

**MERPAC – March 16-17, 2016 – Jacksonville, FL**  
**Report on NMC’s Databases of Questions**  
**by**  
**Richard Plant,**  
**President, LAPWARE, LLC**

The following forty (40) pages are a compilation of two and one-half months of review comparing the OLD 2014 NMC database of questions, still used for those who started training **BEFORE March 24, 2014** and the NEWER 2015 database of questions, used for those who started training **AS OF March 24, 2014**. The comparison was performed for **BOTH Deck and Engine questions OLD (2014) and NEWER (2015)**.

**Deck had FIVE books:** Deck General, Navigation General, Safety and Navigation Problems which, of course, includes all chart plots.

**Engine had SEVEN books:** General Subjects, Electricity and Electronics and Refrigeration, Steam Plants, Motor Plants and Gas Turbines. Gas Turbines, of course, is NEW and only exists in the NEWER 2015 database – a good reason to take the NEWER EXAMS for those Engineers wishing that endorsement.

According to the NMC website mariners are allowed to select which exams they wish to take if they started training BEFORE March 24, 2014 but are mandated to take the NEWER 2015 questions, if training started AS OF March 24, 2015,.

As will be seen, there are numerous errors in all four databases (Old and New, Deck and Engine). All I am trying to do is point out to MERPAC, NMC and the Public (Industry) that these errors do exist **before the USCG (NMC) receives an exemption from the Freedom Of Information Act (FOIA) which has been included in the “Coast Guard Authorization Act of 2015-2016”**. If you are unfamiliar with this Act please just Google it and read the entire document.

Once “behind closed doors” instructors and mariners will be in the dark as to what is happening on the credential exams. This report includes a request to establish a review committee, on which **I request to be the Quality and Assurance Person representing the Industry, both Deck and Engine**, to maintain consistency across the board for all questions. I had this position once before for a contract issued by NMC to ABS Consulting, to develop new questions for Deck and Engine Management Level in compliance with the STCW Manila Amendments. This contract ran from October 2011 to April 2012.

PLEASE read and reference those pages I show as PROOF of existing errors that do exist in all four databases. As stated in the report, mariners pay for a valid and accurate exam and, in some cases, this is NOT what they are receiving. Just read this document for proof of that statement. ANYONE having any questions on this report, please feel free to contact me via email ([rm.plantmd@gmail.com](mailto:rm.plantmd@gmail.com)) or via my cell phone (443-253-8856).

I wish you all a good and productive MERPAC meeting, and safe sailing for those who still go to sea.

Regards,

Richard Plant

PS: I have added a back page for the cover too briefly summarize YET more errors found.

## YET MORE ERRORS

In reviewing the Chart Plots for 3M/2M – 500 T and 1600 T mate, now called Mate GT 200T Oceans/Near Coastal, I discovered NOT only that of the 840 questions NMC was supposed to post, of which one is missing, (which is reported later in this report), that **ALMOST ALL of the # 1 questions in each of the 56 plots** is missing one or two key statements. I will let NMC figure out what these statements are by doing what I did – **SIMPLY COMPARE all 56 questions.**

Furthermore, in the plots, of the 56 first questions, I discovered that at least **THREE of the Deviation Tables displayed are in error**, with just one of these having three errors on its own. Again, NMC can spend time reviewing EACH and EVERY plot, as I have done to figure it out.

As pointed out later in this report, **TWO 100% identical questions in the chart plot have TWO different answers.** Does this seem correct to anyone? I know, it is all in the way the question is worded. PROBLEM IS, as stated, they are worded 100% identically. So why the different answers?

**But, if NMC wants to pay me a contractor's wage I would be happy to visit NMC in Martinsburg, WV and show them where and how I found these errors and what needs to be corrected. Remember, these plots are an 87% passing grade. NONE of them should have any errors.**

I feel very confident in stating that **ALMOST EVERY TIME** I look at the questions I find errors. Remember, and I do state this repeatedly in the report, I have **NOT FULLY** looked at the content of what the question is asking. I am reviewing the layout of the question, grammar, spelling, punctuation and errors in solutions to answers. I am sure when I dig deeper into the database and solve the problems that even MORE errors will be found.

Finally, a problem does NOT just exist in the database of questions. As I have recently reported to Captain Novotny, and to MERPAC, via Captain Andrew McGovern and Amy Beavers Morley, there are PROCEDURAL errors being performed at the RECs such as NOT permitting a mariner to file a protest on an exam, or giving a NEW exam which contains a fuel conservation problem to a mariner CLEARLY approved to sit for the OLD exams which does NOT require that question to be on the exam. YES, the mariner did sit within the required one year from his approval date which clearly shows/states that he is to take the OLD exams. BUT a new exam was given.

With NMC going behind CLOSED DOORS, if the requested USCG exemption from the Freedom of Information Act is passed into law, which I feel quite confident in stating that it will pass, DEFINITELY an industry committee needs to be established to review not only the questions being used, when and where, but procedural errors as mentioned. Recommendations for improving the exam also needs serious looking at. Everyone is familiar with the term "Brain Dump" which is something mariners do after getting their license. This is because the exam, in many cases does not, especially for upper management, cover "practical operating procedures" which would make the exam more realistic for testing these mariners to see if they have the skills needed for the job.

If a committee is established, I again ask to be on the committee and request that I be offered the position of Q&A (Quality and Assurance) so that ALL questions are written and applied in a consistent manner. I think this report will prove that I am very thorough in my review and analysis of the questions – both deck and engine. Thank you again.



Richard Plant

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## SUMMARY REPORT

- 1) **Errors in the 2014 OLD Database compared to the 2015 NEWER Database** The 2014 OLD database was used to create the 2014 NEW database for Deck and Engine. In 2015, a NEWER database was updated from the 2014 NEW database. Corrections were made to question stems but in particular, changes to keyed answers. **The important thing here is that the OLD 2014 database, still in use today on exams, has questions with some having IMPROPERLY KEYED answers.** The distracters contain the correct answer being used by the 2015 NEWER questions. A mariner taking the OLD exam, selects the CORRECT answer but, since it is NOT the NMC Keyed Answer, gets it marked wrong. **Mariners may be failing their exam BECAUSE of an NMC error in answers.**  
(See pages RMP-0001-PROOF to 0018 and there are probably many more.)
  
- 2) **Old License Exam versus New License Exam**  
As of January 1, 2016 either NMC mandated that schools and individuals take the NEW LICENSE EXAMS, when they are eligible to take the OLD EXAMS, or the schools/individuals requested to take the NEW EXAMS. For Engineering, if a Gas Turbine endorsement is needed, they MUST go that NEW Exam route. **But mariners are telling me that they started their training BEFORE March 24, 2014 and yet are being told, in their approval letter, they must take NEW EXAMS. WHY?**  
(Read the bottom half of page 4 for more information.)
  
- 3) **Freedom Of Information Act EXEMPTION**  
I support this idea 100%, **BUT only if the NMC's database of questions are 100% accurate.** Mariners are paying for that service BUT that is NOT what they are receiving. If a review committee is established, it cannot be a FIXED body of individuals. **NO ONE MARINER** knows all of the areas for all of the credential exams that NMC creates for both Deck and Engine. However, ONE industry individual should be on EACH and EVERY committee for the questions reviewed to maintain consistency. Richard Plant requests that his services be used for the Q&A position. Richard has have done this before for the ABS Consulting Contract issued by NMC on Managment questions for Manila Amendments.  
(Read page 5 on your own for more information).
  
- 4) **Duplicate Questions in DECK and ENGINE Exams**  
Captain Joe Murphy and I approached NMC in August 2013 with a simple concept of how 1,000 to possibly 3,000 questions could be created for BOTH the Deck and Engine exams. There are MANY areas of training, operation, and procedures that both Deck and Engine mariners MUST be familiar with. Why not take those DECK questions that have been used and vetted for decades and copy them to the ENGINE database.? WHY not do the same from ENGINE to DECK? In the 12,826 Deck + 7,000 Engine questions in the 2015 NEWER release **ONLY 51 questions are 100% Identical.** There should be SO MANY MORE. Deck, Engine and Unlicensed should be given SIMILAR questions! **WHY isn't this being done?**  
(Read page 6 for more information on this.)

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## 5) Proper Terminology

For DECADES, NMC has continued to use OBSOLETE terminology on license exams. Briefly, these are the terms LEL, UEL and Explosive Limit. The proper terms are LFL, UFL and Flammable Range. (Read page 7 for information.)

## 6) OTHER AREAS OF CONCERN

a) **Spelling errors need to be corrected.** (Read page 8 for examples.)

b) **Treatment of Deck versus Engine versus Unlicensed** – these people, ALL of them, make up the crew and need to be treated equally as people and especially in regards to TRAINING and TESTING. (Read page 8.)

### c) **New License Exams–Deck**

This area concerns the correctness with how NMC is creating exams. For example, many taking the new exams complained about having a **MOON AMPLITUDE** on their Deck exam. The NMC was 100% correct in doing so, since the 46 CFR 11.910 regulations for Deck state that an **AMPLITUDE of ANY BODY will be on the exam**. It is apparent that the instructors, department heads or superintendents were NOT doing their job in making sure that a thorough review of the changes made to the NEW CFR regulations were performed. While comparing the DECK, do NOT forget to look at the Engine (46 CFR 11.950), or OSV and MODU regs. I have created an EXCEL workbook that completely compares each and every license exam, Deck and Engine, NEW to OLD, and shows the changes. (See pages RMP-0019-Proof and RMP-0020-Proof).

However, I do question the fact that the Moon Amplitude, clearly a **CELESTIAL PROBLEM**, was presented on a **TERRESTRIAL** exam, while Bearing Problems, clearly **TERRESTRIAL QUESTIONS**, appeared on the **CELESTIAL EXAM**. If NMC is going to mix up the category of questions, I ask MERPAC to request, as Captain Joseph Murphy has done for years, to have NMC provide to the **INDUSTRY** a breakdown of the number and category of questions that will appear on each **NEW exam**.

### d) **NEW License Exams – Engine**

The NMC Graphics Artist has done an excellent job. It is hoped that NEWER, illustrations will also be created for DECK. A few problems still remains with Engine though. First, is trying to keep track of changes made and posted. Dates of changes made do NOT coincide with the dates of the Illustrations. An example is provided on page **RMP-0021-PROOF**. Second, with the NEWER ENGINEERING exam questions broken down by credential, I have ONE question I would like to have reported back with a **YES or NO answer**. **QUESTION To NMC:** Do upper level Engineers have to also know the lower level questions when taking their test modules? Y or N?

I hope that MERPAC and NMC take some time to review my comments and then take action to correct these problems. TRUTHFULLY, I hope that ALL of you NOW SEE the problem(s) that I tried to describe last year. Thank you. Have a good AND fruitful meeting.

This report started out as an intentional 28 page document, but as I reviewed complaints, and the deck and engine questions, I could not help but add additional pages, NOW being 40 pages in length, showing additional errors I have found - and there are more, MANY MORE.

If you do NOT read this entire report you will miss it all. PLEASE READ THIS REPORT! Thank you.

Richard Plant (Cell 443-253-8856 - call me if anyone has questions).

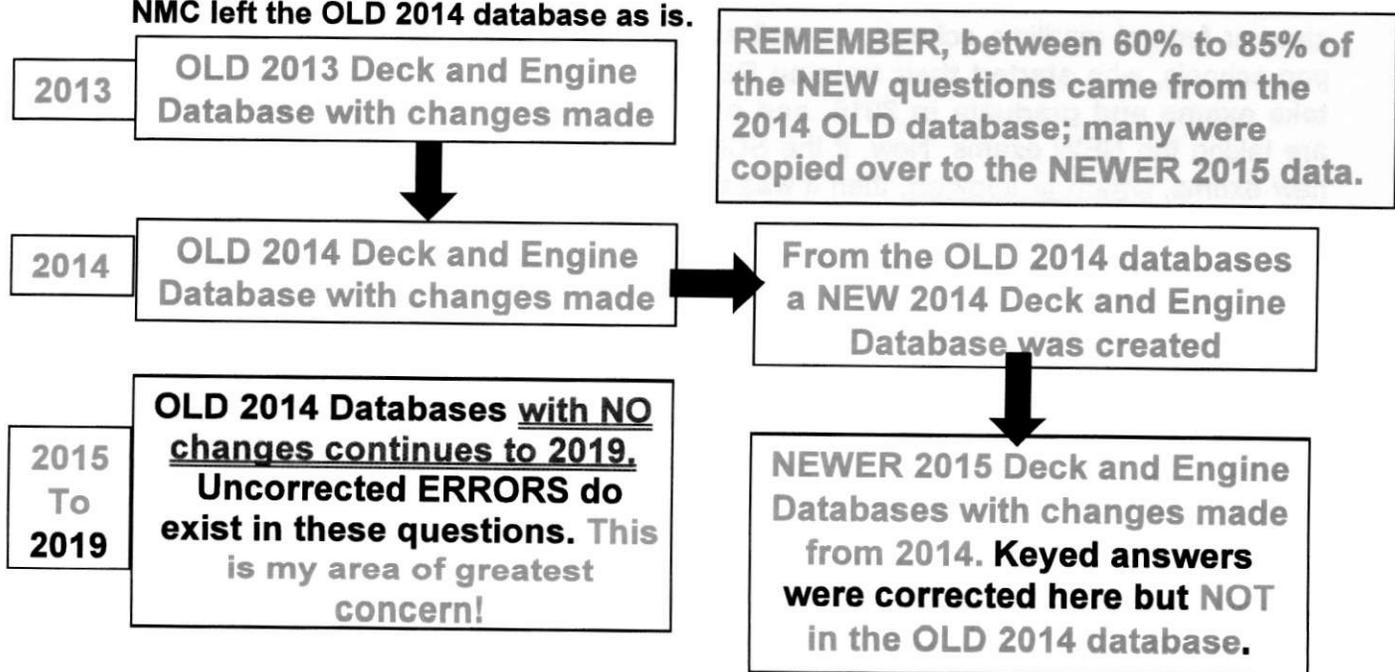
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First of all, I want to apologize for NOT attending in person. I will be celebrating my 70<sup>th</sup> birthday with family members from New Hampshire, Maryland, and Florida will be visiting with me in Fort Myers, Florida. I ask that one of the Public attendees read just the first two pages into the record. **Seventy COPIES** in color will be printed that I paid for will be shipped up to the conference in time for distribution.

Last year, 2015, at the MERPAC meeting held at the NMC HQ in Martinsburg, WV, I tried to attempt to explain some serious facts about the questions existing in the OLD 2014 (old exams) and NEWER 2015 (new exams) still being used today. I was told, by Cathy Mauro, after my presentation, that I went **TOTALLY** over everyone's head – **except hers**. Cathy knew exactly what I was talking about. So I thank Cathy for helping me, with respect to the correcting of the **RULES OF THE ROAD** and having NMC stop using **TWO different Rules of the Road bank of questions** for a 90% Deck exam section, **each based on the SAME Rules Handbook**, which I help create. Now I will to give a simple explanation of what NMC has done and how this affects the industry.

In 2013, NMC created the OLD 2013 Deck and Engine database of questions. In 2014, NMC updated (for the last time) the OLD 2014 Deck and Engine database of questions which were for mariners who started training BEFORE March 24, 2014. **BUT what you need to understand is that the NMC took from this OLD 2014 database 60% to 85% of the OLD questions and developed a NEW 2014 database for Deck and Engine**, which will apply to mariners who started training AS OF MARCH 24, 2014. See diagram below

In September 2015, NMC updated the NEW 2014 database to a NEWER 2015 database, correcting question stems, which had improper wording, grammar, spelling, punctuation, etc., as well as doing the same for the distracters. NMC also **CORRECTED the IMPROPERLY KEYED ANSWERS BUT ONLY in this NEWER 2015 database**. The NMC left the OLD 2014 database as is.



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From the previous text and box diagrams, my point is this. The **OLD 2014 Database continues to have IMPROPERLY worded and keyed answers** and these questions are still being used by NMC on exams. BUT in the NEWER 2015 Database, corrections have been made. **Remember, the NEW 2014 and NEWER 2015 Databases were created from the OLD 2014 Databases.** IF NMC deemed it necessary to correct questions, or change distracters, to make them proper/correct in the NEWER 2015 database THEY HAVE NOT DONE THIS IN THE OLD 2014 Database, which, according to Captain Novotny, **remains in USE until March 24, 2019.** Mariners, taking the OLD 2014 exams, selecting the CORRECT answer, **which is NOT the NMC KEYED answer,** are being improperly scored. Those who failed their exam by 1 to 4 or 5 points could have easily had one or more of these questions which had an improperly NMC keyed answer and possibly did deserve to pass.

I will prove this by referencing SOME questions, but definitely NOT ALL, to show you exactly what I am stating by referencing pages in the back of this report from the NMC website. PLEASE refer to the following pages in this document for examples:

Pages RMP-0001-Proof to RMP-0030-Proof found after page 10 of this report.

### 2) OLD LICENSE EXAM versus NEW LICENSE EXAM

I am not sure what the answer to this question is so I will state what I have heard and then ask NMC what is the correct answer.

**Effective January 1, 2016,** schools were notified, **OR REQUESTED,** to take the NEWER 2015 license exams. **If this was mandated by NMC, then I ask WHY?** The OLD 2014 database is valid for mariners who started their training **BEFORE MARCH 24, 2014** as posted on the NMC website. This OLD database would (SHOULD) apply to mariners at state or federal maritime schools, as well as individual mariners and smaller mom-and-pop schools, who **started their training BEFORE March 24, 2014** and would probably **take exams and graduate in 2016, and possibly in 2017.** Yet the schools/individuals are taking the NEW exams. Now, if the SCHOOLS, or individuals requested to take the new exams, which is allowed, then it was simply based upon their lack of knowledge of what was posted, or, more importantly, NOT YET POSTED, on the NMC website. But I have also been told by individuals that they are being told to take the NEW exams and did NOT request them. I asked them if they stated that their training **BEFORE March 24, 2014. I was told YES!** I again ask, **WHY ARE THE MARINERS BEING FORCED TO TAKE THE NEW EXAMS** when the OLD EXAMS are still applicable?

One answer I can reasonably come up is that the NMC also realizes the NUMBER OF ERRORS IN THE OLD DATABASE and wants to get away from them as quickly as possible. The OLD database is an EMBARRASSMENT to NMC.

The second answer is, if the maritime schools chose to go the route of taking the NEW EXAMS, it is because the NEW exam is the ONLY one providing questions to Engineers to get a Gas Turbine endorsement on their credential, so this would be understood and acceptable. **BUT THEN, WHY ARE DECK MARINERS BEING FORCED INTO THE NEW EXAMS?**

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## 3) FREEDOM OF INFORMATION ACT (FOIA) EXEMPTION

I realize that the USCG / NMC is presently requesting an exemption from the Freedom Of Information Act (FOIA) disallowing anyone, OUTSIDE of the government, from being able to ask for any information on any license exam question.

I am 100% in favor of the NMC going behind closed doors, **BUT only if their database of questions are 100% correct. Sorry, BUT THEY ARE NOT!** And that is the industry's problem. A proposed or negotiated committee is to be established which possibly consists of government as well as industry representatives to review NEW questions, possibly NMC procedures, etc. My problem here, **and ALL must fully understand this concept, NO ONE INDIVIDUAL is fully qualified ON ALL LEVELS of credential exams** that the NMC creates for Deck and/or Engineers.

What I am proposing, if this committee is created, is to have NMC allow industry representatives to participate, **BUT that VARYING EXPERTS from the NUMEROUS INDUSTRY AREAS** be requested to be on the committee to cover those specific questions being reviewed. However, I strongly recommend that **ONE INDIVIDUAL be assigned to be on ALL committee meetings to maintain consistency of review of the exams** and to get an overall picture of what is happening across the board.

Captain Dave Stalfort, ex-NMC Commander, retired in 2010, as I recall, and was then hired by ABS Consulting. NMC then offered a contract to develop questions to be in compliance with the STCW Manila Amendments. **Richard Plant was asked by Captain Stalfort to be the Quality and Assurance Control Officer.** Richard set up a one, then a two page, document that ALL question authors, Deck or Engine, were to use to develop questions and Richard paid for the development of this form out of his own pocket. **It does NOT belong to ABS Consulting NOR to NMC.** It is Richard's property, used by ABS Consulting for which Richard was NEVER reimbursed.

My point that I want to make is that Richard Plant was the ONLY person, outside of the NMC and ABS Consulting, who saw and reviewed EVERY question that was written, finally approved and submitted to the NMC for their approval. Not being an Engineer, Richard's main purpose was to maintain consistency to the standards established by NMC, ABS Consulting, Richard and the question reviewers, **and possibly MORE than one of them is sitting in this room right now.** The project was a success, even though only an estimated 40% of the questions desired were created. State schools, at that time, REFUSED to participate in this project!

ONE individual needs to be selected as Q&A if there is going to be an NMC – Industry Review Committee. I, Richard Plant, volunteer to be on that committee and in that Q&A position, if NMC desires and approves, since I have done this previously. As Cathy Mauro stated in the last MERPAC meeting at NMC HQ, when asked, **“Who is the Q&A person at/for NMC today?”** and Cathy responded **“Richard Plant”**. I spend a lot of time reviewing new releases and comparing new to old releases to find the changes made to see if they are correct, and try to discover the errors to report them to NMC. I am a good choice for this position.

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### 4) DUPLICATE QUESTIONS in DECK AND ENGINE

On Tuesday, August 27, 2013, Captain Joseph Muphy and Richard Plant visited NMC and spoke to Captain Novotny, and an assistant, about the NMC Deck and Engine Questions. One of our discussions dealt with an idea Richard Plant developed after reviewing BOTH the Deck and Engine questions. Richard told NMC that he knew of a way to develop between 1,000 and 3,000 NEW questions in both the Deck and Engine exams and it could be done in less than ONE week. The looks on the faces clearly stated – NO WAY – IMPOSSIBLE. Richard's concept was simple. **First, I asked NMC, and I ask the members of MERPAC, to consider and write down, in general, THOSE SUBJECT AREAS that apply to BOTH Deck and Engine exams, licensed or unlicensed.** A very small list would look something like this:

**Fire Fighting, Pollution Control, Life Saving, Life rafts, Life boats, CFR Regulations, Basic Stability, Basic Ship Construction, Safety, Marlinespike Seamanship, Emergency Response, Emergency Procedures, First Aid, Ship Operations,** and the list COULD go on and on and on.

What Richard pointed out to NMC was that the DECK database has excellent questions in these areas which have ALREADY BEEN VETTED and used for years.

Furthermore, the Engine database, ALSO has excellent questions in these areas that have ALREADY BEEN VETTED and used for years.

But the kicker was, the DECK questions are TOTALLY DIFFERENT from the ENGINE questions. WHY? They are ALL GOOD QUESTIONS.

Simply copying the Deck questions to the Enigne database and the Engine questions to the Deck database would allow an increase in the total number of questions. ALL of questions have been time tested having been used for numerous years. YES, they all would have to be recategorized for Engine or Deck sections, but that really should not take that long. **It is a simple solution to a major problem, thinking, INSIDE the box using what NMC already has, and not OUTSIDE the box, creating NEW QUESTIONS from scratch which does take time.** This procedure will add MORE questions to both the DECK and ENGINE database. Remember, these questions **EXIST, HAVE BEEN VETTED AND ARE BEING USED. They just need swapping!**

In the September 2015 releases of the NEWER Deck (12,826) and Engine (7,000) questions that are presently being used for NEWER credential exams, would anyone like to take a guess as to how many questions are 100% IDENTICAL in both the Deck and Engine databases?

For the combined Deck and Engine questions, which totals 19,826, ONLY 51 questions are 100% identical. AND I did sort the distracters horizontally so that I would be comparing APPLES to APPLES. This is just a very SMALL potential of what the NMC could do if a little more effort were put forward, to increase there database with VALID QUESTIONS. Why hasn't this been implemented? It is so simple to do.

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## 5) PROPER TERMINOLOGY

I have raised this issue to NMC previously. ***"When will the NMC questions (probably BOTH DECK AND ENGINE) ever be corrected to reflect proper terminology used in the industry?"***

I am referring to the LEL, Lower Explosive Limit, UEL, Upper Explosive Limit, and Explosive Range, which have been OBSOLETE for nearly 3 decades, if not more.

The proper terms are LFL, Lower Flammable Limit, UFL, Upper Flammable Limit and Flammable Range.

I have called the NFPA and confirmed this 10 to 12 months ago. The head of the NFPA in Maryland reported, as I passed on to the NMC, changes were made "a long time ago". These old terms have been non-existent and replaced FOR DECADES.

The NFPA was surprised that such an organization as the United States Coast Guard would still be referencing such "obsolete" terms, and strongly recommended that they be corrected.

Yet, although I passed this on to the NMC, in their September 2015 release of Engine, and probably Deck, questions, these OLDER, OBSOLETE and INCORRECT terms are still used. I have taken the effort to COUNT how many times. See the diagrams below.

We have in this room, at this MERPAC meeting, March 2016, probably MANY instructors from various training facilities. **HOW MANY OF YOU ARE STILL TEACHING LEL and UEL versus LFL and UFL?** The whole purpose of switching over from "EXPLOSIVE", which represents the E in LEL and UEL, to "FLAMMABLE", which represents the "F" in LFL and UFL is for the benefit of the public.

The concept here is that when public discussions take place to establish LPG, LNG or other such facilities, that it is felt that the term FLAMMABLE is less frightening than the term EXPLOSIVE.

For a fact, I know that when I taught Liquefied Natural Gas courses in the late 1970's and early 1980's I was using the terms FLAMMABLE and not EXPLOSIVE.

Therefore, if I am correct, the change in terminology has existed for nearly THIRTY FIVE (35) years. **When will the USCG/NMC catch up to the rest of the industry and use this proper terminology? PLEASE contact Jim Pauley below at address I provided.**

12,828 DECK		7,000 ENGINE	
Ques. & Ans.	SEARCHED	Ques. & Ans.	SEARCHED
UEL	447	UEL	3
LEL	114	LEL	3
Explosive Limit	18	U.E.L.	0
Explosive Range	12	L.E.L.	2
UFL	2	Explosive Limit	14
LFL	2	Explosive Range	4
Flammable Limit	11	UFL	0
Flammable Range	7	LFL	0
		U.F.L.	0
		L.F.L.	0
		Flammable Limit	3
		Flammable Range	1

**Jim Pauley**  
**President and CEO**  
**National Fire Protection Association**  
**1 Batterymarch Park**  
**Quincy, Massachusetts 02169**

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## 6) OTHER AREAS OF CONCERN

(Just listed and BRIEFLY described)

**Spelling errors** – the Deck and Engine database of questions have many improperly spelled words. Just a few that I found are:

**Spell Checker - NEWER 2015 Questions (I did NOT check the distracters)**

liquified is liquefied

texas is Texas

marconi is Marconi

a A B-III extinguisher should be an "A B-III" extinguisher

a B-II extinguisher should be a "B-II" extinguisher

Underscores should all be the same length - 10 characters recommended not 1, none or " ".

Questions ending with a question mark should NOT have a space before the ?. Capetown, South Africa should be Cape Town, South Africa

Same word spelled differently referencing a chair - should be consistent:

bos'n's or bosun's or bosuns or bosun chair.

Should nonhygroscopic be non-hygroscopic?

cyrogenic should be cryogenic

complies with alll stability The word all has ONLY two letter ELs, NOT THREE.

Latittude should be Latitude - NOT with two adjacent ts

## GRAMMAR

where should the the final samples be taken?

"According to U.S. regulations, normally, where are manholes in LFG located?"

What What repeated at the beginning of one question.

**Treatment of Deck versus Engine versus Unlicensed** – I know that this FRICTION, for a lack of a better word, between future Deck and Engine officers and crew, starts in freshman year of state and federal maritime schools, and carries over into the industry. This attitude, which could be classed as discrimination, should cease immediately.

Do you seriously think that the crew of the El Farro, and other ship's that have been in harm's way, looked at each other and say I can't help him or her because he is a Deckie or a Snipe or a unlicensed crew member?

Not only NO, **BUT HELL NO!** The crew is the crew and they, the El Farro crew, worked as ONE SINGLE unit, as all merchant mariner crews do, when an emergency exists. **THEY ARE USCG CREDENTIALLED MERCHANT MARINERS!** That is why the moving of the Deck questions that cover similar areas of training as Engineers should be done and vice versa. The CREW needs to have the EXACT same training and testing in these areas of self concern so they ALL have identical training, knowledge, experience and competence.

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**NEW LICENSE EXAMS – DECK** – I know I previously discussed this but there is ONE more area of concern. The NMC in creating the NEWER Deck Exam added a **MOON AMPLITUDE** on the exam. TWO YEARS AGO I told MERPAC members and the public that if they have NOT already done so, they should COMPARE the OLD 46 CFR 11.910 (Deck) and the NEW 46 CFR 11.910. And they should do the same comparison for the OLD 46 CFR 11.950 (Engine) and the NEW 46 CFR 11.950. MODU and OSV also.

I will simply state that the **NMC is 100% CORRECT** in asking a **MOON AMPLITUDE** on the exam. If one looks at the NEW 46 CFR 11.910 they will see this. I have created an Excel Workbook that COMPARES both the DECK and ENGINE, OLD and NEW 46 CFR regulations. A copy of just a part of one page is shown in this report. THOSE who complained about what the NMC did should be ashamed of themselves for NOT reviewing the NEW CFR Regulations previously. (View pages RMP-0019-PROOF and RMP-0020-PROOF to see excerpts of my Excel Comparison File.)

HOWEVER, having said that, I would state that I feel that it was **TOTALLY IMPROPER** for the NMC to give the **MOON AMPLITUDE** question, clearly a Celestial Navigation Problem, on the **TERRESTRIAL** exam. Also, the NMC provided **BEARING** problems, which are **TERRESTRIAL** questions on the **CELESTIAL** exam. **WHY?**

Now, if NMC is making drastic changes to the test modules, they need to respond to the **NUMEROUS** requests by Captain Murphy, which have been made for many years, that the industry be provided by NMC with a breakdown of the **NUMBER** and **CATEGORY** of questions, that will be on each test module. **I hope that the MERPAC committee will support and recommend this also.**

**NEW LICENSE EXAMS – ENGINE** – Again, a subject previously discussed but this is another area of concern. I do want to thank the NMC GRAPHICS ARTIST for the work being done on the Engineering Illustrations. However, postings are made on the NMC website stating that changes have been made effective 1/12/2016 yet when one looks at the group of illustrations referred to, there are **NO DATES** next to any illustration that even comes close to this date. How is the Industry supposed to know where the changes were made? I know that this will all be mute when the **FOIA EXEMPTION** is granted, and all questions and illustrations get pulled down from the NMC website, **BUT** while they remain posted they should **ALL** be correct and show the public the correct information.

There are more pages in this report that show the lack of illustrations being posted that are referenced by questions, and some illustrations that are referenced by questions that are **NOT** posted. This needs to be corrected as well.

Also, the breakdown of **ENGINE** exam questions by **NOT** only the **BOOK** or **SECTION**, but by **License** gives a great advantage to Engineers in studying for their exam. **Why wasn't this done for Deck? See the next page.**

**NMC Question:** Do Upper level Engineers have to also know the lower level questions when taking their exams?  
IF YES, then read my notes at the bottom of page RMP-0001-PROOF.

# MERPAC – March 16-17, 2016 – Jacksonville, FL

## ENGINE SUMMARY

	QMED	Asst. Engr.	1AE/CE	TOTAL
General Subjects	368	670	422	1460
Electricity	537	580	279	1396
Refrigeration	152	227	231	610
Steam Plants	192	747	407	1346
Motor Plants	192	509	245	946
Engineering Safety	263	347	354	964
Gas Turbine		172	106	278
TOTAL by LICENSE	1704	3252	2044	7000

The following THIRTY (30) pages (numbered RMP-0001-PROOF to RMP-0030-PROOF) show the PROOF THAT I ALWAYS PROVIDE for all that I state about the NMC ERRORS or CORRECTNESS IN THIER ACTION. I am especially concerned about the IMPROPERLY KEYED ANSWERS that still exist in the used, OLD 2014 NMC Deck and Engine questions.

Since writing this I have increased the 28 page document to 40 pages after finding additonal errors that needed to be displayed and reviewed and corrected. As I have, and will repeatedly state, there are more errors. Going behind closed doors WILL NOT FIX THEM.

I could have simply shown one or two pages as proof but I went that extra mile and showed well near 30 pages of probable errors that need correcting, in not just the OLD database, but also in the NEW 2015 database of questions.

Thank you for your time and attention and I truly hope that each and every one receiving a copy of this report reads and reviews it carefully to understand the situation that presently exists.

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Below you will find three (3) questions, the top question(s) are from the NEWER 2015 database and the bottom one is from the OLDER 2014 database. The questions are EXACTLY worded, 100% IDENTICAL, with distracters scrambled. But look at the NMC KEYED answer which is displayed in column 3, and which I have highlighted with a green background. NOTE that in the bottom OLD 2015 question the KEYED ANSWER IS DIFFERENT. Also notice that the NEW KEYED ANSWER is a selection in the OLD question. YET, mariners selecting this CORRECT answer will be graded as if wrong because it does NOT match the NMC KEYED ANSWER. How many mariners have failed exams because of these questions.

Another areas of concern is the NUMBER of Engineering questions and the way SOME are being written. See questions for group 3 below.

Motor Plants	Asst. Engr.	D	The hunting of a diesel engine may be caused by _____.	excessive speed droop	insufficient speed droop	excessive sensitivity	low governor power	
Motor Plants	1AE/CE	A	The hunting of a diesel engine may be caused by _____.	low governor power	excessive speed droop	excessive sensitivity	insufficient speed droop	
Motor Plants	OLD QUESTION	C	The hunting of a diesel engine may be caused by _____.	excessive speed droop	insufficient speed droop	excessive sensitivity	low governor power	
General Subjects	QMED	D	To anneal a copper gasket, you should heat the gasket _____.	and let cool slowly in the air	and quench it in oil	and carbonize it	cherry red and quench in water	
General Subjects	OLD QUESTION	B	To anneal a copper gasket, you should heat the gasket _____.	and quench it in oil	and let cool slowly in the air	cherry red and quench in water	and carbonize it	
group	License	answer	question	answerA	answerB	answerC	answerD	diagram
Engineering Safety	Asst. Engr.	D	In accordance with 48 CFR Part 95, in a fixed CO2 fire extinguishing system, where provision is made for the release of CO2 by the operation of a remote control, provision is also to be made for releasing the CO2 from _____.	the engineering control station	the bridge	inside the engine room	the cylinder location	
Engineering Safety		D	In a fixed CO2 fire extinguishing system, where provision is made for the release of CO2 by the operation of a remote control, provision is also to be made for releasing the CO2 from _____.	inside the engine room	the bridge	the engineering control station	the cylinder location	

In the DECK 12,286 questions there are JUST THREE questions that reference a CFR Part number giving guidance to the mariner where the answer is found. BUT, in the 7,000 ENGINE questions there are 26 questions that reference a CFR Part number, as shown above.

Is the NMC trying to "dummy-down" the Engineering questions by this action and others listed below?

- 1) Referencing many more CFR Part numbers for Engineer questions than for Deck questions?
- 2) Having ONLY about one-half of the total number of questions for Engineers than Deck
- 3) GOING THAT EXTRA STEP and actually SPECIFYING which exam questions are for which credential (QMED=1,704; Assistant Engineer=3,252), and/or First Assistant/Chief Engineer=2,044) = 7,000 questions. Furthermore, this breakdown is by Book or Section also. NONE of this has been done for DECK exams, except maybe for chart plots, and there are 12,286 questions.
- 4) NOT ONE EXAM for an original credential or raise in grade for Engineers requires a passing score of more than 70%. Deck has Rules of the Road (90%, Chart Plot (87%) and Navigation Problems (90%).
- 5) Duplicating Engineering questions in two, if not all three, of the Engineering License exams. Now I understand that this could be a requirement for different levels of exams, BUT to have DUPLICATE questions in a SINGLE license exam (QMED, Asst. Engr and/or 1AE/CE, which NMC DOES HAVE, is just ridiculous. The possibility of a mariner having TWO identical questions on the same exam would be a possibility. ALSO, if the answer to the previous question of whether or not an UPPER LEVEL ENGINEERING exam taker needs to know the LOWER level question as well, THEN WHY DUPLICATE THE QUESTION ON MULTIPLE LEVELS. It does NOT make sense.
- 6) And NOW the NMC goes behind closed doors with ALL OF THIS INFORMATION related to the public, practically giving away the Engineering license exams!

The answer to the question above, from my very thorough review of BOTH the Deck and Engine questions, is YES. What a shame!

RMP-0001-PROOF

3/15/16

NMC Code Orig	group	License	answer	question	answerA	answerB	answerC	answerD	diagram
(2.5.8.1-1)	Engineering Safety	Aast. Engr.	C	Which of the following statements represents the correct action to take when three crew members discover a fire?	One man report the fire, one man fight the fire, and one man act as a safety observer.	One man report the fire, and the other two men fight the fire.	One man report the fire, one man fight the fire and one man evacuate and secure the area.	All three men fight the fire and report it immediately after it is extinguished.	
	Engineering Safety	OLD QUESTION	A	Which of the following statements represents the correct action to take when three crew members discover a fire?	One man report the fire, and the other two men fight the fire.	One man report the fire, one man fight the fire, and one man evacuate and secure the area.	One man report the fire, one man fight the fire, and one man act as a safety observer.	All three men fight the fire and report it immediately after it is extinguished.	

ONE of the two definitions of Flash Point is INCORRECT. The presence of an ignition source (flame or otherwise) must be present.

**292.** (2.2.1.7D-63) What is the lowest temperature at which a liquid gives off sufficient vapors to form a flammable mixture with air in the presence of an ignition source?

- (A) Flash point
- (B) Flammable range
- (C) Reid vapor index
- (D) Autoignition temperature

If choice A is selected set score to 1.

**Wikipedia** the lowest temperature at which vapors above a volatile combustible substance ignite in air when exposed to flame

This NEWER 2015 question is lacking the point that an IGNITION SOURCE is needed. So it is an incomplete definition.

**1517.** (2.2.2.9D-13) What is the lowest temperature at which a liquid will give off sufficient vapors to form a flammable mixture with air?

- (A) lower explosive limit
- (B) fire point
- (C) flash point
- (D) threshold limit value

If choice C is selected set score to 1.

The **flash point** of a volatile material is the lowest temperature at which vapors of a fluid will ignite. Measuring a flash point requires an ignition source. At the flash point, the vapor may cease to burn when the ignition source is removed.

The flash point is not to be confused with the autoignition temperature (which does not require an ignition source) or with the fire point (the temperature at which the vapor continues to burn after being ignited).

Neither the flash point nor the fire point is dependent on the temperature of the ignition source, which is much higher.

DECK	nmc Code	Book	Group	Credential	COUNT
From To	(1.1.1.1) (1.3.4.4)	<b>1</b>	Rules of the Road	All	<b>1030</b>
From To	(2.1.1) (2.11.1.2B)	<b>2</b>	Deck General	All	<b>5109</b>
From To	(3.1.1) (3.8.4.2)	<b>4</b>	Safety	All	<b>2770</b>
From To	(4.1.1.1) (4.9.3)	<b>3</b>	Navigation General	All	<b>2048</b>
From To	(5.1.1.1) (5.8.1.5B)	<b>5</b>	Navigation Problems	All	<b>898</b>
From To	(5.8.2.1A1) (5.8.2.1C10)	<b>5</b>	Navigation General	CP-MA/Mate LT 200T	<b>308</b>
From To	(5.8.2.2A1) (5.8.2.2C4)	<b>5</b>	Navigation General	CP-MA/CM-GT 200T	<b>162</b>
From To	(5.8.2.3A1) (5.8.2.3C19)	<b>5</b>	Navigation Problems	CP-Oper-Mate GT 200T	<b>929</b>
From To	(5.8.2.4A10-1) (5.8.2.4A53-10)	<b>5</b>	Navigation Problems	CP-R-WR	<b>430</b>
From To	(5.8.3.1-1) (5.9.2.3-17)	<b>5</b>	Navigation Problems	All	<b>172</b>
NOTE that BOOK 4 and 3 have the NMC Code for the other book.					<b>13856</b>

10 questions

9 questions

15 questions

10 questions

Deck students/mariners have 13,856 questions, of which only those questions for Chart Plots are spelled out by CREDENTIAL level BUT these sections, including Rules of the Road have a 90% passing score required.

NOT ONE of the Engineering credential exams requires MORE than a 70% to pass and original test module.

See page 10 or RMP-0007-PROOF for a comparison of Engineering question totals and "breakdown". For a real eye-opener see the last two pages of this report.

The following question from ENGINEERING was copied from BOTH the OLD and NEW databases on February 18, 2016. The new question is on this page, the old on the next page. Does anyone besides me see a SIGNIFICANT value difference in the question which should result in a MAJOR difference in the answer. See 0.2% versus 2.0%. THEY ARE NOT THE SAME VALUE yet they are supposed to result in the same NMC KEYED answer. If the NEWER question is correct then either the older question should be corrected or removed. LEAVING THE OLDER QUESTION AS IS, is wrong. The mariner will have to ASSUME that 0.2% means 2.0% to get the correct answer. However, the question specifically states 0.2%; YES, "of the full scale" BUT NMC deemed it necessary to change. These are the type of errors I tried to indicate existed in the NMC databases at the 2015 MERPAC meeting held at NMC HQ but it went right over everyone's head. HOPEFULLY you are starting to realize the seriousness of this problem. Mariners taking the OLD exam get these improperly worded or keyed answers and could conceivably lose points and fail BUT not because of something they did - because of what NMC DID! That is WRONG!

Question 170, from the NEW database, specifically states 2% with a keyed answer of (B).

**170.** (3.1.3.4-1) A digital multimeter, set up as a milliammeter on the 100 milliamp scale, is known to have an accuracy of plus or minus 2%. A display reading of 10.0 milliamps would indicate an actual line current between what two values?

- (a) 9.8 and 10.0 milliamperes
- (b) 9.8 and 10.2 milliamperes
- (c) 8.0 and 10.0 milliamperes
- (d) 8.0 and 12.0 milliamperes

*If choice b is selected set score to 1.*

Question 239604-1, form the OLD database, specifically states 0.2% (of the full scale). Is that supposed to be 2.0% or 0.2% as is listed. NOTE that the next question uses the same CONFUSING wording which was eliminated in the NEWER question(s) shown on the PREVIOUS page. WHY isn't it being corrected in the OLD 2014 Database or REMOVED?

239604	1	A digital multimeter, set up as a milliammeter on the 100 milliamp scale, is known to have an accuracy of plus or minus 0.2 % of full scale. A display reading of 10.0 milliamps would indicate an actual line current between what two values?	9.8 and 10.0 milliamperes	9.8 and 10.2 milliamperes	8.0 and 12.0 milliamperes	8.0 and 10.0 milliamperes	
239604	2	A digital multimeter, set up as a milliammeter on the 100 milliamp scale, is known to have an accuracy of plus or minus 0.2% at full scale. A meter reading of 5.0 milliamps would indicate an actual line current between what two values?	4.9 and 5.1 milliamperes	4.8 and 5.2 milliamperes	4.5 and 5.5 milliamperes	4.0 and 6.0 milliamperes	
230002	1	A direct current passing through a wire coiled around a soft iron core is known as what?	magnetic shield	electromagnet	piezoelectric device	electromagnetic domain	

HELLO!!!

Is ANYONE starting to see the problem I tried to relate LAST year about the OLD EXAMS which HUNDREDS, if not THOUSANDS of mariners, have taken since the last MERPAC meeting, encountering these and other improper questions that remain in the OLD 2014 Deck and Engine database?

A 0.2% of the full scale is 0.2% or does NMC want it to be 2.0%. If so, then WHY did they change it in the NEW question as shown on the previous page. Also, 2.0% is 2.0%. The numbers  $1 + 1 = 2$ . They do NOT equal 1.9 or 2.1, the closest answer. MATH IS MATH and needs to be solved by the MOST COMMONLY used method as taught at schools and USED ON THE EXAM TO SOLVE THE QUESTION by the mariner. The NMC should NOT be solving questions for solutions by any other method. Specifically, they should NOT be using computer nautical/maritime programs.

NMC CODE	Book	Group	Ans	Question	Answer A	Answer B	Answer C	Answer D
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In ALL of the examples below, the NMC keyed answer for the NEWER (top - September 2015) versus the OLD (2014) release is highlighted with a YELLOW background and BLUE text.

The following two questions, the top of which is the LATEST release from the NMC, are 100% identical, BUT with scrambled distracters, because of the use of NMC's Question Mark program. NOTE the answer to the first question is (D) which was available in the OLD question as choice (D), but the OLD question's NMC keyed answer was, NO, STILL REMAINS AS (C).

How many mariners selected the CORRECT answer (D) for the OLD question, but lost credit because of the improperly NMC keyed answer (C) and failed their exam?

(3.6.2-18)	4	Safety	D	You are on the SS American Mariner and involved in a collision. Your draft has increased uniformly and there is about 4 feet of freeboard remaining. The vessel is on an even keel and has a long rolling period. The roll is sluggish, and the vessel hangs at the ends of a roll. Which of the following actions would you take first to correct the situation?	Flood any empty double bottom tanks to decrease KG.	Pump out a slack double bottom tank to reduce free surface.	Jettison topside weights to increase freeboard.	Pump out flooding water in the cargo holds to reduce free surface.
OLD	4	Safety	C	You are on the SS American Mariner and involved in a collision. Your draft has increased uniformly and there is about 4 feet of freeboard remaining. The vessel is on an even keel and has a long rolling period. The roll is sluggish, and the vessel hangs at the ends of a roll. Which of the following actions would you take first to correct the situation?	Pump out a slack double bottom tank to reduce free surface.	Flood any empty double bottom tanks to decrease KG.	Jettison topside weights to increase freeboard.	Pump out flooding water in the cargo holds to reduce free surface.

THE PROPER ANSWER for the questions, whether it be an OLD or NEW question, REMAINS as D, NOT C. See the copy of the page below from the NMC website for the OLD questions which has the INCORRECT keyed answer.

112064	6	You are on the SS American Mariner and involved in a collision. Your draft has increased uniformly and there is about 4 feet of freeboard remaining. The vessel is on an even keel and has a long rolling period. The roll is sluggish, and the vessel hangs at the ends of a roll. Which of the following actions would you take first to correct the situation?	Pump out a slack double bottom tank to reduce free surface.	Flood any empty double bottom tanks to decrease KG.	Jettison topside weights to increase freeboard.	Pump out flooding water in the cargo holds to reduce free surface.
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NMC CODE	Book	Group	Ans	Question	Answer A	Answer B	Answer C	Answer D
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The following two questions, the top of which is the LATEST release from the NMC, are 100% identical, BUT with scrambled distracters. NOTE the answer to the first question is (D) which was available in the OLD question as (B), but the OLD question's NMC keyed answer was (D). How many mariners selected the CORRECT answer for the OLD question as D, but lost credit because of the improperly NMC keyed answer and failed their exam?

(2.4.3.1E-5)	2	Deck General	D	You are in port A in the United States, and your Certificate of Inspection has expired. You wish to go to port B in the United States for repairs and to complete the inspection. If the Officer-in-Charge Marine Inspection deems it safe, he may issue a _____.	Permit to Proceed	Temporary Certificate of Inspection	Certificate of Seaworthiness	Limited Certificate of Inspection
	2	Deck General	D	You are in port A in the United States, and your Certificate of Inspection has expired. You wish to go to port B in the United States for repairs and to complete the inspection. If the Officer-in-Charge Marine Inspection deems it safe, he may issue a _____.	Certificate of Seaworthiness	Limited Certificate of Inspection	Temporary Certificate of Inspection	Permit to Proceed

The following two questions, the top of which is the LATEST release from the NMC, are identical, BUT with scrambled AND/OR different distracters. NOTE the answer to the first question is (D) which was available in the OLD question as (A), but the below OLD question's NMC keyed answer was (C). How many mariners selected the CORRECT answer for the OLD question as A, but lost credit because of the improperly NMC keyed answer and failed their exam?

(2.4.3.8E-11)	2	Deck General	D	According to Pollution Prevention Regulations (33CFR), after every designated operation, the Oil Record Book is to be signed by _____.	oil terminal representative	person(s) in charge of the operation	Coast Guard representative designated by COTP	the master
	2	Deck General	C	According to Pollution Prevention Regulations (33CFR), after every designated operation, the Oil Record Book is to be signed by _____.	the master	a licensed officer present at the operation designated by the master	person(s) in charge of the operation	person(s) in charge of the operation and a licensed officer present at the operation

Here you have the NEWER 2015 ENGINE questions by book or section BUT also by Credential. In the QMED, Asst.Engr., 1AE/CE questions there are DUPLICATE or TRIPPLICATE questions (1 in each of two or three groups). IF NMC states that UPPER level Engineers MUST know the lower level questions then why the duplicate questions? Isn't it more likely that the upper level exams could have DUPLICATE questions on them? My opinion is that EACH level of Credential ONLY needs to know the TOTAL number of questions by CREDENTIAL as shown in the bottom row. NMC, is this correct?

**ENGINE SUMMARY** Looking at the NMC Code number of (1.2.3.4-5), etc. I can prove my statement below.

	QMED	Asst. Engr.	1AE/CE	TOTAL
<b>General Subjects</b>	<b>368</b>	<b>670</b>	<b>422</b>	<b>1460</b>
<b>Electricity</b>	<b>537</b>	<b>580</b>	<b>279</b>	<b>1396</b>
<b>Refrigeration</b>	<b>152</b>	<b>227</b>	<b>231</b>	<b>610</b>
<b>Steam Plants</b>	<b>192</b>	<b>747</b>	<b>407</b>	<b>1346</b>
<b>Motor Plants</b>	<b>192</b>	<b>509</b>	<b>245</b>	<b>946</b>
<b>Engineering Safety</b>	<b>263</b>	<b>347</b>	<b>354</b>	<b>964</b>
<b>Gas Turbine</b>		<b>172</b>	<b>106</b>	<b>278</b>
<b>TOTAL by CREDENTIAL</b>	<b>1704</b>	<b>3252</b>	<b>2044</b>	<b>7000</b>

I estimate there are probably 600 questions that are improperly numbered or improperly categorized or duplicated in some way, in the same book or credential, not across licenses as NMC desired to do. You can list 7000 questions as a count BUT THAT IS NOT CORRECT!

NMC CODE	Book	Group	Ans	Question	Answer A	Answer B	Answer C	Answer D
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The following two questions, the top of which is the LATEST release from the NMC, are 100% identical, BUT with scrambled distracters. Upon reading this question back in May of 2013, I wrote to the NMC that it was an improperly worded question as my text in red shows below. This question, as stated, was again released by the NMC in their NEW September 2015 deck database. **NOTE, below the question, the response from William George who just recieved the question and distracters BUT I did not give him the NMC keyed answer.**

(3.6.5.4-26)	4	Safety	C	An upright vessel has negative GM. GM becomes positive at the angle of loll because the _____.	KG is reduced as the vessel seeks the angle of loll	free surface effects are reduced due to pocketing	effective beam is increased causing BM to increase	underwater volume of the hull is increased
	4	Safety	C	An upright vessel has negative GM. GM becomes positive at the angle of loll because the _____.	free surface effects are reduced due to pocketing	KG is reduced as the vessel seeks the angle of loll	effective beam is increased causing BM to increase	underwater volume of the hull is increased

**NOTE:** This is a poorly worded question. On 5/24/13 it has been reported to NMC as such. A vessel, when "GM becomes positive" has an angle of list and it is no longer referred to as a angle of loll. What action NMC will take is unknown. I would just protest this as a poorly worded question really not giving enough information such as is there Free Surface, is there Deck Edge Immersion, etc. which would affect the location of G (virtual rise due to FS) as well as the movement of B and possibly M.

Response on December 15, 2015 from William E. George.

Hello Richard,

Good to hear from you. This is the worst question!

If the vessel is upright it should not have an angle of loll or a negative GM. If it does have a negative GM, lowering G or reducing KGV could turn a negative GM into positive GM with or without a list.

The main question should be something like: "A negative GM becomes positive when \_\_\_\_\_?"

Choice A should read: "KG is reduced", as the correctly keyed answer.

Happy Holidays, Bill George

WILLIAM E GEORGE is the author of "Stability and Trim for the Ship's Officers" - the U.S. Bible for teaching stability at most maritime schools. Bill is a leader in the field of Stability and his comments support my concerns with this poorly worded question.

The two questions below are identical but the NMC keyed answer has changed. Note that in the OLD (bottom) question, distracter C comes closest to the NEW (top) NMC keyed answer. How many mariners selected C to answer their old question and yet got it marked wrong because NMC had (B) as their old keyed answer?

(2.2.2.9A-18)	2	Deck General	C	When tank cleaning with a portable machine, how is the weight of the machine is suspended?	solid metal bars clamped to the Butterworth opening	a portable davit	a natural fiber tag line, saddle and hose	a wire rope suspension line
	2	Deck General	B	When tank cleaning with a portable machine, the weight of the machine is suspended from _____.	solid iron bars clamped to the Butterworth opening	the supply hose	the suspension line, usually manila or natural fiber line	a wire rope suspension line

NMC CODE	Book	Group	Ans	Question	Answer A	Answer B	Answer C	Answer D
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The two questions below are EXACTLY the same yet there are different answers keyed in by NMC when comparing the NEW (top) question to the OLD (bottom) question. MATH IS MATH and  $1 + 1 = 2$  not 1.9 or 2.1. For pure math questions the NMC should have the EXACT answer and not a NEAR answer.

(5.4.2.4A1-1)	5	Navigation Problems	B	You depart LAT 28° 55.0' N, LONG 89° 10.0' W, enroute to LAT 24° 25.0' N, LONG 83° 00.0' W. What is the true course and distance by mid-latitude sailing?	418 miles, 122° T	442 miles, 122° T	427 miles, 129° T	436 miles, 133° T
	5	Navigation Problems	B	You depart LAT 28° 55.0' N, LONG 89° 10.0' W, enroute to LAT 24° 25.0' N, LONG 83° 00.0' W. Determine the true course and distance by mid-latitude sailing?	418 miles, 122° T	427 miles, 129° T	436 miles, 133° T	442 miles, 122° T

IF the NEW question on top was improperly worded for the KEYED answer, why isn't the OLD question ALSO UPDATED?

(4.5.5.1-6)	3	Navigation General	B	An instrument that indicates wind direction is known as a(n) _____	hygrometer	wind vane	sling psychrometer	hydrometer
	3	Navigation General	A	An instrument that indicates wind direction is known as a(n) _____	weather vane, wind vane or wind sock	hydrometer	hygrometer	sling psychrometer

The answer below to the NEW (top) question is INCOMPLETE. See the picture inserted right below. It clearly indicates that a "COMBINED" light and sound signal must be given, NOT just "3 white star signals". FURTHERMORE, the question does NOT specify whether the mariner should answer the question for the DAY or NIGHT signal. The answer provided assumes NIGHT but does not state it. YES, the day signal can be given at night and the night signal given during the day as stated at the bottom of the picture below. ONE MIGHT consider the NMC NEW Answer to be correct but I state that it is INCOMPLETE. It does not state at 1 minute intervals.

Day Signals			You are seen - assistance will be given as soon as possible (Repetition of such signal shall have the same meaning)
Night Signals			

If necessary, the day signals may be given at night or the night signals by day

(3.1.4.4-7)	4	Safety	D	What is the lifesaving signal for "You are seen-Assistance will be given as soon as possible"?	Horizontal motion with a white flag	Code letter "K" by blinker light	Vertical motion of a white light	3 white star signals
	4	Safety	B	What is the lifesaving signal for "You are seen-Assistance will be given as soon as possible"?	Red star rocket	Orange smoke signal	Green star rocket	Vertical motion of a flag

NMC CODE	Book	Group	Ans	Question	Answer A	Answer B	Answer C	Answer D
<b>In these TWO questions below I just question whether or not it is realistic to have a build up of an estimated height of 127 feet of snow?</b>								
(2.5.8.8-31)	2	Deck General	C	While loaded as shown in Sample Load Form #5 (Survival), an estimated 250 long tons of snow and ice accumulates on the DEEP DRILLER at an estimated height of 127 feet. Assuming no corrective ballasting, what is the rise in the height of the center of gravity corrected for longitudinal free surface effects?	2.62 feet	2.20 feet	1.03 feet	0.71 feet
	4	Safety	C	While loaded as shown in Sample Load Form #5 (Survival), an estimated 250 long tons of snow and ice accumulates on the DEEP DRILLER at an estimated height of 127 feet. Assuming no corrective ballasting, what is the margin on maximum allowable KG?	1.55 feet	1.23 feet	0.90 feet	-1.45 feet

These TWO questions below require table lookup and possibly some interpolation. HOWEVER, there are numerous (possibly HUNDREDS) of PURE MATH and simple table look up questions where the NEWER 2015 NMC keyed answer VARIES from the OLD 2014 NMC keyed answer. IF  $1 + 1 = 2$  then why does the NMC have a closest choice of 1.9, for example. PURE MATH IS PURE MATH. There is ONLY one correct answer by the MOST COMMONLY USED METHOD OF SOLUTION. For HOW MANY YEARS has this bottom question been off from the correct answer by 2 minutes? YET the OLD question still remains with the NMC keyed answer as 1815, even though they have corrected it in the NEWER 2015 database. WHY? I have NOT even begun to talk about MATH errors in NMC questions. There are hundreds of them.

(6.3.2.2-12)	5	Navigation Problems	A	On 1 November your 1600 zone time DR position is LAT 27° 48' S, LONG 91° 26' E. Your vessel is on a course of 327° T at a speed of 16 knots. What will be the zone time of sunset at your vessel?	1813	1821	1829	1836
	5	Navigation Problems	A	On 1 November your 1600 zone time DR position is LAT 27° 48' S, LONG 91° 26' E. Your vessel is on a course of 327° T at a speed of 16 knots. What will be the zone time of sunset at your vessel?	1815	1821	1829	1836

IF the NMC keyed answer for the TOP NEWER 2015 question, then why isn't choice C and D correct for the OLD 2014 question? I have NOT confirmed if the CFR regulations have changed.

(2.2.2.2B-38)	2	Deck General	C	On a tank barge constructed on or after July 1, 1951, what is the required vent size for each cargo tank?	not less than 1.5 inches	not less than 2.0 inches	not less than 2.5 inches	not less than 3.0 inches
	4	Safety	C	On a tank barge constructed on or after July 1, 1951, regulations require that each cargo tank be equipped with a vent that has a diameter of not less than _____.	1.5 inches	2.0 inches	2.5 inches	3.0 inches

In MY records I have this bottom question dated as a March 2002 RELEASE from the NMC. That means, if I am correct, for the past 13 PLUS years it has been IMPROPERLY KEYED.

(2.5.9-8)	2	Deck General	B	What are the two main types of stud link chain?	Flash-butt welded chain and Oil Rig chain	Oil Rig chain and Oil Field Stud Link chain	Flash-butt welded chain and Oil Rig chain	Oil Field Stud Link chain and Flash-butt welded chain
	4	Safety	B	What are the two main types of stud link chain?	Oil Rig chain and Oil Field Stud Link chain	Flash-butt welded chain and Oil Rig chain	Flash-butt welded chain and Oil Rig chain	Oil Field Stud Link chain and Flash-butt welded chain

NMC CODE	Book	Group	Ans	Question	Answer A	Answer B	Answer C	Answer D
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Please read these NEXT four questions and the comments here and in between the questions.

You are making up your tow at the fleeting area at Cairo Point, II (mile 980.8 Ohio River). At 0952, on 21 September, you get underway enroute to New Orleans with a mixed tow. You are turning for 6.8 mph and estimate the current at 1.0 mph.

What is your speed over the ground?

(5.8.2.4A32-4)	5	NAVIGATION PROBLEMS	D	At 1923, on September 21, you pass Bixby Towhead Light (mile 873.7 AHP). What was your average speed since leaving Cairo?	8.8 mph	7.2 mph	9.2 mph	8.5 mph
145245-04	5	NAVIGATION PROBLEMS	B	At 1923, on September 21, you pass Bixby Towhead Light (mile 873.7 AHP). What was your average speed since leaving Cairo?	12.1 mph	11.3 mph	10.5 mph	9.2 mph

Three MISSISSIPPI River Plots all start off with the exact same FIRST question as shown three rows above. As a matter of fact, the FIRST THREE QUESTIONS in each plot are identical with the EXACT SAME ANSWERS. The correct answer for EACH of these FIRST QUESTIONS is 7.8 mph. Also, EACH of these three plots has the SAME fourth question asking the average speed from Cairo (mile 980.8 Ohio River) to Bixby Towhead Light (873.7 AHP). Yet ONE answer is 11.3 mph and the other two answers are 8.5 mph. They are all turning the for 6.8 mpg with a current of 1.0 mph.

**THIS DOES NOT MAKE SENSE. Again, an incorrectly KEYED anwer by NMC for which the mariner loses points. NEED I ASK AGAIN, "How many mariners failed the exam because of this NMC error?" ARE ANY OF YOU STARTING TO SEE A PATTERN HERE YET? Well guess what, I HAVE PAGES AND PAGES of these problems.**

(5.8.2.4A32-4)	5	NAVIGATION PROBLEMS	A	At 1923, on September 21, you pass Bixby Towhead Light (mile 873.7 AHP). What was your average speed since leaving Cairo?	11.3 mph	10.5 mph	12.1 mph	9.2 mph
	5	NAVIGATION PROBLEMS	B	At 1923, on September 21, you pass Bixby Towhead Light (mile 873.7 AHP). What was your average speed since leaving Cairo?	12.1 mph	11.3 mph	10.5 mph	9.2 mph

Does the following TOP 2015 NEWER questions make sense with the BOTTOM OLDER 2014 questions? READ the next FOUR questions. In the first question here are a number of survivors who form a small circular group to create a warmer pocket of water in the center of the circle. FINE, but read the next questions below.

(3.2.1-25)	4	SAFETY	B	If there are a number of survivors in the water after abandoning ship, they should _____.	send the strongest swimmer to shore for assistance	form a small circular group to create a warmer pocket of water in the center of the circle	form a raft by lashing their life preservers together	tie themselves to the unit so they won't drift with the current
	4	Safety	B	If there are a number of survivors in the water after abandoning ship, they should _____.	tie themselves to the unit so they won't drift with the current	form a small circular group to create a warmer pocket of water in the center of the circle	send the strongest swimmer to shore for assistance	form a raft by lashing their life preservers together

In this group of questions, the object is to keep injured survivors warm in the water after abandoning ship yet the KEYED answers differ between the NEWER (top) and OLD (bottom) questions.

(3.2.1-26)	4	SAFETY	D	To keep injured survivors warm in the water after abandoning ship, they should _____.	be placed in the middle of a small circle formed by the other survivors in the water	sip water at intervals of fifteen minutes	remove their life preservers and hold on to the uninjured survivors	float on their backs with their arms extended for maximum exposure to the air
	4	Safety	A	To keep injured survivors warm in the water after abandoning ship, they should _____.	be placed in the middle of a small circle formed by the other survivors in the water	float on their backs with their arms extended for maximum exposure to the air	remove their life preservers and hold on to the uninjured survivors	sip water at intervals of fifteen minutes

NMC CODE	Book	Group	Ans	Question	Answer A	Answer B	Answer C	Answer D
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Question 18 (NMC Code # 13) is missing in one of the Eastern Long Island Operational Level 3M/2M Chart Plots.

56 PLOTS x 15 questions each = 840 questions. ONLY 839 questions are provided by NMC in the 2015 September postings.

(5.8.2.3A9-7)	5	NAVIGATION PROBLEMS	B	At 0748, you take the following bearings: Watch Hill Point Light bearing 020.5° pgc Race Rock Light bearing 289.5° pgc  What is the approximate depth of water at this position?	104 feet	130 feet	175 feet	325 feet
(5.8.2.3A9-8)	5	NAVIGATION PROBLEMS	D	At 0748, you change course to 160° T, speed 10 knots. At what time will you cross the 120-foot curve the first time?	0808	0804	0800	0754
(5.8.2.3A9-9)	5	NAVIGATION PROBLEMS	D	At 0815 Montauk Pt. Light House is bearing 167° T, Shagwong Pt. has a radar range of 4.5 miles, Cerberus Shoal "9" Buoy is bearing 284° T. If the engine is making turns for 10 knots, what was the set and drift of the current since 0748?	Set 245° T, drift 1.1 knots	Set 085° T, drift 2.4 knots	Set 065° T, drift 1.1 knots	Set 245° T, drift 2.4 knots
(5.8.2.3A9-10)	5	NAVIGATION PROBLEMS	D	What action should you take to compensate for the above current?	Slow to 8.5 knots.	Alter your course to the right.	Continue on the same course and speed.	Alter your course to the left.
(5.8.2.3A9-11)	5	NAVIGATION PROBLEMS	A	At 0815, visibility is excellent and you can see Montauk Point. Montauk Point is _____.	a high sandy bluff	low and rocky with scattered small pine trees	a low lying wetland	a flat wooded plain
(5.8.2.3A9-12)	5	NAVIGATION PROBLEMS	C	At 0815, you change course to 079° T and head for the entrance of Great Salt Pond on Block Island. To compensate for a northerly wind, you estimate a 5° leeway is necessary. What course should you steer per gyrocompass to make good 079° T?	074° pgc	076° pgc	071° pgc	079° pgc
(5.8.2.3A9-13)	5	NAVIGATION PROBLEMS	D	As you head toward Great Salt Pond, visibility is unlimited. At what time will you lose sight of Montauk Pt. Light?	0928	0950	0905	It will remain visible to Great Salt Pond.
(5.8.2.3A9-14)	5	NAVIGATION PROBLEMS	C	At 0845, Montauk Pt. Light is bearing 205° T at a radar distance of 6.6 miles. What is your speed made good from your 0815 position?	10.0 knots	10.5 knots	8.2 knots	9.2 knots

NMC CODE	Book	Group	Ans	Question	Answer A	Answer B	Answer C	Answer D
(5.8.2.3A10-7)	5	NAVIGATION PROBLEMS	D	At 0748, you take the following bearings:  Watch Hill Point Light bearing 020.5° pgc Race Rock Light bearing 269.5° pgc  What is the approximate depth of water at this position?	175 feet	325 feet	104 feet	130 feet
(5.8.2.3A10-8)	5	NAVIGATION PROBLEMS	B	At 0748, you change course to 160° T, speed 10 knots. At what time will you cross the 120-foot curve the first time?	0808	0754	0759	0750
(5.8.2.3A10-9)	5	NAVIGATION PROBLEMS	A	At 0815 Montauk Pt. Light House is bearing 167° T, Shagwong Pt. has a radar range of 4.5 miles, Cerberus Shoal "9" Buoy is bearing 284° T. If the engine is making turns for 10 knots, what was the set and drift of the current since 0748?	Set 245° T, drift 2.4 knots	Set 065° T, drift 2.4 knots	Set 065° T, drift 1.1 knots	Set 245° T, drift 1.1 knots
(5.8.2.3A10-10)	5	NAVIGATION PROBLEMS	A	What action should you take to compensate for the above current?	Alter your course to the left.	Continue on the same course and speed.	Slow to 8.5 knots.	Alter your course to the right.
(5.8.2.3A10-11)	5	NAVIGATION PROBLEMS	A	At 0815, visibility is excellent and you can see Montauk Point. Montauk Point has what topographical features?	a high sandy bluff	a low lying wetland	low and rocky with scattered small pine trees	a flat wooded plain
(5.8.2.3A10-12)	5	NAVIGATION PROBLEMS	A	At 0815, you change course to 079° T and head for the entrance of Great Salt Pond on Block Island. To compensate for a northerly wind, you estimate a 5° leeway is necessary. What course should you steer per gyrocompass to make good 079° T?	071° pgc	076° pgc	074° pgc	079° pgc
(5.8.2.3A10-13)	5	NAVIGATION PROBLEMS	C	At 0845, Montauk Pt. Light is bearing 205° T at a radar distance of 6.8 miles. What is your speed made good from your 0815 position?	10.5 knots	10.0 knots	8.4 knots	9.2 knots

These SEVEN questions from TWO different Operational Level chart plots for 3M/2M clearly show that from the 7th question to the 12th the answers are identical.

**Then WHY is the ANSWER to question 13 different?**

AGAIN, as I have repeatedly stated, MATH IS MATH. There is ONLY one correct answer - NOT TWO ANSWERS!

Either the answer is **8.2 knots** or **8.4 knots**. It cannot be BOTH and it should NOT be the NEAREST VALUE. The values  $1 + 1 = 2$  NOT 1.9 or 2.1. HOW MANY EXAMPLES must I provide to MERPAC and the NMC to prove this point. I have tried to provide to NMC, in the past over 150 single pages of questions in which the MATH solutions were NOT proper. NMC (Captain Anthony Lloyd, at the time, with Bob Smith) would NOT even talk to me about them. Ask Radm. Paul Thomas what action I took when the NEXT NMC release of questions came out. Captain Lloyd was on the phone to me within 24 hours.

I assure you, I got Captain Lloyds attention by going over his head. ALL I WANT TO DO is see that the NMC questions are 100% accurate. **Why is such a beneficial goal so objectional to the NMC?** I do NOT understand their logic. I am just trying to help make the questions better. **AND, as I always do, I provided plenty of proof in this report and all my reports. What more do I need to do?**

I also assure you, there is NO ONE ELSE, including any employee in the NMC or my partner Joe Murphy, that analyzes the NMC questions to the detail and thoroughness that I do. I review and sort the questions and compare them in more ways then one can imagine. That is how I find the errors. PLUS, we solve solutions by the MOST COMMON INDUSTRY STANDARD METHOD. We do NOT use maritime or nautical computer programs to provide any answers. The answers we obtain are the answers the mariner achieves in the exam room. THAT IS WHAT THE NMC MUST DO. I have personally seen computers being used to solve problems at NMC which is NOT correct.

I asked the NMC employee, **"WHEN DID NMC START ALLOWING COMPUTERS TO BE USED IN THE EXAM ROOM TO SOLVE PROBLEMS?"** The answer, of course, was **"NMC does not allow computers in the exam room."** Upon solving the calculations using common formulas it was obvious that the answers I was indicating WERE THE CORRECT ANSWERS and changes were made to those 5 Great Circle questions. But what about all other math solutions?

The following three questions are from ONE Operational Level (3M/2M GT 200T) Chart Plot and the bottom three questions are from another similar plot.

**YET, the answer to the THIRD question in each DIFFERS. WHY? Math is Math!** There should be ONLY one correct answer. And I can assure you there are MANY more questions just like these.

When a Captain or Chief Engineer asks a question about a speed or number of RPMs they do NOT want to hear "Oh, about 21.2 or 21.3 knots or 125 to 130 rpms." That is UNACCEPTABLE in the industry and should also be unacceptable on the NMC exams.

(These diagrams were copied from the NMC website on 1/31/2016.)

Your 1600 position is LAT 37°22.5'N, LONG 75°32.3'W.

What is the approximate depth of water under the keel?

- (A) 52 feet (15.8 meters)
- (B) 45 feet (13.6 meters)
- (C) 38 feet (11.5 meters)
- (D) 59 feet (17.3 meters)

If choice C is selected set score to 1.

**257.** (5.8.2.3B3-2) If there is no current, what is the course per gyrocompass from your 1600 position to point A located 0.5 mile due east of Hog Island Lighted Bell Buoy "12"?

- (A) 193°pgc
- (B) 196°pgc
- (C) 199°pgc
- (D) 190°pgc

If choice A is selected set score to 1.

**258.** (5.8.2.3B3-3) At 1630, you reach point A and come right to 204°T. Your engine speed is 12 knots. Your 1715, position is LAT 37°09.8'N, LONG 75°37.4'W. What was the current?

- (A) 067°T at 1.5 knots
- (B) 067°T at 1.1 knots
- (C) 246°T at 1.1 knots
- (D) 246°T at 1.5 knots

If choice A is selected set score to 1.

Your 1600 position is LAT 37°22.5'N, LONG 75°32.3'W.

What is the approximate depth of water under the keel?

- (A) 52 feet (15.8 meters)
- (B) 45 feet (13.6 meters)
- (C) 38 feet (11.5 meters)
- (D) 59 feet (17.3 meters)

If choice C is selected set score to 1.

**452.** (5.8.2.3B16-2) If there is no current, what is the course per gyrocompass from your 1600 position to point A located 0.5 mile due east of Hog Island Lighted Bell Buoy "12"?

- (A) 190°pgc
- (B) 199°pgc
- (C) 196°pgc
- (D) 193°pgc

If choice D is selected set score to 1.

**453.** (5.8.2.3B16-3) At 1630, you reach point A and come right to 204°T. Your engine speed is 12 knots. Your 1715, position is LAT 37°09.8'N, LONG 75°37.4'W. What was the current?

- (A) 067°T at 1.4 knots
- (B) 246°T at 1.4 knots
- (C) 067°T at 1.0 knots
- (D) 246°T at 1.0 knots

If choice A is selected set score to 1.

The below question was copied from the NMC files on Feb. 11, 2016. Did the NMC, or will the NMC correct these distracters BUT more importantly, the KEYED ANSWER?

United States Coast Guard  
National Maritime Center

Navigation Problems: Chart Plot  
Master and Mate LT 200 GRT  
September 2015

250. (5.8.2.1C5-5) What is the true course to steer between Falkner Island Light and Horton Point Light, if the set and drift of the current are  $041^\circ$  at 2.4 knots, and a northeasterly wind will cause  $4^\circ$  of leeway? Your engines are making turns for 15 knots.
- (A) C
  - (B)  $134^\circ\text{T}$
  - (C)  $142^\circ\text{T}$
  - (D)  $116^\circ\text{T}$
  - (E)  $124^\circ\text{T}$

*If choice B is selected set score to 1.*

These TWO following Great Circle questions are 100% identical EXCEPT for the fact that the distracters are scrambled. The PROBLEM here is that even the 5.4.2.2E-1 NMC Codes are identical. And there are probably others like this. What if a mariner recieved BOTH of these questions on the same exam. Some might say that this would be great. Less work to do. Solve one and you have the other. BUT WHAT if your first solution is WRONG. You lose points for BOTH questions.

528. (5.4.2.2E-1) You are on a great circle track departing from LAT  $25^\circ50.0'\text{N}$ , LONG  $77^\circ00.0'\text{W}$  and your initial course is  $061.7^\circ\text{T}$ . The position of the vertex is LAT  $37^\circ35.6'\text{N}$ , LONG  $25^\circ57.8'\text{W}$ . What is the distance along the great circle track between the point of departure and the vertex?
- (A) 2420.0 miles
  - (B) 2735.1 miles
  - (C) 2583.2 miles
  - (D) 2664.9 miles

*If choice D is selected set score to 1.*

609. (5.4.2.2E-1) You are on a great circle track departing from LAT  $25^\circ50.0'\text{N}$ , LONG  $77^\circ00.0'\text{W}$  and your initial course is  $061.7^\circ\text{T}$ . The position of the vertex is LAT  $37^\circ35.6'\text{N}$ , LONG  $25^\circ57.8'\text{W}$ . What is the distance along the great circle track between the point of departure and the vertex?
- (A) 2583.2 miles
  - (B) 2664.9 miles
  - (C) 2735.1 miles
  - (D) 2420.0 miles

*If choice B is selected set score to 1.*

The BELOW TWO questions are IDENTICAL Fuel Consumption questions (hidden in in Navigation Problems ) BUT these two do have different NMC Codes (5.5.5-1 and 5.5.5-7). Wouldn't it be nice to get an exam in which ALL of the DUPLICATE questions appear? But what amount of knowledge would that prove the mariner has? Again, if a wrong answer is obtained, points for BOTH questions are lost.

United State Coast Guard  
National Maritime Center

Navigation Problems  
September 2015

**548.** (5.5.5-1) You are steaming at 22 knots and burning 319 barrels of fuel per day. You must decrease your consumption to 137 barrels per day. What must you reduce your speed to in order to burn this amount of fuel?

- (A) 18.2
- (B) 14.8
- (C) 16.6
- (D) 12.4

*If choice C is selected set score to 1.*

**897.** (5.5.5-7) You are steaming at 22 knots and burning 319 barrels of fuel per day. You must decrease your consumption to 137 barrels per day. What must you reduce your speed to in order to burn this amount of fuel?

- (A) 12.4
- (B) 18.2
- (C) 16.6
- (D) 14.8

*If choice C is selected set score to 1.*

NOW, I must admit, this one took me quite a bit of time to figure out what NMC was actually doing. Take a look at the TWO following questions BOTH of which are in the same exam. The first one is the NUMBER 1 question and the second question displayed is the NUMBER 10 question (IN THE SAME CHART PLOT). Wouldn't it be nice for mariners to receive NUMEROUS exams just like this? BUT THEN, again, what proof of the mariners capability is proven? Also, you might get it wrong TWICE!  
**WHAT IS THE NMC THINKING OF IN DOING THIS?**

United States Coast Guard  
National Maritime Center

Navigation Problems: Chart Plot  
Master and Mate LT 200 GRT  
September 2015

The following questions are to be answered by plotting on chart 12221 TR, Chesapeake Bay, and using the supporting publications.

Each question is completely independent of any other question on this exam.

The following information is applicable to all questions.

(The abbreviation "psc" stands for "per standard magnetic compass".)

VARIATION IS 9° W

DEVIATION TABLE

HDG. MAG.    DEVIATION

HDG. MAG.	DEVIATION
000°	2.0°E
030°	3.0°E
060°	4.0°E
090°	2.0°E
120°	1.0°E
150°	1.0°W
180°	2.0°W
210°	3.5°W
240°	3.0°W
270°	1.5°W
300°	0.0°
330°	1.5°E

100. (5.8.2.1B1-1) Your GPS position is LAT 36°59.0'N, LONG 75°48.6'W. What is the course per standard magnetic compass to a position one mile east of Cape Charles Lighted Bell Buoy "14" (LAT 37°07.4'N, LONG 75°41.0'W)?
- (A) 045°psc
  - (B) 049°psc
  - (C) 053°psc
  - (D) 040°psc

*If choice A is selected set score to 1.*

109. (5.8.2.1B1-10) Your GPS position is LAT 36°59.0'N, LONG 75°48.6'W. What is the course per standard magnetic compass to a position one mile south of Cape Charles Lighted Bell Buoy "14" (LAT 37°07.4'N, LONG 75°41.0'W)?
- (A) 053° psc
  - (B) 049° psc
  - (C) 057° psc
  - (D) 045° psc

*If choice D is selected set score to 1.*

Here I discovered FOUR (4) questions within the same NMC Coded group, each of which has the EXACT same answer with the question stem worded differently. Do we really need that many similar (? Identical) questions that POTENTIALLY could end up on the same exam? "Question Mark" ALREADY scrambles the answers so why duplicate questions? What if the question was reversed. "The Office of the Commander 5th Coast Guard District is the source for which of the following in this area?" Answer - Anchorage regulations - with 3 other distracters.

189. (5.8.2.1B10-3) Who is the source of anchorage regulations for this area?

- (A) Chesapeake Bay Port Authority, Hampton VA
- (B) Virginia - Maryland Pilots Association
- (C) Commanding General, Corps of Engineers, Washington, D.C.
- (D) Office of the Commander 5th Coast Guard District

*If choice D is selected set score to 1.*

190. (5.8.2.1B10-4) Where may anchorage regulations for this area be obtained from?

- (A) Commanding General, Corps of Engineers, Washington, D.C.
- (B) Virginia - Maryland Pilots Association
- (C) Chesapeake Bay Port Authority, Hampton VA
- (D) Office of the Commander 5th Coast Guard District

*If choice D is selected set score to 1.*

191. (5.8.2.1B10-5) In addition to those found in the Coast Pilot, information concerning anchorage regulations for this area may be obtained from what source?

- (A) Chesapeake Bay Port Authority, Hampton VA
- (B) Commanding General, Corps of Engineers, Washington, D.C.
- (C) Virginia - Maryland Pilots Association
- (D) Office of the Commander 5th Coast Guard District

*If choice D is selected set score to 1.*

199. (5.8.2.1B10-13) Anchorage regulations for this area may be obtained from what source?

- (A) Virginia - Maryland Pilots Association
- (B) Chesapeake Bay Port Authority, Hampton, VA
- (C) Office of the Commander 5th Coast Guard District
- (D) Commanding General, Corps of Engineers, Washington, DC

*If choice C is selected set score to 1.*

AND PLEASE BELIEVE ME, there are MANY, MANY more errors in BOTH the OLD and the NEWER 2015 database of questions. I spent from December 1 through February 15 figuring out what was going on in the question changes.

BUT the trick was in writing VISUAL BASIC CODE so that my program could display SIMILAR questions, from which I could select from a pop-up windows, that they were the same question, but worded differently, being a good comparison. This enabled me to find errors and differences. ONCE my vba code was finished, I completely redid all of my analysis for ALL 12,286 Deck and 7,000 Engine questions IN LESS THEN 10 days. By the time I finished Navigation Problems in 5 days and tweaked my code further, and then Deck General, Navigation General and Safety as one group. in 2.5 days, tweaking it some more, I did ALL 7000 questions of Engineering in less that one-and-one half days.

I truly hope that you all see the SERIOUSNESS of the errors in the OLD 2014 database with IMPROPERLY keyed answers and the errors in the NEWER 2015 database with duplicate questions, different answers, etc. as shown in this report. NOW it is up to MERPAC to make some decisions and recommendations to NMC to HELP them get this mess fixed.

Richard Plant

Below is just a PARTIAL example of my Excel Spreadsheet that compares for ANY DECK credential the OLD 46 CFR 11.910 regulations displayed on the right columns with a BLUE background. The NEW 46 CFR 11.910 regulations are displayed to the left of the BLUE in a GREEN background. The X indicates that this subject MUST be known and will be on the exam. A RED D indicates that this has been DELETED from the test BUT it might have been moved or joined with ANOTHER subject matter, so you must read the ENTIRE code comparison to full understand what is going on.

The buttons allow zooming in to display in larger print the credentials displayed in RED so they can be properly selected. The UnFreeze/Freeze button allows the screen to be locked so that a header is always displayed for the benefit of the viewer. The BLUE Collapse Columns and Collapse Rows & Columns allows that action to be taken on the table. Expand brings back to view ALL credential modules.

The RED and BLUE buttons on the RIGHT display the Excel format of the OLD or NEW CFR regulations in an Excel spread sheet format and if you do NOT believe that any X, D, etc. is correct, you can click on the FAR RIGHT OLD or NEW CFR 11.910 Table so see a scanned image of the CFR Publication.

46 CFR Regs 11.910 Table DECK	3. Second mate/third mate, oceans/near-coastal, unlimited tonnage, and Mate 500T/1,600T, oceans/near-coastal.	4. Second mate, oceans/near coastal, any gross tons.	5. Third mate, oceans/near coastal, any gross tons.	6. Mate, oceans/near coastal, 500T/1,600T.
30	<b>Seamanship:</b>			
31	Marlinespike Seamanship	X	X	X
32	Purchases, Blocks and Tackle	X	X	X
33	<b>Watchkeeping (Procedures):</b>			
34	COLREGS	X	X	X
35	Inland Navigational Rules	X	X	X
36	Basic Principles, Watchkeeping	X	X	X
37	Navigation Safety Regulations (23 CFR 154)	X	X	X
38	<b>Radar Equipment:</b>			
39	Radar Observer Certificate	X	X	X
40	<b>Compass, Magnetic and Gyro:</b>			
41	Principles, Operation, and Maintenance of Gyro Compass	X		
42	Principles of Magnetic Compass	X	X	X
43	Gyro Compass Error/Correction	X	X	X
44	Magnetic Compass Error/Correction	X	X	X
45	<b>Determination of Compass Error:</b>			
46	Azimuth (Any Body)	X	1	
47	Azimuth (Sun Only)	D	X	1
48	Amplitude (Any Body)	X	X	X
49	Amplitude (Sun Only)	D	X	1
50	<b>Meteorology and Oceanography:</b>			
51	Characteristics of Weather Systems	X	X	X
52	Ocean Current Systems	X	X	X
53	Weather Charts and Reports	X	X	X
54	<b>Tides and Tidal Currents:</b>			
55	Terms and Definitions	X	X	X
56	Publications	X	X	X
57	Calculations	X	X	X

NOTE the AMPLITUDE (ANY BODY) about the 10<sup>th</sup> row from the BOTTOM. This is a required subject that will be on the test for a 3M/2M, 500T or 1600T Mates exams. NMC is correct in presenting this question. Instructors and Department heads are WRONG in not reviewing the NEW 46 CFR regs.

Engineering is basically the same EXCEPT that one has to FIRST select Steam, Motor, or Gas turbine. ONLY those credentials that are applicable to those selections will be displayed. You cannot make a mistake and try to create a credential exam that the NMC does not generate. It is a rather NEAT and a very POWERFUL and USEFUL program. See the next page for an example of ENGINEERING comparisons.

The ONLY question that remains is HOW is NMC applying these new sections to exams? NMC needs to provide to the industry a question count and category of questions for EACH test module. ALSO, the list of NEW references for the STCW Manila Amendment questions needs to be discussed as to how this is going to be handled in the future. THESE ARE ALL VERY EXPENSIVE BOOKS.

S  
M  
G  
S

**2. Third assistant engineer (unlimited).**  
**3. Unlimited 2nd Assistant Engineer - Steam or Motor.**  
**4. Unlimited 3rd Assistant Engineer - Steam or Motor.**

With your proper Engine Type and License selected, click on FREEZE.



46 CFR  
Regs  
11.950  
Table  
ENGINE

TOT./ACT.

114/-23

Zoom  
125%

Freeze  
Panels

OLD  
CFR

OLD CFR  
TABLE

COLLAPSE  
COLUMNS

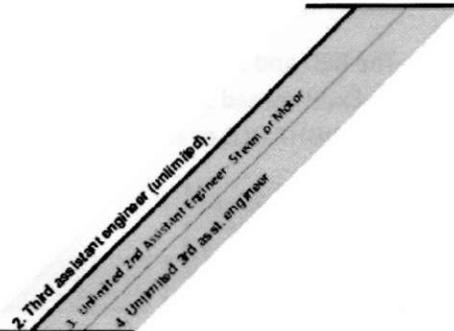
COLLAPSE  
ROWS & COLUMNS

EXPAND

NEW  
CFR

NEW CFR  
TABLE

2. Third assistant engineer (unlimited).  
 3. Unlimited 2nd Assistant Engineer - Steam or Motor.  
 4. Unlimited 3rd Assistant Engineer - Steam or Motor.



Examination Topics		2		
		S	STM	STM
1	<b>General Subjects:</b>			
2	Prints and tables	X	P.T	P.T
3	Hand tools (NEW)	X		
4	Pipes, fittings, and valves A RED D means DELETED.	X	P.T	P.T
5	Hydraulics	X	P.T	P.T
6	Materials science (NEW)	X		
7	Bilge systems	X	P.T	P.T
8	City water separators (NEW)	X		
9	Sanitary/sewage systems	X	P.T	P.T
10	Freshwater systems	X	P.T	P.T
11	Lubricants A RED D means DELETED.	X	P.T	P.T
12	Lubrication systems	X	P.T	P.T
13	Automation systems	X	P.T	P.T
14	Control systems	X	P.T	P.T
15	Propellers/shafting systems	X	P.T	P.T
16	Machine shop A RED D means DELETED.	X	P.T	P.T
17	Distilling systems	X	P.T	P.T
18	Pumps	X	P.T	P.T
19	Compressors	X	P.T	P.T
20	<b>Administration</b> A RED D means DELETED.	D	P.T	F
21	Bearings	X	P.T	P.T
22	Governors	X	P.T	P.T
23	Cooling systems	X	P.T	P.T
24	Instruments	X	P.T	P.T
25	Ship construction and repair	X	P.T	P.T
26	Theory A RED D means DELETED.	D	T	T
27	Steering systems	X	P.T	P.T
28	Deck machinery	X	P.T	P.T
29	Ventilation systems	X	P.T	P.T
30	<b>Thermodynamics:</b>		T	T
31	Heat exchangers (NEW)	X		
32	Watch duties	X	P.T	P.T
33	International rules and regulations (NEW)	X		
34	<b>Refrigeration and Air Conditioning:</b>			
35	Theory	X	T	T
36	Air conditioning systems	X	P.T	P.T
37	Refrigeration systems	X	P.T	P.T
38	Control systems	X	P.T	P.T
39	Instruments-gauges (NEW)	X		
40	Safety	X	P.T	P.T
41	Casualty control	X	P.T	P.T

In the TOP diagram, copied from the NMC Website on 2/21/16, note the BOTTOM right **Gas Turbine Plants** which were updated on 1/12/2016. I dare you to find in the bottom diagram a date next to an illustration that even comes within **FIVE (5) MONTHS** of that date (9/12/15 or later). So what was UPDATED? GT-0031 is almost 6 months old.

Engineering Examination Questions		Engineering Examination Illustrations	
<a href="#">General Subjects</a>	(last updated on 8/25/2015)	<a href="#">General Subjects-Refrigeration</a>	(last updated on 2/4/2016)
<a href="#">Refrigeration AC</a>	(last updated on 8/25/2015)	<a href="#">Motor Plants</a>	(last updated on 1/12/2016)
<a href="#">Motor Plants</a>	(last updated on 8/25/2015)	<a href="#">Steam Engines</a>	(last updated on 9/23/2009)
<a href="#">Steam Plants</a>	(last updated on 8/25/2015)	<a href="#">Steam Generators</a>	(last updated on 4/26/2004)
<a href="#">Engineering Safety and Environmental Protection</a>	(last updated on 8/25/2015)	<a href="#">Engineering Safety and Environmental Protection</a>	(last updated on 1/12/2016)
<a href="#">Electricity, Electronics, and Control Engineering</a>	(last updated on 8/25/2015)	<a href="#">Electricity, Electronics, and Control Engineering</a>	(last updated on 1/12/2016)
<a href="#">Gas Turbine Plants</a>	(last updated on 8/25/2015)	<a href="#">Gas Turbine Plants</a>	(last updated on 1/12/2016)
<a href="#">Engine Reference Library</a>	(last updated on 8/25/2015)		

Illustrations that Correspond to Gas Turbine Plants Exam Questions			
<a href="#">GT-0001</a>	(last updated on 5/22/2015)	<a href="#">GT-0002</a>	(last updated on 4/23/2015)
<a href="#">GT-0003</a>	(last updated on 5/20/2015)	<a href="#">GT-0004</a>	(last updated on 5/28/2015)
<a href="#">GT-0005</a>	(last updated on 5/29/2015)	<a href="#">GT-0006</a>	(last updated on 6/10/2015)
<a href="#">GT-0007</a>	(last updated on 10/9/2003)	<a href="#">GT-0008</a>	(last updated on 6/5/2015)
<a href="#">GT-0009</a>	(last updated on 6/8/2015)	<a href="#">GT-0010</a>	(last updated on 6/12/2015)
<a href="#">GT-0011</a>	(last updated on 6/12/2015)	<a href="#">GT-0013</a>	(last updated on 6/15/2015)
<a href="#">GT-0014</a>	(last updated on 6/15/2015)	<a href="#">GT-0015</a>	(last updated on 6/23/2015)
<a href="#">GT-0016</a>	(last updated on 6/25/2015)	<a href="#">GT-0017</a>	(last updated on 6/26/2015)
<a href="#">GT-0018</a>	(last updated on 6/29/2015)	<a href="#">GT-0019</a>	(last updated on 7/1/2015)
<a href="#">GT-0020</a>	(last updated on 7/1/2015)	<a href="#">GT-0021</a>	(last updated on 7/7/2015)
<a href="#">GT-0022</a>	(last updated on 7/10/2015)	<a href="#">GT-0023</a>	(last updated on 7/13/2015)
<a href="#">GT-0024</a>	(last updated on 7/14/2015)	<a href="#">GT-0025</a>	(last updated on 7/14/2015)
<a href="#">GT-0026</a>	(last updated on 7/15/2015)	<a href="#">GT-0027</a>	(last updated on 7/16/2015)
<a href="#">GT-0028</a>	(last updated on 7/17/2015)	<a href="#">GT-0029</a>	(last updated on 7/17/2015)
<a href="#">GT-0031</a>	(last updated on 7/21/2015)		

The following FOUR pages are provided for the benefit of instructors and mariners. The first two pages cover the DECK review of 46 CFR Regulation changes from the 2013 to 2014 releases. These files, and the entire comparison of ALL levels of license exams (credentials) was created back in 2014. At the MERPAC meeting that year I specifically warned all attending to review carefully the changes between the old and new 46 CFR regulations as NUMEROUS changes (deletions and well as additions) were made to the regs.

The last two pages are a copy of my summary of the changes for the ENGIEN review of 46 CFR Regulation changes from the 2013 to 2014 releases.

With my spread sheet I have created a list of comparions LICENSES (Credentials) between the OLD and NEW regulations for BOTH Deck and Engine.

As can also be seen on pages RMP-0019-PROOF and RMP-0020-PROOF are pages from my COMPARISON spread sheet for all Deck and all ENGINE license exams. Again, if you have NOT performed a thorough review or analysis of the changes I strongly recommend that you do or you should contact me about it. My spread sheet is quite accurate for the regulations (OLD and NEW) and I have created links to Excel spread sheets showing the OLD and NEW regulations. If that is NOT good enough, I have also created a link in my workbook to photo copies of the actual 46 CFR Regulations for verification of where the X's go in cell.

AND FINALLY, if you are NOT satisfied with that, check out the LINK that EACH LAPWARE LOGO provides. If the LAPWARE Logo is found under any DECK section it will link to the eCFR Code for the LATEST 46 CFR regulations. IF the LAPWARE Logo is found under any ENGINE seciton it will link to the eCFR Code for the LATEST 46 CFR regulations.

IF, by chance, you do find an error in my spreadsheets, if you purchase them, I would appreciate being told about it because ANY ERROR reported to me is corrected IMMEDIATLEY in any work that I do.

Thank you and Good Luck.

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Cell (443-253-8856)  
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Changes between the OLD 46 CFR Table 11.910 and the NEW one posted in the CFR as of December 24, 2013.  
This OVERVIEW and CHANGE list might not be all inclusive.



## DECK CHANGES

Created by Richard Plant in 2014

### COLOR CODE

**RED TEXT** These are rows of information REMOVED from the OLD TABLE not shown in the NEW 2014 Table

**RED TEXT** These are just changes made by the author in spelling out abbreviations or (adding words for clarification purposes) or changing the ampersand (&) to an and, or Capitalization of words.

**BLACK** Added lines to the 2014 table. Some of the line text removed shown above has possibly been added to these lines.

**BLUE** Differentiates the OLD Table from the NEW Table.

### OVERVIEW

- 1) There are still 24 license exams BUT they were reorganized. For that reason, this spread sheet will be of most BENEFIT for you. PLEASE read the instruction sheet on how to use and compare the 2014 and OLD 46 CFR Table 11.910 so you can see what cell now has an X added, removed or a footnote added. By the way, **there is a NEW footnote 9**.
- 2) The 3M/2M and CM/MA have finally been formed into a COMBINED exam as given by the NMC.
- 3) Note that the number of total lines in the table from **EXAMINATION TOPICS** to the bottom row of training information required has been reduced from 190 to 173 - a removal of 17 lines. A total of 25 were removed from the OLD and 8 added to the NEW - total difference of 17 lines.

### DELETIONS:

**Here is the list of those I have found that were deleted. See CHANGES / ADDITIONS below.**

- 1) Special Cases (hi/lo Alt, Backsight) under CELESTIAL OBSERVATIONS.
- 2) Second Estimate Meridian Transit under TIME OF CELESTIAL PHENOMENA.
- 3) Zone Time Moon Rise/Set under TIME OF CELESTIAL PHENOMENA.
- 4) Small Boat Handling Under Oars or Sail under SEAMANSHIP
- 5) RADAR EQUIPMENT
- 6) Radar Observer Certificate under RADAR EQUIPMENT
- 7) Magnetic Compass Adjustment under Compass-Magnetic and Gyro:
- 8) Deviation Table Construction under Determination of Compass Error:
- 9) Gyro Controlled Systems under Compass-Magnetic and Gyro:
- 10) Operation and Care of Main Gyro Systems under Compass-Magnetic and Gyro: BUT part or all of these two could probably be included in the CHANGES #2 listed below.
- 11) Extensive Tidal Effects under Tide and Tidal Currents:
- 12) Drydocking, with and without Prior Damage under Ship Maneuvering and Handling:
- 13) Ballasting, Tank Cleaning and Gas Free Operations under Cargo Handling and Stowage:
- 14) Load on Top Procedures under Cargo Handling and Stowage:
- 15) Refloating a Grounded Ship under Emergency Procedures: (See CHANGES #6 listed below.
- 16) 1st Aid Guide: Accidents with Dangerous Goods under Medical Care:
- 17) First Aid under Medical Care:
- 18) Flashing Light under Communications:
- 19) Radiotelegraphy Emergency Distress Signals under Communications
- 20) Any other subject considered necessary to establish the applicant's proficiency under Sail/Auxiliary Sail Vessels Addendum (8) (as it appear this is covered under Footnote 8.
- 21) NOT really deleted but rather MODIFIED are Azimuth and Amplitudes. Read # 3 below.

## CHANGES:

**MAJOR** changed lines to the table. Minor changes of spelling, hyphens added, etc. are ignored.

- 1) Latitude by Meridian Transit was changed to Latitude by Meridian Transit (Any Body)

Second Estimate Meridian Transit

**Zone Time Sun Rise/Set/Twilight**

Zone Time Moon Rise/Set

**Speed by RPM**

**Fuel Conservation**

was changed to:

**Zone Time Sun Rise/Set/Twilight**

**Speed by RPM**

**Fuel Conservation**

NOTE: Although the 1600T Masters license does NOT list the Speed by RPM and Fuel Conservation problems it is my belief that these questions are STILL a part of the 011X1 or Supplemental exam a 3M takes upon raising from 3M to 2M after acquiring 360 Seetime and wants his 1600T Master's Ticket. NOTE that the present JUNE 2011 NMC Exam Guide list this module as either DECK GENERAL alone or as Deck General, Navigation General and Deck Safety, when, in fact, Speed by RPM and Fuel Conservation are questions listed under NAVIGATION PROBLEMS, and Navigation Problems IS NOT part of the 011X1 definition of the exam! WHY?

- 2) Principles of Gyro Compass under Compass-Magnetic and Gyro: has been changed to Principles Operation, and Maintenance of Gyro (See # 9 and #10 above).
- 3) OF MAJOR IMPORTANCE, which I am sure MANY will miss, is the fact that the AZIMUTH of the SUN and AMPLITUDE of the Sun, have serious changes. These sections in the NEW 46 CFR Regs will open a lot of eyes. PLEASE READ THEM. They MUST be reviewed in order for instructors to properly prepare mariners for taking their exams.
- 4) The word SHIP in most cases, but not all, has been changed to VESSEL or simply removed.
- 5) Tank Vessel Safety under Cargo Handling and Stowage: has been changed to Tank Vessel and Fuel Oil Operations
- 6) Ship Beaching Precautions under Emergency Procedures: has been changed to Tank Vessel Safety
- 7) Actions Prior To/After Grounding under Emergency Procedures: and Refloating a Grounded Ship under the same section have been COMBINED into Actions Prior to/after Grounding, including Refloating
- 8) Credentialing Seamen under National Maritime Law: has been changed to Licensing and Certification of Seamen in the September 2014 update.
- 9) OSV licenses added to the group while other licenses were combined and rearranged.  
**See the License Comparison tab.**

## ADDED lines to the table

- 1) ISM and Safety Management Systems under Ship's Business:
- 2) GMDSS under Communications:
- 3) Signals: title added under Communications
- 4) IMO Standard Maritime Communication Phrases under Signals: under Communications:

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Changes between the OLD 46 CFR Table 11.950 and the NEW one posted in the CFR as of December 24, 2013.  
This OVERVIEW and CHANGE list might not be all inclusive.



## ENGINE CHANGES

Created by Richard Plant in 2014

### COLOR CODE

**RED TEXT** These are rows of information REMOVED from the OLD TABLE not shown in the NEW 2014 Table.

**RED TEXT** These are just changes made by the author in spelling out abbreviations or (adding words for clarification purposes) or changing the ampersand (&) to an **and**, or Capitalization of words.

**BLACK** Added lines to the 2014 table. Some of the line text removed has possibly been added to these lines.

**BLUE** Differentiates the OLD Table from the NEW Table.

### OVERVIEW

- 1) There are 15 license exams, up from 11 AND they were reorganized. For that reason, this spread sheet will be of most BENEFIT to you. PLEASE read the instruction sheet on how to use and compare the 2014 and OLD 46 CFR Table 11.950 so you can see what cell now has an X added, removed or possibly combined. OSV Engineering licenses now occupy exams 12 through 15.
- 2) The 3AE/2AE and 1AE/CE have finally been formed into a COMBINED exam as given by the NMC. BUT, these are now listed as sitting for just the 3AE and the 1AE. It is assumed that the higher license will be acquired upon providing proof of seetime.
- 3) Note that the number of total lines in the table from **EXAMINATION TOPICS** to the bottom row of training information required has been reduced from 190 to 173 - a removal of 17 lines. A total of 25 were removed from the OLD and 8 added to the NEW - total difference of 17 lines.
- 4) There is a counter of the total number of lines listed in **Cell A42** of the **ENGINEERS 11.950- 2014** tab. This counter could be just one number listing the total lines or two numbers attempting to show you the number of total lines versus the DELETED lines and NEW lines added. For the Deleted lines there are two ways in which I show them. A line FULLY DELETED from all license exams has a (Deleted) entered on it. A section DELETED for just that individual license will have a RED **D** in it column cell and is added in the list.

### DELETIONS:

**Here is the list of those I have found that were deleted. See CHANGES / ADDITIONS below.**

- 1) There are FIVE major sections that have been deleted from ALL license levels. However, you must check to see if these have been possibly included in other sections or are covered by other required training or course certification. They are listed below and in the ENGINEERS 11.950 - 2014 tab.
  - a) GENERAL SUBJECTS: Theory
  - b) STEAM ENGINES: Reciprocating Machines
  - c) MOTOR PROPULSIONS: Combustion Systems
  - d) EMERGENCY EQUIPMENT AND LIFESAVING APPLIANCES: First Aid
  - e) EMERGENCY EQUIPMENT AND LIFESAVING APPLIANCES: International Rules and Regulations
- 2) Instead of description requirements by P - Practical knowledge and T - Theoretical knowledge the USCG now describes the training requirements by simply placing an "X" in the cell.
- 3) The NEW USCG table again shows an "X" for subject matter required to be studied and known for a specific license exam. I have added a "D" for those lines that were Deleted from the old regs.
- 4) Also, note that some of these "D" - Deletions apply to Steam or Motor only or BOTH for a specific license exam. Since Gas Turbine is NEW, there is no comparison to reference in the OLD regulations.

## **CHANGES:**

**Major changed lines to the table. Minor changes of spelling, hyphens added, etc. are ignored.**

- 1) Look at the "ENGINE LICENSE COMPARISON" spreadsheet. You will see the differences between the list of old license exams compared to the new license exam. OSV licenses have been added at the end of the listing. This table cross-references the OLD exam numbers to the NEW exams.
- 2) Not being an Engineer, it will be up to you to determine the affect on the training requirements for the new regulations and what must be added or changed to comply with these regulations.
- 3) As you look at the ENGINEERS 11.960 - 2014 tab you will see the (NEW), (Deleted) and (D) - deleted for just that specific license level.
- 4) In the NMC producing their NEW database of questions for these NEW REGULATIONS, it was noted that the number of questions were reduced almost in half from over 13,000 to about 6,500. Upon asking the NMC about this it was explained the with their new Question Mark program that develops their new exams, SISTER questions which had scrambled distracters were removed as they are no longer needed. The new program has a fixed answer (A), for example, which is recorded as being moved to a new location in a generated exam. Therefore, SISTER questions were eliminated and NEW questions are being developed for future insertion into the databases.

## **ADDED lines to the table**

- 1) These are too numerous to list. However, there are 14 lines highlighted with a green background that
- 2) affect the older exam regulations layout. A (NEW) in the middle of each description lines indicates these lines.
- 3) Then there are TWO totally NEW sections on the bottom of the table. These cover:
  - a) GAS TURBINES and 16 rows of lines (totaling a reference to 232 NMC License Exam Questions).
  - b) MANAGEMENT LEVEL and 16 rows of lines. These only apply to 6 of the 15 license exams described.
- 4) For an added line, double check the listing under the OLD regulations as listed. You will see a white or empty line if the old license exam never covered this subject matter before.

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**EVERY TIME I look at these Deck and Engine questions I find more errors. I have added 2 or 3 pages to this report because of what I have found. I know there are PLENTY more of these types of errors. It just takes time and analysis to find them.**

**IF THESE PAGES DO NOT get across my points to MERPAC and NMC then I just give up. Either you are just being blind to the errors, ignorant that they exist or shameless in NOT trying to correct them and give the mariners are good exam. I don't want to criticize NMC but action on what I HAVE SHOWN needs to be acted upon. If nothing is done THEN MERPAC as well as NMC is at fault. MERPAC, YOU are the advisory committee for the USCG. ADVISE THEM! HELP ME HELP THEM TO MAKE THE DATABASE CORRECT.**

**NO ONE outside the NMC, and I dare say INSIDE the NMC, is more familiar with the problems that do exists. I am the ONLY one analyzing the questions, BOTH Deck and Engine separately and COMBINED to find these errors. This is something that NMC does not do.**

## ADDED COMPLAINT ABOUT NMC'S OPERATIONAL CHART PLOTS

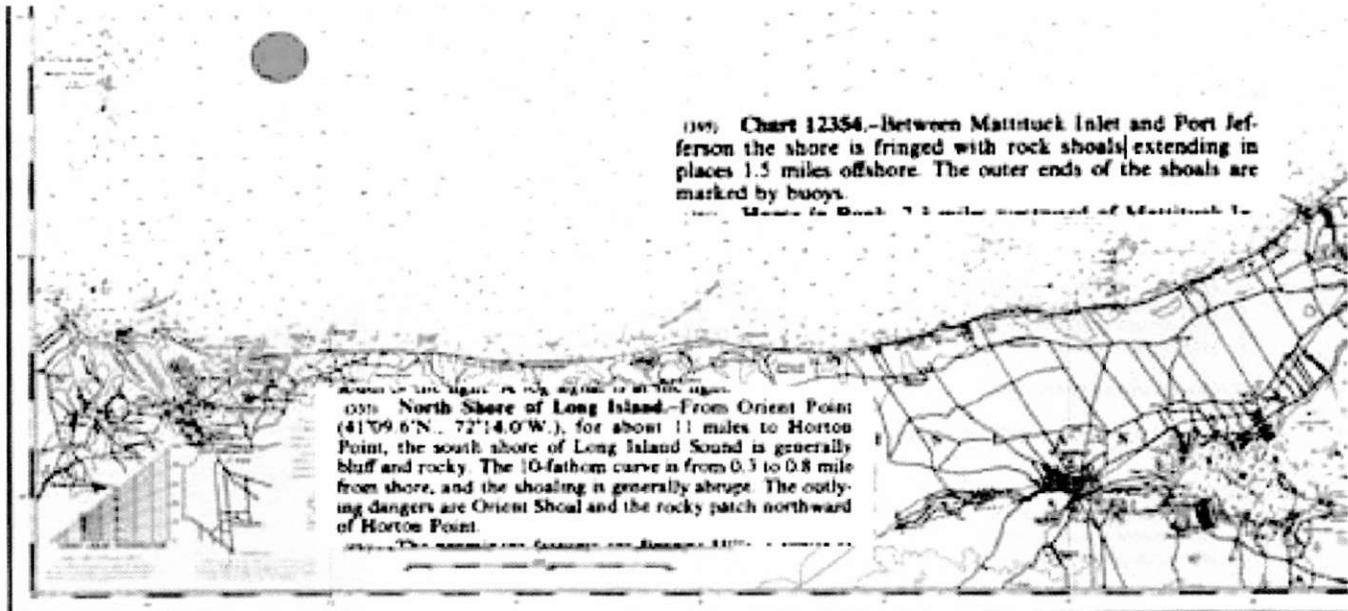


Chart Plots - Operational Level - Eastern Long Island Sound - there are FOUR plots that ask the same question. Basically the mariner is first asked to plot a position at 41 04.9'N and 73 01.1'W. The RED oval is the approximate position. NEXT each of the chart plots asks the same question. That is: "The south shore of Long Island Sound near your position is \_\_\_\_\_."

THREE of the keyed answers are "bluff and rocky" which is shown in the Coast Pilot under "North Shore of Long Island" where one would be expected, based on the question stem, to find their answer. NOTE that the mariner's position is just north of Port Jefferson. YET a FOURTH question has a keyed answer of "fringed with rock shoals". That answer is found looking up the Coast Pilots between **Mattituck Inlet and Port Jefferson**. Mattituck Inlet is on the FAR RIGHT of this copy of the chart above.

Although probably being considered correct, it is **VERY MISLEADING** to the mariner to have to look for a reference point some 25 to 30 miles EAST of their position in order to find an adequate answer. TRICKERY is NOT the name of the game that the NMC should be playing with questions like this. The mariner should, and would, normally look up the information at PORT JEFFERSON or as indicated in my lower left text box from the Coast Pilots for the "North Shore of Long Island", a point on the "south shore of Long Island near your position" as requested. The mariner would NOT normally look between Mattituck Inlet and Port Jefferson. In my opinion this type of question is just improper and down right wrong. The correct answer SHOULD be "bluff and rocky", a choice NOT provided by the NMC as an answer for the fourth question.

Captain Novotny has stated in the past in an email to me that the NMC CODE, in the form of (3.2.17.1-1) are UNIQUE identification codes that the NMC staff uses to identify a question. If that is true then WHY are there 28 questions in REFRIGERATION that start with the code number of 3.2.17? Look at the NEXT page which covers GENERAL SUBJECTS. (Pictures were captured on 2/26/16.) And I found SIX other Engineering Questions that are coded while in one section/book as if they belonged in another section. IF THE NMC PULLS questions by these NMC Code number (3.2.17-1) as shown below then these SIX will never get selected.

Refrigeration-Air Conditioning-HVAC  
First Assistant-Chief Engineer

**213.** (3.2.17.1-1) What type of HVAC system is ideally designed to serve a large public space?

- (a) A dual duct system
- (b) A terminal reheat system
- (c) A variable air volume system
- (d) A single zone system

*If choice d is selected set score to 1.*

**214.** (3.2.17.1-3) Referring to illustrated diagram, what type of HVAC system is shown? Illustration GS-RA-09

- (a) A dual duct system
- (b) A terminal reheat system
- (c) A variable air volume system
- (d) A single zone system

*If choice d is selected set score to 1.*

**215.** (3.2.17.4-6) To determine the average cargo hold dew point temperature, at what location would the dew point be measured?

- (a) The dew point is taken at the ventilation exhaust trunk.
- (b) The dew point is taken at the ventilation supply trunk.
- (c) The dew point is taken near a central location of the cargo hold.
- (d) The dew point is taken near the bottom of the cargo hold.

*If choice a is selected set score to 1.*

**216.** (3.2.17.4-2) What statement is true concerning a liquid desiccant cargo-hold dehumidification system?

- (a) Water vapor from the humid air inlet from the cargo hold is condensed and absorbed into the liquid desiccant by means of a heating coil located in the humidification chamber.
- (b) Water from the humid air inlet from the cargo hold is evaporated and driven out of the liquid desiccant by means of a cooling coil located in the humidification chamber.
- (c) Water vapor from the humid air inlet from the cargo hold is condensed and absorbed into the liquid desiccant by means of a cooling coil located in the humidification chamber.
- (d) Water from the humid air inlet from the cargo hold is evaporated and driven out of the liquid desiccant by means of a heating coil located in the humidification chamber.

3.2.17.1-1



3/15/16

Now here we have, as can be seen in the middle of the copied page on 2/26/16 that NM has also an additional 28 questions numbered as 3.2.17. Compare question 206 below to 213 on the previous page. Compare 207 below to 214 on the previous page. Compare 208 below to 215 on the previous page. I could do this for 25 MORE QUESTIONS but I hope you get the point. By the way, there are over 100 questions in JUST GENERAL SUBJECTS in Engineering that are 100% IDENTICAL - WHY? This is just ridiculous. There is NO QUALITY CONTROL at NMC - plain and simple. And as stated REPEATEDLY in this report - THERE ARE MANY MORE PROBLEMS. NMC - GO BEHIND CLOSED DOOR and all you are doing is preventing someone like me from finding and reporting these errors. YOU WILL NOT be providing a 100% Accurate Exam which is what mariners pay for and expect. Richard Plant

206. (3.2.17.1-1) What type of HVAC system is ideally designed to serve a large public space?

- (a) A dual duct system
- (b) A terminal reheat system
- (c) A variable air volume system
- (d) A single zone system

*If choice d is selected set score to 1.*

08-25-15

Page 281

General Subjects  
First Assistant-Chief Engineer

207. (3.2.17.1-3) Referring to illustrated diagram, what type of HVAC system is shown? Illustration GS-RA-09

- (a) A dual duct system
- (b) A terminal reheat system
- (c) A variable air volume system
- (d) A single zone system

*If choice d is selected set score to 1.*

208. (3.2.17.4-6) To determine the average cargo hold dew point temperature, at what location would the dew point be measured?

- (a) The dew point is taken at the ventilation exhaust trunk.
- (b) The dew point is taken at the ventilation supply trunk.
- (c) The dew point is taken near a central location of the cargo hold.
- (d) The dew point is taken near the bottom of the cargo hold.

*If choice a is selected set score to 1.*

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3.2.17.1-1



3/15/16

**And to end this list of ERRORS (potential but probable) I want to state that we have NOT even gotten into looking at the THEORY of the questions, YET. Is what the NMC asking in DECK and ENGINE questions valid? Some Deck have been reviewed and displayed but MOST of the Engine questions have NOT been looked at for content, so I would expect more errors in that area.**

**Thank you for your time, consideration and review of this material. Again, I hope that if the NMC and MERPAC see the seriousness of the errors I have pointed out and that SOME action will be taken, OTHER THEN NOTHING BEING DONE. If that is all that happens, SHAME ON YOU.**

**Mariners are taking OLD and NEW improper questions on exams, possibly failing because of errors probably created by NMC and losing that potential promised promotion, loss in wages, benefits, money spent on training, transportation, food, lodging, etc. ALL of which NMC could be sued for if proven. OF COURSE, NMC wants to go behind closed doors. MERPAC and NMC, please allow me to help you make the database of questions being used 100% accurate.**

**I am trying to HELP NMC prevent this from happening. BUT some brave mariner might step forward and take on the NMC. The NMC would lose with what I know about their database!**

**Richard Plant, LAPWARE, LLC**



