EXAMINER'S REPORT
MAY 2021

SHIP OPERATIONS AND MANAGEMENT

General comments:

As in November given the prevailing restrictions for the COVID 19 pandemic it is still good to see that despite these, candidates are carrying on studying and have done some preparation to take these exams. But candidates must come to an exam properly equipped, pens, pencils, erasure, ruler etc and of course a calculator (NOT A PHONE). Reading the past reports of the examiners in SOM and some other subjects mean that the candidate can have some familiarity with the exam and what is required to pass it.

There were some very good individual results and some exam centres have improved their performance. Some centres were unable to take the exam but we look forward to their return. Candidates should be aware of new regulations that have come into force in the last few years. Those affecting emissions affect all vessels but so also do those regarding ballast and hazardous materials on the vessel. Candidates will also have to demonstrate a reasonable understanding of maritime geography. Shipping is the truly worldwide business and a good knowledge of that world is essential. A map should always show relevant ports, routes and geographical features on that route such as canals, capes, seas, oceans, and special areas affected by weather, currents or hazards. Do not waste time naming irrelevant details such as distant seas, and countries as these get no extra marks.

Question 1:

Drawing

The requirement to be able to draw an accurate representation of a vessel is still required for several exams and will not be going away at any time. The majority of candidates chose the Supramax/Handymax bulker or the Suezmax tanker and some of the drawings were large showing a lot of detail and well labelled parts of the vessel. But often these were too small which then lacked both of these. Some were just a poor effort to reproduce sketches from the manuals and lacked any evidence of actual study of a ship's General Arrangement plan. Most of the transverse or cross-sectional drawings were limited and some were forgotten or instead showed a plan view. The naming of parts has improved a little where this is done but drawings still lack important details such as anchors, the fo'castle, and lifeboats. Double bottoms are never one continuous tank

Where the question asked for the characteristics of the vessel it seems that some candidates merely gave those of a handy vessel and with again a range of figures 10-14 M for the draft that makes this meaningless. Don't waste your time explain what the draught of a vessel means, examiners know this. Your answer should be what is the Summer Draught of the vessel for example 14.2M SW.

Many candidates saved their best efforts for the description of the trade and some went into very detailed writing about these trades which while interesting wasted their time as there are four parts to this question and in principle all parts carry equal marks. When using a map for this part, mark the load and discharge port on the map and show some limited knowledge of the route.

Question 2:

Bunkers

The change in the whole landscape of ships bunkers with the adoption in Jan 2020 of the Worldwide maximum of Max 0.5%S emissions was noted by most candidates. Most also know that in certain areas the more severe max 0.1%S on emissions still applied. To be clear, only two fuels are permitted on conventional ships without scrubbers, one with a Max 0.5%S content, the other with a Max 0.1%S content. These may be Gasoil, Diesel, or Fuel Oil but whatever they are they must meet the limits for Sulphur emissions.

Generally, most had heard of the ECAs and SECAs but several could not show where these applied in their written answer or on the map with any accuracy. As most have had this restriction for at least five years this is disappointing. **More so was ignorance of the EU Directive which has been in force and applied since 1st January 2010, eleven years ago, and it covers ALL EU PORTS.**

The North American ECA applies to the whole continent from the Mexican border to Alaska and into the Labrador Sea region, including all Canadian ports. It also includes the Hawaiian Islands, Puerto Rico and US territorial Islands in the Caribbean. Candidates should also be familiar with the SECAs in the Baltic, North Sea and the Channel.

The China regulations were absorbed into the Worldwide limit so did not warrant any special mention but some students noted that more strict rules apply to vessels operating in the Yangtse and Xi Jiang rivers where from Jan 2020 vessels must use Max 0.1%S at all times and in main ports in S Korea since 1st September 2020. These students generally got better marks.

Most students were aware of the types of scrubbers in use and showed some good knowledge of the advantages and disadvantages of these.

The methods to employ ensuring that the bunkers are of good quality at a competitive price need to be more proactive than just appointing a broker to find them for you.

Question 3:

Calculation

The ability to work out a simple voyage calculation and show this in a simple format should always be practised. Some candidates seem to have heeded the examiner's report for earlier this year so I repeat it in part. Candidates attempting the calculation must have **a calculator** with them (**their phone is not acceptable**) and should practice laying out their calculation logically. A calculation should be just that: a calculation that shows your working, not an essay describing the whole process. Use a double page spread, lay out a simple format for finding the answers on one page and fill this in with some of the calculation on the other page. Show your answer to the questions clearly. You should also strive for accuracy in an examination. Avoid excessive rounding up, it is OK in real life when it is better to overestimate time and consumption **but not in an exam**. Do not round up days. For example, if the voyage leg takes 8.34 days with fuel consumption of 28 MT per day then this is 233.52 MT. fuel. If you round it up to 8.4 days it will be 235.2 MT. If you round up to 9 days it is 252MT. This is a lot of money at $400 per tonne.

When you add up the days and the fuel usage for the whole voyage (don't forget the port usage) and you get 35.56 days and 791.78 MT fuel then the voyage length is 35.56 days. You can round up the bunker total to 792 MT because then you will be able to order a round number quantity to replace it (in reality this might be 800 MT). KEEP IT SIMPLE. Only the fuel used on the voyage should be in the

expenses of the voyage. Do not waste time calculating the cost of the fuel used for each leg of the voyage, only the fuel used.
There were some good answers but some made mistake. Most candidates identified that this was a deadweight cargo so the fuel on board and the constant would need to be deducted from the summer deadweight. **The problem was where?** Well, the place and time when the vessel would be at maximum SDWT was on departure Cartagena for the loaded voyage. It is necessary to determine the DWCC at this point. The vessel will need fuel for the loaded voyage and the discharge at Recife. It will also need to have on board the ROB which was to be 350MT LSFO/GO 0.5% S and 150MT ULSGO 0.1%S.
Where will you take the bunkers? This should have been easy. **The price at Rotterdam was at least $25 for LSFO 0.5%S and $43 for ULSGO 0.1%S below any of the other options**. With freight at $22 ($20.9 after commission) **no other ports make sense**. That's it, take bunkers at Rotterdam for the whole voyage. In this way the safety margin will always be on board because it will be in the ROB figures carried throughout the voyage.
How do you determine the bunkers used in port when you don't know the cargo quantity is a point that candidates raise? But the answer is simple, in this case you must have some idea of the approximate amount of fuel needed on departure Cartagena so a rough figure can be calculated. Use this to find the fuel used during discharge and load. These quantities are small so any slight inaccuracies will be minimal as a fraction of the load and discharge rates. Use these then adjust them when the actual cargo quantity has been determined.
Most candidates showed they understood how to work out the earning for the voyage and the daily net profit.

Question 4:

Costs
This was a very popular question with most candidates attempting this with generally a good result and generous marks. Part(a) about the budget was done well with most of the students reading the question rather than just creating a budget. It specifically asked for information about a vessel needed to create a budget and the basics of Type, Size, Age, Engine and Auxiliaries, Flag and Crew, Gear, and Trading Pattern were generally well done with some good explanations of why. Some added survey history and Class records which with the record of Port Control inspections will also be a factor.
Part (b) asked for the different cost items you would expect to see in the budget for daily operating cost. A short list of crew costs, stores, insurance, admin, maintenance and drydock is not enough except as notes for an answer. Each should be expanded to gain the marks. Never use etc in your answer.
Part (c) was done quite well with some candidates mentioning cash flow forecasts and monthly statements. Significant variations to the budget could have been more imaginative but some candidates gave very good details of the effects of COVID on crew cost and expenses which got extra marks.

Question 5:

STCW
The first part of the question was with some notable exceptions not done very well as it needed some detailed knowledge of the eight mandatory standards of STCW Part A which can be remembered by the mnemonic WESTWARD. It covers the general provision of Certificates and training for the **W**hole ship's crew, the standards for the **E**ngine department and Engine room

watchkeepers, the standards for **S**afety, emergency training and survival, training for specialised **T**ypes of ships such tankers, standards regarding **W**atchkeeping, passage planning and taking over a watch, standards for **A**lternative Certification, standards for **R**adio personnel and GMDSS, and last but not least **D**eck department and Master and Deck watchkeepers.
The second part of the question was looking for a broad answer that could be summarised as be a good employer and remember that the crew is the most important part of the ship. The few who attempted this question got most of their marks from this part with some well-informed answers.

Question 6:

Registry
This was a very popular question with four parts and every part having equal marks. In general, most candidates showed they understood why a vessel needed to be Registered or Flagged, and the possible outcome of not being so. Most were aware of the different types of Registries but there was some confusion over open registers and International offshore registers. The advantages and disadvantages of the open and international registers was done well with most identifying the monetary benefits but also the likelihood of an increased inspection regimen by Port State and some Governments where certain flags were concerned. The certificates issued by Flag or under its authority was mainly done well but to get good marks it was necessary to give details of the certificate and its validity and cycle of inspections. Several candidates wrongly chose the Certificate of Class which is not issued by Flag or under its authority. The derat Certificate has been replaced by the SSCC.

Question 7:

This was a simple question where a Panamax vessel was loading a Grain cargo at New Orleans. Grain is a major cargo for Panamax vessels, New Orleans is the largest grain port in the world and is on the Mississippi River in the southern US. Some knowledge of the requirements for cleanliness for the former and the whereabouts of the latter should be familiar for most candidates for this exam. In general, this was borne out by the marks.
Part (a) was generally done well with good knowledge being shown about Grain Clean, testing for Watertightness, SFs, and the Grain Code. Part (b) was also good with Stowage Plans, loading sequence, Stress calculations and the importance of proper trimming to prevent any shifting after load. Fumigation also got mentioned and marks. Part (c) on the loaded passage, the emphasis should have been on the changing temperature as the vessel moved from the warm US Gulf to a cold Northern Europe and the importance of ventilation. The regular check on the temperature and checking of bilges were also mentioned and generally candidates showed some knowledge. Part (d) about the weather and climate was generally accurate but Ice would not likely be experienced on this voyage in October/November but bad weather and low-pressure systems moving in the same direction as the vessel would be an issue. Most students could have improved their marks by better use of the map.

Question 8:

P&I

The question was clear, what risks are covered under P&I. There were some very good answers which showed evidence of detailed study of the risks and what was actually covered. This is a big topic and the standard risks covered are reasonably well known but increasing competition has led to an expansion by several P&I Clubs of the cover available to address additional risks in an increasingly litigious world. The standard risks are briefly, Crew, Collision, Cargo Loss, Damage to hull, Deviation, Drugs, Fines, FDD, FFO, Strikes, Loss of Hire, Passengers, Pollution, Risks Incidental to shipping and General Average. However, one major club offers in addition cover for Bunkers, Containers, Professional Indemnity, Supply and Towing, Salvage, and Excess war risk among several other services so there is a lot to be aware of. Those candidates who answered this generally got good marks.