electronic examination system.
NMC’s Paper-Based Examination Process Left the Examination System Susceptible to Fraudulent Activity

NMC maintains a database of examination questions but administering and scoring exams is done on paper. The reliance on paper-based testing processes has contributed to instances of examination fraud. For example, between October 2022 and December 2022, three former REC New Orleans employees were convicted of engaging in a bribery scheme that began as early as 2011. One of these employees, a credentialing specialist, collected money from mariners seeking credentials. A colleague of that individual created fraudulent data entries in NMC’s system of record, making it appear that the mariners had taken and passed their credentialing exams. This fraud was possible because REC staff conduct both exam administration and scoring by hand, on paper, and can enter any exam score they wish into their system of record – something an electronic exam system would mitigate with automatic scoring and recording. The third individual, an examination administrator, sold examination questions and answers to mariners before they took the examinations required to obtain a merchant mariner credential. According to the prosecuting U.S. Attorney’s Office, these actions “resulted in the applicants illegally obtaining a range of licenses for officer-level positions, including the most important positions on vessels, such as master, chief mate, and chief engineer.”

There have also been past NMC staff concerns about the security of the Coast Guard examination database. Because employees from all RECs and Monitoring Units have access to NMC’s active examination module questions and answers — due to their need to print examinations to administer to mariners and then grade them manually — NMC has lost control over its database of examination questions and answer sheets. NMC staff reported that from an unknown time until 2021, anyone who had “super user” permission in the system that houses NMC’s examination questions, and which is used by other Coast Guard offices, could access NMC’s examination and answer database. A Coast Guard official estimated that approximately 100 non-NMC Coast Guard employees had access to the questions and answers. When NMC identified the loophole, it reportedly moved the questions and answers to a secure database.

Because of NMC’s paper-based testing processes, when a credentialing examination is conducted at an academy, REC staff rent moving vans to transport examination questions and related reference materials. According to the Coast Guard’s Force Readiness Command Performance Technology Center report previously mentioned, the cost for moving these materials from RECs to the academies was over $5,000 per examination. Once REC staff are set up and able to proctor examinations, they often use the help of academy instructors. We reviewed three NMC staff reports documenting their concerns that academy instructors were assisting NMC to proctor credentialing exams, and that some academy instructors were reviewing and collecting examination questions while they were assisting NMC staff. In an examination trip summary

48 If a mariner attends one of the six state maritime academies or the United States Merchant Marine Academy, staff use machine-readable fill-in-the-bubble sheets to grade exams.
report from May 2022, NMC staff reported that they had observed one instructor reviewing examination questions after they passed out the examinations. The Coast Guard also determined that, in June 2022, an academy engineering instructor attempted to open a shred bin to access NMC examination questions that had been discarded. The prior year, the same academy instructor had been responsible for safeguarding the examination questions and materials while REC and academy staff were at lunch. At the time of our review, this instructor described himself on his personal website as an instructor and the program chair of the academy engineering program. The website also said that he sells “current questions” and “latest … illustrations” for Coast Guard credentialing examinations.

NMC Cannot Easily Analyze Exam Data

NMC’s paper-based examination process prevents the Coast Guard from easily analyzing credentialing examination data. A senior NMC official explained that NMC’s current examination system has many limitations because the process is manual, and paper based. As a result, NMC cannot conduct in-depth analysis on questions or trends. He also said it was difficult for NMC to determine whether a question is appropriate or not. Another NMC official said the system NMC uses to create and house its examination questions is unable to generate any reports on the examination data contained within it. When we asked an official how NMC analyzes examination data from its RECs to determine the overall effectiveness and appropriateness of questions, the individual responded that it would take years to gather enough data to complete such an analysis.

NMC cannot easily analyze challenges to exam questions. When a mariner fails an examination module by a single question and believes there is an inherent problem with the question that prevents it from being answered correctly, NMC allows that individual to “challenge” the question (mariners can challenge up to two questions per examination). When we attempted to analyze the challenged questions to determine whether there were trends that pointed to issues with specific questions, NMC reported it only kept the challenge requests and responses in individual PDF files and did not otherwise track this information. Tracking challenged questions would be prudent to determine trends that may suggest certain questions, multiple choice answer options, or other answers should be updated or revisited.

49 NMC leadership informed us that they were attempting to phase out the use of academy instructors for traveling examination team examinations, and NMC has identified instructors as posing the greatest risk to the credentialing examination process.
50 Illustrations are images or diagrams that test takers use to answer examination questions.
51 NMC reportedly receives approximately 200 examination challenges per year.
Staffing and Database Limitations Have Hindered NMC’s Ability to Replace Credentialing Examination Questions That Are Largely Available Online

NMC’s database of active examination questions is largely available for purchase by several online vendors because, in the early 2000’s, the Coast Guard published its entire database of active examination questions on its public website. Although the Coast Guard later removed the questions from its website, it republished them in 2012 due to Freedom of Information Act litigation. Later, the Coast Guard Authorization Act of 2015 established that the disclosure of merchant mariner examination questions to the public was not required, and NMC removed the questions from its website approximately 7 months later.

Since removing examination questions from its website, NMC has only written approximately 1,215 new questions out of a total of 23,756 active questions in NMC’s database. As it is unlikely these new questions are available online, that means approximately 95 percent of NMC’s database of examination questions is still available on the Internet.

The availability of these questions is primarily due to the existence of companies that collected NMC’s entire database of questions when it was available online through 2016. These companies sell questions to mariners and sometimes market them to instructors. One company’s website states mariners will have “unlimited access” to all questions in the NMC database. One NMC official told us mariners have submitted examination question challenges stating the examination questions they failed were not found on those companies’ websites.

The Coast Guard Authorization Act of 2015 required that new questions be reviewed and vetted by a working group comprised of industry experts (which generally include academy instructors). Since 2016, NMC has developed approximately 930 new “engine” questions and 285 new “deck” questions, representing 9 percent of its “engine” questions and 2 percent of its “deck” questions that are in use for examinations. NMC attributed the low numbers of new examination questions to staffing and system limitations and said examination specialists are pulled away from the responsibility of writing questions to conduct other work.

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53 Per NMC’s Administration of Merchant Marine Examinations guide, “If a mariner believes there is an inherent problem with a question that prevents it from being answered correctly, and has failed the module by a single question, the mariner will be allowed to review the module and submit a Challenge/Comment Sheet. The mariner may challenge up to two questions.” Although NMC does maintain the mariner Challenge/Comment Sheets and NMC determinations, it does not log these challenges in a spreadsheet or by any method that would allow for analysis.
54 NMC staff said that because this vetting requirement is an unfunded mandate, meaning NMC cannot pay industry experts for their participation, transportation, or lodging, it can be challenging to find individuals willing to participate in the working groups.
55 One NMC official told us it could hypothetically take months to upload 100 questions into their current system, which is old and outdated. The official also said NMC staff hesitate to write new questions given system limitations.
Evidence points to a widespread problem of students relying on publicly available examination questions. For example, in a March 2022 response to questions by the National Merchant Marine Personnel Advisory Committee, NMC wrote that it was “indisputable” that many of the Coast Guard’s questions had been overexposed and are used directly by mariners and training providers to assist in preparation for Coast Guard examinations. NMC officials documented numerous instances in which they believed mariners were memorizing examination questions.

In an examination trip summary report from August 2022, one NMC employee recalled that the first individual who completed an engineering safety test did so in 5 minutes and passed with an 86 percent score; he calculated it took the individual only about 4 seconds to answer each question. The NMC employee also provided several other examples of students finishing their examinations in concerning amounts of time, including a different student passing an electricity examination within 11 minutes (about 9.5 seconds per question, per that individual’s calculations), which was “unheard of” as that test was traditionally “the hardest” to take and pass. A different NMC employee wrote in an examination trip summary report from May 2022:

> In observing the engineering students finishing so quickly, in 15 minutes, I discussed this with some of the instructors. One advised that the kids do in fact memorize question [sic] … One exam had 6 to 8 CFR [Code of Federal Regulations] questions that would need to be looked up [using reference materials RECs supply]. I only saw about 3 students looking up items in the CFR, the others just flew along. That exam yielded many 100s, 90’s and only 2 80’s.

In a March 2022 email between the NMC Commanding Officer and the Director of Commercial Regulations and Standards, the Commanding Officer reported that an engineering student completed a complex engineering examination in 30 minutes. The Commanding Officer stated he was surprised, but it was “evidence that people are studying the questions. We have similar evidence from REC statements on cadets who finish the chart plot so quickly.”

NMC staff also said some instructors rely on having the examination questions and teach to the test instead of the subject matter. An organizational assessment of one academy completed in November 2021 reported that some subject matter experts interviewed in preparation of the report suggested the academy’s educational program appeared “more geared toward ‘teaching to the test’” i.e., the credentialing examinations. In response to concerns regarding students (e.g., the system has difficulty processing new questions while also accommodating the number of active users.) The official reported that once you push a button to access their current system, staff “wait and continue to wait.”

56 The purpose of this committee, established by the Coast Guard Authorization Act of 2018, is to advise the DHS Secretary, through the Commandant of the Coast Guard on matters relating to the training, qualifications, certification, documentation, and fitness of mariners.

57 The National Academy of Public Administration completed this assessment per a requirement in the FY 2020 National Defense Authorization Act through an agreement with the U.S. Department of Transportation.
failing a new chart-plotting examination (that was not available online) at high rates, two captains from one academy said:

In any other profession (legal, medical, etc.) the prospective candidates do not have access to the entire set of questions they could be asked, and neither should the maritime industry. The maritime industry should be no different.

The textbook NMC provides its examination specialists as the guideline for developing new deck and engine examination questions says, “the purpose of any licensing or certification test is to pass competent candidates and fail incompetent candidates, to protect the public from incompetent practitioners.”58 The textbook also adds that exposed examination information may weaken the valid interpretation and uses of test scores, and if exposure occurs, new tests need to be created to replace the compromised test.59

Ultimately, the modernization of NMC’s exam system and practices will allow NMC to better secure its database of examination questions, equip NMC staff with better tools to replace exposed questions with new ones more quickly, help mitigate examination fraud by Coast Guard staff and mariners, and enhance NMC’s ability to analyze examination data and results.

Conclusion

The United States relies on an adequately prepared mariner workforce to meet the needs of the maritime industry and to respond during times of peace, crisis, and conflict. Without quality control measures, standardized operations, consistent policies and practices, and modernization, NMC may continue to face challenges related to course, program, and audit oversight. It is essential Coast Guard ensures compliance with Federal regulations, as noncompliance could potentially place mariners at risk of not acquiring the required knowledge and skills to be safe at sea. Although NMC has attempted to address staffing shortages, gaps in staff training, and staff recommendations for areas of improvement, additional effort is needed to develop and implement plans to meet course approval and audit program goals, reduce the backlog, and clarify internal policies to adequately prepare mariners. Modernizing NMC’s examination processes will also allow better security of NMC’s database and reduce the likelihood of examination and credentialing fraud.

58 Haladyna, Thomas M. Developing and Validating Multiple-Choice Test Items, Routledge, 2015, p. 94.
59 Id., 187.
Recommendations

We recommend the Assistant Commandant for Prevention Policy, United States Coast Guard:

**Recommendation 1:** Develop and implement a course approvals plan to address the existing backlog and to avoid future approval delays.

**Recommendation 2:** Establish and implement quality control measures for course approvals to include peer review or other mechanisms to ensure course approvals meet requirements.

**Recommendation 3:** Develop and implement goals and requirements for the course oversight auditing program, including the number and type of audits to be conducted by each auditor in a given time period.

**Recommendation 4:** Establish and implement controls to ensure audit results are used to improve operations and apply enforcement actions to MTPs, such as suspension or withdrawal of course approvals, after serious nonconformities are identified.

**Recommendation 5:** Develop and implement policy and procedures for routinely conducting in-person audits of mariner training sites to ensure sites are operating in accordance with the site approval.

**Recommendation 6:** Develop and implement a policy for routinely conducting audits of third-party course approvers to ensure they have processes for reviewing, approving, and monitoring training that are equal to the Coast Guard’s course approval and oversight processes.

**Recommendation 7:** Develop and implement a plan to modernize NMC’s examination processes, with a milestone timeline endorsed by the Coast Guard offices whose support and assistance is needed.

Management Comments and OIG Analysis

In response to our draft report, Coast Guard officials concurred with our recommendations and described corrective actions to address the issues we identified. We consider all recommendations resolved and open. Appendix B contains Coast Guard’s management response in its entirety. We also received technical comments on the draft report and made revisions as appropriate. A summary of Coast Guard’s response to each recommendation and our analysis follows.

**Coast Guard Response to Recommendation 1:** Concur. Coast Guard acknowledged the need to minimize course approval backlogs that can lead to industry disruption. Coast Guard stated it
would develop and implement a plan to address course approval backlogs that will include assessing policies, procedures, and resources and deploying a new credentialing system. Estimated completion date: September 29, 2028.

**OIG Analysis:** We consider these actions responsive to the recommendation, which is resolved and open. We will close this recommendation when Coast Guard provides documentation showing it has completed and implemented its plan to address the existing course approvals backlog and avoid future approval delays.

**Coast Guard Response to Recommendation 2:** Concur. Coast Guard stated it will develop quality control measures for course approvals once it completes the planned implementation of a new credentialing system. The new credentialing system should assist with the process of approving courses and reduce the time for initial and quality assurance reviews. Estimated completion date: September 29, 2028.

**OIG Analysis:** We consider these actions responsive to the recommendation, which is resolved and open. We will close this recommendation when the Coast Guard provides documentation showing it has implemented quality control measures for course approvals.

**Coast Guard Response to Recommendation 3:** Concur. Coast Guard stated that in August 2023 NMC changed its organizational structure for overseeing audits by creating the External Audit Branch. Under this new organizational structure, all auditors are organizationally aligned under the External Audit Branch. Further, NMC is updating the auditing program instructions, including the performance plan, goals, auditing requirements, and number of audits each auditor should complete annually. Estimated completion date: September 30, 2024.

**OIG Analysis:** We consider these actions responsive to the recommendation, which is resolved and open. We will close this recommendation when Coast Guard provides documentation showing it has completed its planned updates to the audit program instructions, including developing and implementing goals for the number and type of audits each auditor should conduct in a given period.

**Coast Guard Response to Recommendation 4:** Concur. Coast Guard stated that NMC’s planned update to the auditing program instructions will include additional guidance for handling non-conformities identified in audit reports. Estimated completion date: September 30, 2024.

**OIG Analysis:** We consider these actions responsive to the recommendation, which is resolved and open. We will close this recommendation when Coast Guard provides documentation showing it has completed its planned updates to the audit program instructions. These planned updates include additional guidance for handling non-conformities identified in audit reports to ensure audit results are used to improve operations and apply enforcement actions to MTPs,
such as suspension or withdrawal of course approvals, after serious nonconformities are identified.

Coast Guard Response to Recommendation 5: Concur. Coast Guard stated that NMC will develop a risk-based approach to audit mariner training sites and develop a schedule for in-person audits based on the risk factors of the training site. **Estimated completion date:** September 30, 2024.

**OIG Analysis:** We consider these actions responsive to the recommendation, which is resolved and open. We will close this recommendation when Coast Guard provides documentation showing NMC has completed its risk-based approach and schedule for in-person audits of mariner training sites.

Coast Guard Response to Recommendation 6: Concur. Coast Guard stated that no courses are currently approved by a third-party organization, but when third-party organizations submit courses to be approved on behalf of NMC going forward, those organizations will be added to the audit schedule, and audited against current regulatory requirements. Further, NMC will address third-party course approver audits in its update to the auditing program instructions. **Estimated completion date:** September 30, 2024.

**OIG Analysis:** We consider these actions responsive to the recommendation, which is resolved and open. We will close this recommendation when Coast Guard provides documentation showing it has completed its planned updates to the audit program instructions, including additional guidance to address third-party course approver audits.

Coast Guard Response to Recommendation 7: Concur. Coast Guard acknowledged the need to modernize mariner examinations. The Coast Guard stated it plans to modernize the credentialing examination process as part of the planned implementation of a new credentialing system. In addition, Coast Guard plans to develop new processes to improve the mariner credentialing examinations once the new credentialing system is in place. **Estimated completion date:** to be determined.

**OIG Analysis:** We consider these actions responsive to the recommendation, which is resolved and open. We will close this recommendation when Coast Guard provides documentation showing it has completed and implement its plan to modernize the examination processes.
Appendix A:  
Objective, Scope, and Methodology


We conducted this review to determine if the Coast Guard NMC oversight program complied with the standards and regulation requirements for the audit and approval of training courses and programs for merchant mariners.

We initially requested information on audits and course approvals going back to June 1, 2019. In some areas where we found longstanding issues, we expanded the period of our evaluation, such as analyzing course extensions going back to 2012 and reviewing reports about modernizing the examination process going back to 2010.

To achieve our objective, we interviewed Coast Guard NMC leadership, Mariner Training and Assessment Division and Oversight Division staff, and other appropriate individuals, such as those located at RECs.

We conducted an in-depth review of the roles, responsibilities, and activities related to NMC’s course oversight and audit functions; the evaluation and approval process of all training courses and programs; and the development, maintenance, and administration of mariner examinations.

We reviewed and analyzed U.S. laws as well as Coast Guard instructions, STCW, policies, processes, and procedures. We also examined relevant internal communications, such as email correspondence, related to training course approvals, audits, and examinations.

On October 7, 2022, we sent a questionnaire to the 276 MTPs, about course extensions and approval delays. We used a survey tool to generate the questionnaire, distribute it, and collect responses. The questionnaire remained open until October 28, 2022, and a total of 109 MTPs responded. We reviewed and analyzed the questionnaire responses to inform our reporting.

We conducted this review between July 2022 and March 2023 pursuant to the Inspector General Act of 1978, 5 U.S.C. §§ 401-424, and according to the Quality Standards for Inspection and Evaluation issued by the Council of the Inspectors General on Integrity and Efficiency.

DHS OIG’s Access to DHS Information

During this review, the Coast Guard provided timely responses to our requests for information and did not deny or delay access to the information we requested.
Appendix B:  
Coast Guard Comments on the Draft Report

MEMORANDUM

From: Craig A. Berman  
COMDT (CG-8D)  

To: Joseph V. Cuffari, Ph.D.  
Inspector General  

Subj: MANAGEMENT RESPONSE TO DRAFT REPORT: “COAST GUARD NATIONAL MARITIME CENTER’S OVERSIGHT OF MERCHANT MARINER TRAINING AND EXAMINATION”

Ref: (a) OIG Project No. 22-049-ISP-USCG

1. Thank you for the opportunity to comment on this draft report (reference (a)). The U.S. Coast Guard (the Coast Guard) appreciates the work of the Office of Inspector General (OIG) in planning and conducting its review and issuing this report.

2. Coast Guard leadership is pleased to note OIG’s positive recognition that the National Maritime Center has taken steps to improve its course oversight audit program, including making an organizational change to strengthen program management. The Coast Guard remains committed to compliance with the standards and regulations for the audit, improving management of operations, and approval of training for merchant mariners.

3. The draft report contained seven recommendations with which the Coast Guard concurs. Enclosed find our detailed response to each recommendation. The Coast Guard previously submitted technical comments addressing several accuracy, contextual, and other issues under a separate cover for OIG’s consideration.

4. Again, thank you for the opportunity to review and comment on this draft report. If you have any questions, my point of contact is CDR Matthew Zinn who can be reached at (202) 372-3535 or Matthew.W.Zinn@uscg.mil. We look forward to working with you again in the future.

#

Enclosure: (1) U.S. Coast Guard Response to OIG Draft Report Recommendations
Coast Guard National Maritime Center’s Oversight of Merchant Mariner Training and Examination
OIG Project No. 22-849-ISF-USCG

OIG recommended that the Assistant Commandant for Prevention Policy, Coast Guard:

Recommendation 1: Develop and implement a course approvals plan to address the existing backlog and to avoid future approval delays.

Response: Concur. The Coast Guard recognizes the need to minimize industry disruption caused by backlogs. The Office of Merchant Mariner Credentialing (CG-MMC), in consultation with the National Maritime Center (NMC), will develop and implement a plan to address these concerns that includes the following effort:

<table>
<thead>
<tr>
<th>Interim Milestones:</th>
<th>Estimated Completion Date (ECD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop plan that considers policies, procedures, and resources.</td>
<td>September 30, 2024</td>
</tr>
<tr>
<td>Develop, acquire, and deploy new credentialling system pending Congressional funding.</td>
<td>September 30, 2027</td>
</tr>
<tr>
<td>Evaluate efficiency of current level of human resources.</td>
<td>March 31, 2028</td>
</tr>
<tr>
<td>Develop updated processes based on implementation of new system and resource levels.</td>
<td>June 30, 2028</td>
</tr>
<tr>
<td>Fully implement plan.</td>
<td>September 29, 2028</td>
</tr>
</tbody>
</table>

Overall ECD: September 29, 2028.

Recommendation 2: Establish and implement quality control measures for course approvals to include peer review or other mechanisms to ensure course approvals meet requirements.

Response: Concur. The ability to conduct quality assurance reviews is a balance of capacity and volume. The Coast Guard is in the process of developing and acquiring a new credentialling system that will assist with the process of approving courses. Once the system is deployed in September 2027 as previously noted in this letter, the NMC will develop procedures for course quality assurance, reducing the time for initial and quality reviews.

<table>
<thead>
<tr>
<th>Interim Milestones:</th>
<th>ECD:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various Coast Guard stakeholders, including CG-MMC, Office of C4 &amp; Sensors Capabilities (CG-761), and the Assistant Commandant for C4IT (CG-6) will develop, acquire, and deploy new credentialling system pending Congressional funding.</td>
<td>September 30, 2027</td>
</tr>
<tr>
<td>Once a new credentialling system is deployed, evaluate efficiency of current level of human resources.</td>
<td>March 31, 2028</td>
</tr>
<tr>
<td>Develop updated processes based on implementation of new system and resource levels.</td>
<td>June 30, 2028</td>
</tr>
<tr>
<td>Fully implement plan.</td>
<td>September 29, 2028</td>
</tr>
</tbody>
</table>

Overall ECD: September 29, 2028.

Encl: (1)
**Recommendation 3:** Develop and implement goals and requirements for the course oversight auditing program, including the number and type of audits to be conducted by each auditor in a given time period.

**Response:** Concur. An organizational restructure within NMC was approved in August 2023 to include the creation of the External Audit Branch (NMC-03). To ensure consistency in audits, all field level Course Oversight Auditors will work under NMC-03. The NMC is updating the auditing program instructions, including the performance plan, goals, auditing requirements, and number of audits to be completed annually. ECD: September 30, 2024.

**Recommendation 4:** Establish and implement controls to ensure audit results are used to improve operations and apply enforcement actions to MTPs, such as suspension or withdrawal of course approvals, after serious nonconformities are identified.

**Response:** Concur. The NMC is updating the auditing program instructions, which - once complete - will include the timeline for the issuance of reports and the handling of nonconformities. ECD: September 30, 2024.

**Recommendation 5:** Develop and implement policy and procedures for routinely conducting in-person audits of mariner training sites to ensure sites are operating in accordance with the site approval.

**Response:** Concur. Training providers are required by 46 C.F.R. § 10.403(a)(6)(vi) to maintain records on the number of times each course is taught, and the number of times the course was presented at each approved location. Accordingly, the NMC will develop a risk-based approach to audit mariner training sites and develop a schedule for in-person audits based on the risk factors of the training site. ECD: September 30, 2024.

**Recommendation 6:** Develop and implement a policy for routinely conducting audits of third-party course approvers to ensure they have processes for reviewing, approving, and monitoring training that are equal to the Coast Guard’s course approval and oversight processes.

**Response:** Concur. At the time the OIG was conducting fieldwork on this engagement, third-party organizations conducted course approvals on behalf of NMC. However, no courses are currently approved by a third-party organization. When third-party organizations submit courses to be approved on behalf of NMC going forward, those organizations will be added to the audit schedule, and audited against current regulatory requirements. Further, the NMC is updating the auditing program instructions and will address the third-party course approver audits. ECD: September 30, 2024.

**Recommendation 7:** Develop and implement a plan to modernize NMC’s examination processes, with a milestone timeline endorsed by the Coast Guard offices whose support and assistance is needed.

**Response:** Concur. The Coast Guard recognizes the need to modernize the delivery of and administrative process for mariner examinations. Various Coast Guard stakeholders, including

End: (1)
CG-MMC, CG-761, and CG-6, are in the process of developing and acquiring a new credentialing system that will modernize the credentialing examination process. Timeline for development of the new Mariner Credentialing Program (MCP) information technology solution is dependent on Congressional funding. Once the new credentialing system is delivered, CG-MMC and NMC will develop new processes, based on the deployed system’s capabilities, to improve the mariner examination process. ECD: To Be Determined (TBD).
# Appendix C:
Full Text Questionnaire Sent to Mariner Training Providers

Oct. 7, 2022:
**Mariner Training Provider Course Extension Survey**
*Produced by DHS OIG*

## Question 1
A January 13, 2022, NMC bulletin reads: “The NMC will extend all courses and programs that expire between January 31, 2022, and October 31, 2022. In an effort to mitigate the unequal distribution of course approval expirations, we will individually assign new expiration dates.”

On or after January 13, 2022, did the USCG National Maritime Center extend any of your courses or programs that were set to expire in 2022?

*Answer Choices: Yes | No*

*If someone answers “no” to question 1, they will skip to question 5*

## Question 2
Do you believe the course or program extension was beneficial to your school and students?

*Answer Choices: Yes | No*

*If someone answers “no” to question 2, they will skip to question 3*
*If someone answers “yes” to question 2, they will skip to question 4*

## Question 3
Please tell us more about why you selected no. For example, what challenges or issues have the course/program extensions caused?

## Question 4
Please tell us more about why you selected yes. For example, what benefits have the course/program extensions resulted in?

## Question 5
*Question for all MTPs, regardless of answer to question 1*

Please consider any course/program approval or renewal packages you submitted to NMC since 2018. On average, approximately how long did it take to receive a course or program approval certificate from NMC?

*Answer Choices:*
- Less than 3 months
- Between 3 to 6 months
- Between 6 to 9 months
- Between 9 to 12 months
- Greater than 1 year
| Question 6 | Has there been any impact to your school’s ability to conduct business because of the amount of time it took NMC to approve:
Initial course/program applications
Course modifications
Sites
Instructors
Answer Choices: Yes | No

*If someone answers “yes” to question 6, they will answer question 7*

| Question 7 | Please tell us more about why you selected yes. For example, what impact did the amount of time it took NMC to approve one of the items listed in a-d in the last question create? |

| Question 8 | Has NMC or its designee audited any of your courses and/or programs in the past year?  
*If someone answers “no” to question 8, they will skip to question 11*

| Question 9 | Did you find this audit helpful or beneficial?  
Answer Choices: Yes | No  

*If someone answers “yes” to question 9, they will skip to question 11*

*If someone answers “no” to question 9, they will move to question 10*

| Question 10 | What would have made the audit process better? |

| Question 11 | Please use this space to share any other feedback related to the NMC course approval or audit processes. |
Appendix D:
Office of Inspections and Evaluations Major Contributors to This Report

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Jasmin Hammad, Senior Inspector
Stephanie Murguia, Senior Inspector
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Lorraine Eide, Independent Referencer
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