Goodwood

FORESIGHT

DELIVERY OF DHT BRONCO AND DHT MUSTANG

Goodwood Ship Management took delivery of two DHT new build vessels from Hyundai Heavy Industries, Ulsan, Korea. These two vessels are awarded ECO notation and fitted with Selective Catalytic Reduction system (SCR) to comply with NOx Tier III emission requirement.

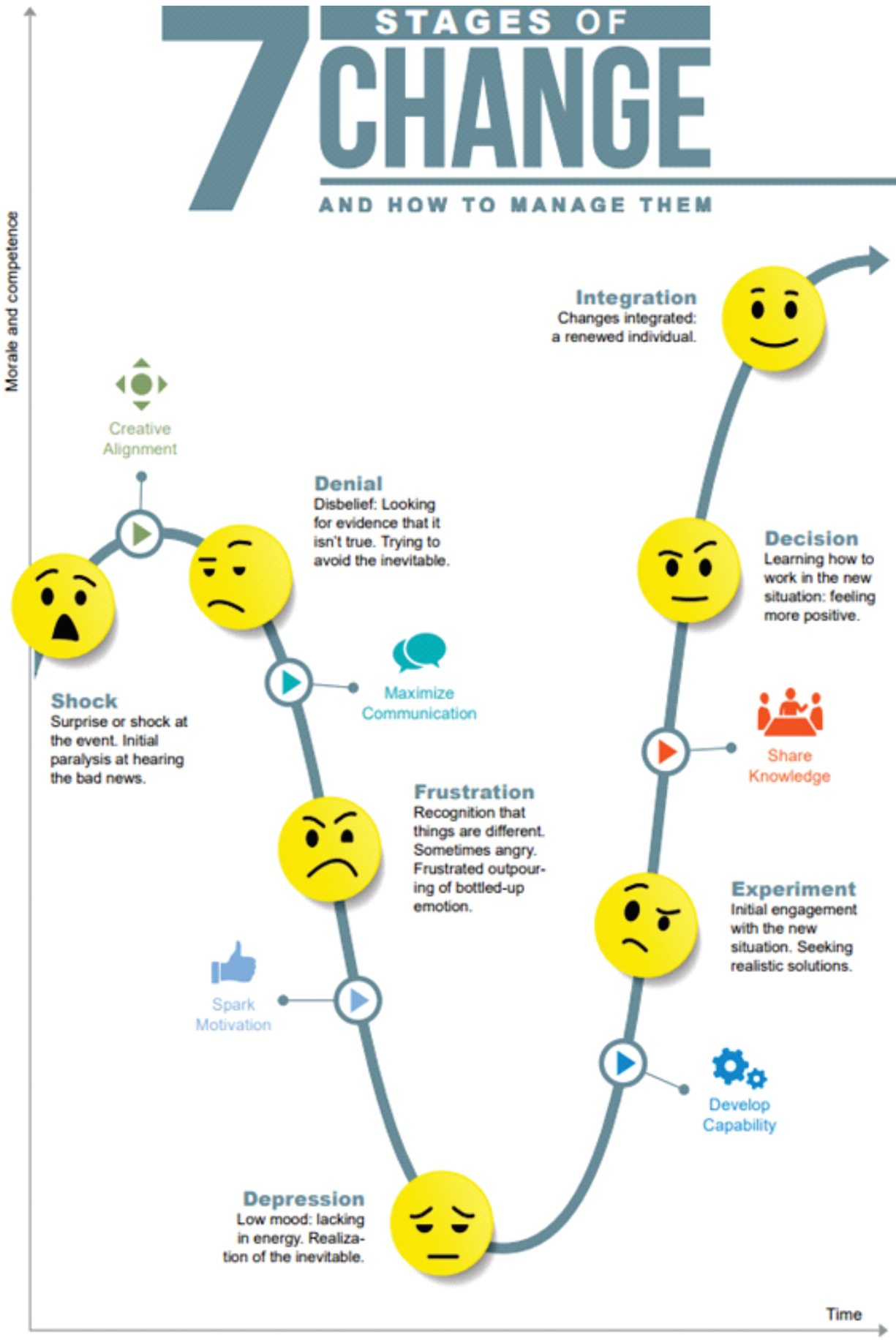
DHT Bronco delivered on 27th July 2018

DHT Mustang delivered on 8th October 2018

NEWSLETTER CONTENTS

7 STAGES OF CHANGE

AND HOW TO MANAGE THEM



Recent Fuel Oil Contamination Hurdles

Though there is a competitive marine fuel market and a well-established marine fuel quality standard i.e. ISO 8217:2017, there always remains a risk that the fuel supplied to a ship may be off-specification, which is beyond the control of the vessel or the ship owner/operator.

For the residual fuels, the significant reasons for being off-specification are:

- Excessive viscosity
- Excessive water content
- High abrasive content
- Asphaltene instability
- Flash points below the minimum required 60°C

For the distillate fuels the most significant reason for being off-specification is:

- Sulphur content above 0.1% (Does not comply with MARPOL Annex VI ECA-SOx requirements)

In the recent past, bunkers supplied at few specific ports have been found to contain Phenolic compounds and fatty acids. Phenolic compounds such as Cumyl-Phenol form gummy product and are known to have caused fouling of fuel pump plungers, fuel pump seizures and other fuel system related failures. Fuel oil contaminated with these acids could lead to engine failures and potential loss of propulsion, having catastrophic and wide-ranging consequences. Furthermore, the fuel oil with low reserve stability may cause increased sludge production at separators and fouling of filters due to flocculation.

According to industry information, source of such contaminants was identified to the use of cutter stock, which was added to heavy fuel oil to reduce its viscosity or addition of bio materials like automotive fuels or bio-waste, cross contamination during fuel supply or adulteration by chemical waste disposal in to the fuel.

CLOGGED FILTER

SEPERATOR CLOGGED

FUEL LINES CHOKED

The standard fuel oil test methods as per ISO 8217:2017 standard will not detect presence of such contaminants such as Phenols, fatty acids, benzene, alcohols, etc. Hence, it is necessary to carry out additional tests such as total acid number, acid extraction test to identify presence of acids, their respective quantity in the given fuel oil and their likely effect on the fuel pumps and injectors.

The presence of these substances in the marine fuel is in violation of MARPOL Annex VI regulation 18.3 and ISO 8217 - Specification of Marine Fuels Clause 5, which requires:

5.3 Fuels shall be free from any material that renders the fuel unacceptable for use in marine applications.

5.5 The fuel shall not contain any additive at the concentration used in the fuel, or any added substance or chemical waste that:

a) jeopardizes the safety of the ship or adversely affects the performance of the machinery.
b) is harmful to personnel.
c) contributes overall to additional air pollution.

In case vessel has received fuel oil from suspect ports, some of the actions that owner/operator and vessel ca take to protect and minimize damage to machinery are as follows:

- In case vessel has received fuel oil at bunker ports suspected to be supplying contaminated fuel oil, carry out additional analysis such as total acid number, acid extraction test and reserve stability test.
- Drip samples to be collected at vessel's manifold and landed for shore analysis. Additional sample to be retained on board.
- As far as practical, keep reasonable amount of good fuel oil (from previous supply and already for use) so in case need arises, vessel can use this fuel oil or mix this fuel oil with newly supplied fuel oil to reach a nearby port. Before mixing two fuel oil supplied from difference source, compatibility test to be carried out.
- Monitor M/E and A/E performance closely for any negative effect of contaminated bunker on fuel pump and fuel injectors.

Contributed by : Sreejith Chandrasekharan (C/E) on MT Leo

IMPORTANT ADDITIONS TO OCIMF SIRE VIQ 7

As you are all aware that the SIRE VIQ 7 has come into force w.e.f 17th Sept 2018. VIQ7 brings along with it various changes to the previous inspection process under VIQ 6. Below are the salient changes to VIQ 7:-

The Competency of each crew members is also now in question to demonstrate their knowledge and familiarity.

- ❖ The wording of each question has now been changed to confirm that not only the various procedures are in place but also the fact that the crew on board are well aware of these procedures and can show their familiarity with the procedures and the working of the equipment.
- ❖ The Competency of each crew members is also now in question to demonstrate their knowledge and familiarity.
- ❖ The Old Chapter 7 – Structural Condition is now merged with the new Chapter 2.
- ❖ The Old Chapter 10 - Communication has been merged with the Chapter 4 – Navigation.
- ❖ New Chapter 7 has been added to cover Maritime and Cyber Security.
- ❖ New regulations and certification is now incorporated in the VIQ 7 with detailed notes for – ECDIS, BNWAS, SEEMP, Ballast Water Management System and Mooring Guidelines.
- ❖ New SOLAS regulations for ships constructed after 2016 and 2017 incorporated in the questionnaire.
- ❖ Various old VIQ question numbers have been now clubbed under one question to re-organize the new questionnaire.
- ❖ There are new additions in the notes which the vessels are already following and are part of existing regulations and have been now included in the guidance notes.

➢ **The following important additions have now been included in the SIRE VIQ 7:-**

Chapter 1. – General Information

- 1.14 - OCIMF HVPQ questionnaire to be reviewed for the accuracy of its data.
- 1.15 - Engineered operations (internal re-circulation, discharging / back loading) are not allowed to change the type of operation the vessel is carrying out during inspection.
- 1.26 - Class Survey Records – dated not more than 15 days prior to the inspection.

Chapter 2 – Certification and Documentation

- 2.1.2 – CSR revision and updated document to be issued not later than 3 months from the date of change.
- 2.1.13 - CLC for crew repatriation insurance as applicable.
- 2.1.15 – Ballast Water Management Certificate.
- 2.1 – Electronic certificates now being permitted depending on the Administration.
- 2.5 – Internal Audit - last 2 audits or in the last 9 months under the present management will be reviewed.
- 2.6 – Master's SMS review to have input from Ship's Management Team.
- 2.10 – e-ORB logs can now be accepted. Depending on Flag State approval of the system.

Chapter 3 – Crew Management

- 3.7 – ECDIS certification, changes to guidance notes.
- 3.8 – Unannounced Alcohol Test to be initiated by the company unless alternative means that Master is tested on an un-announced basis. Frequency of on-board un-announced testing less than the shortest contact period.

Chapter 4 – Navigation and Communications

- 4.4 – Fire and Safety rounds recorded in log book – staff conducting rounds aware of their duties. Rounds should include physical check of loose equipment, doors, fire and security risk.
- 4.8 – Procedures for testing of Navigation lights and actions in event of failure.
- 4.17 – Company SMS must clearly state what is the primary means of Navigation regardless of Form E.
- 4.23 – Radio logs to mention period and reason when watch discontinued.

Chapter 5 – Safety Management

- 5.1 – Officer's familiarity on the Risk Assessment process.
- 5.2 – Permit to Works addition of – gas testing/equipment and working on deck during adverse weather.
- 5.6 – Smart watches / Fitness bands used by crewmembers will be an observation.
- 5.8 – Evidence that Near Miss reports should be generated by all ranks and not by just senior members or one department.
- 5.10 – Self closing doors operational status when air conditioning system on part re-circulation to be checked.
- 5.26- Welding Equipment regulators to be inspected annually and replaced or refurbished on 5 yearly basis.
- 5.30 – Propeller guards for rescue boat propeller as per CFR.
- 5.35 – CO2 system pins in the activation assembly should be left in / out? (Depending on the system should be - Ready for immediate use)
- 5.43 – Minimum of two two-way portable radiotelephone apparatus for each fire party.

- 5.48 - Sample arrangements; cargo and bunker samples storing arrangement. Company policy on disposal of samples to be prepared.

Chapter 6 – Pollution Prevention

- 6.17 – 15ppm bilge alarm data recorder to store data for 18 months even if the bilge alarm is replaced.
- 6.21 – Ballast Treatment System; officer's familiarity maintenance and PMS.

Chapter 7 – Maritime Security

- 7.4 – Security related equipment inspection and maintenance records – Razor wires / barbed wires, water cannons, security locks, lockable hatches and stairwells.
- 7.8 – Security related information incorporated in the passage plan.
- 7.10 – Procedures for vessel hardening.
- 7.14 – Cyber security plan and procedures part of SMS. Additionally Cyber Response Plan on-board.
- 7.15 – Crew aware of company policy on control and access of ship IT/OT system.
- 7.16 – Policy and guidance on use of personal devices on board.
- 7.17 – Policy on use of personal devices in familiarisation checklist.

Chapter 8 – Cargo and Ballast Systems - Petroleum

- 8.11 – Regular testing of cargo and ballast tank valves – Opening closing timings.
- 8.13 – Comparison of temperature and pressure sensors against MMC / local gauges.
- 8.19 – Tankers constructed after 1 Jan 2017 – secondary venting – capable of preventing over pressure and under pressure.
- 8.30 – Safe entry requirements in the IG room (s) (New Vsl – 01 Jan 2016)
- 8.31 – Over pressurisation of the cargo tank and procedures to prevent it during purging line blowing and pigging.
- 8.52 - Officers aware of the POAC's (Person of Overall Advisory Control) necessary qualification and experience.
- 8.55 - Chafing covers for synthetic mooring passing thru fairleads during STS operations.

Chapter 9 – Mooring

- 9.2 – Mooring Ship Management Plan
  - The MSMP will consist of the following:
    - Part A – General ship particulars
    - Part B – Mooring equipment design philosophy
    - Part C – Detailed list of mooring equipment
    - Part D – Inspection, maintenance and retirement strategies
    - Part E – Risk and change management, safety or personnel and human factors
    - Part F – Records and documentation
    - Part G – Mooring System Management Plan Register (MSMPR)
- 9.3 – Line Management Plan. It is recommended that ship operators develop a programme for line maintenance, inspection, retirement and end-to-end policy.
- 9.4 - Operators policy on line inspection, retirement and wear zone management outlined in the Line Management Plan?
- 9.5 - The mooring lines fitted should have a Line Design Break Force (LDBF) of 100-105% of the Ship Design MBL (MEG 4 - 5.2.1).
- 9.8 – Permanent markings of Snap back zones to be removed. Areas of elevated risk to be marked.
- 9.11 - For split drums - Guidance on the minimum number of turns should be obtained from the line manufacturer and documented in the Line Management Plan. If guidance is not available, a minimum of eight turns should be used.
- 9.24 – Crew aware of the Limitations of the anchor windlass system.

Chapter 10 – Engine and Steering Compartments

- 10.10 – HAZID – Hazard Identification Assessment for change over procedures to LSFO.
- 10.11 – Class approved Exhaust Gas Cleaning System – Officer familiar with system requirements and is this documented.
- 10.24 - Insulation matting should conform to a minimum 1000V (depending on the system)
- 10.44 – Safe operating requirements of any Water Tight Doors.

Chapter 11 – General Appearance and Condition

- 11.5 – Piping permanently fitted with insulation - Maintenance plan in place to ascertain the condition of the piping.
- 11.7 - There is no requirement for ballast tank vents to be fitted with flame screens.

❖ **<u>All officers on board must go through the changes as all SIRE Inspections hence forth will be based on VIQ 7.</u>**

EGC SOx Scrubber

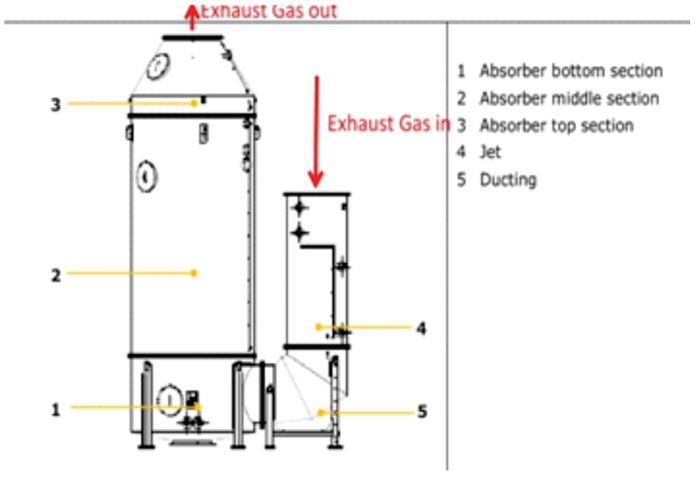
IMO's Marine Environment Protection Committee (MEPC) held its 72nd session and confirm introduction of global (non ECA area) FO Sulphur CAP to 0.5% with effect from 01st January 2020 aimed at emissions reduction from maritime industry. Sulphur CAP in ECA area remains unchanged at 0.1%.

Ship owner / Operator can use one of the following solutions to meet the new Sulphur CAP requirement:

- Use of distillate fuel oil
- Use new compliant fuel (low Sulphur FO containing ⩽0.5% S)
- Use Liquefied natural gas as marine fuel
- Use convention FO containing ⩽3.5% S with SOx scrubber.

Each solution needs to be analyzed for CAPEX and operating cost to decide on most suitable solution for the given vessel. Vessel fitted with scrubber as Sulphur abatement technology can continue to burn FO containing ⩽3.5% S and reduce SOx emission to ⩽0.5% and thus comply with global Sulphur CAP.

We are currently managing EGC SOx scrubber installation project for sixteen (16) vessels belonging to our fleet. The new vessels delivered last month are already equipped with SOx Scrubbers



Owner can chose scrubber with 3.5%S to 0.5% S or 3.5%S to 0.1%S specification. Vessel fitted with scrubber meeting 3.5%S to 0.5% S specification can burn FO with 3.5%S globally except ECA area where vessel need to burn FO with S% not exceeding 0.1%S. Vessel fitted with scrubber meeting 3.5%S to 0.1% S specification can burn FO with 3.5%S globally including ECA area, subject to compliance with port regulations.

Certain ECA areas such as Black Sea, Germany, Belgium have imposed ZERO effluent emission policy that means scrubber wash water cannot be discharged into sea when vessel is operating at ports within their jurisdiction.

Three types of common SOx scrubber system are presently available in the market: Open loop, Close loop and Hybrid wet scrubbers. We have opted to use open loop type.

Open Loop Wet Scrubber – Engine exhaust gas is passed through a spray of sea water which removes the Sulphur oxides. Effluent wash water is discharged into sea and quality of discharged water is monitored. This system is most suitable to operate at open sea.

Some of the important aspect to be considered for scrubber retrofit are summarized as below:

AA. SOx Scrubber Selection:

Scrubber of several makes & model are available in the industry. It is extremely important to select right scrubber that is best suited to vessel's requirement and thus optimize the investment. Factors such as vessel's FO consumption pattern, trading pattern, on board power management, space constraints, cost of power operating the scrubber system, CAPEX, scrubber OPEX and so on to be considered to select the right scrubber and thus optimize the investment.

BB. Shipyard Selection

Scrubber retrofit involves a huge task coordination between all stakeholder, large material movement, installation, pre-commissioning checks, commissioning, certification and so on. Selecting the right shipyard capable of SOx scrubber retrofit is very crucial to ensure project cost and time are kept within budget.

CC. Logistic Management

Scrubber manufactures are likely to source various components from several vendors from different geographical locations and these components need to be transported to shipyard. Advance planning, selecting right logistic partner, right mode of transport, follow up with documentation required by custom clearing agent, good coordination with all parties involved helps minimize logistic cost. Timely delivery of the goods to shipyard facilitates shipyard to pre-fabricate / assemble several components ahead of vessel's arrival at yard and thus minimize vessel's downtime.

DD. Pre-Engineering Drawings

A job well begun is half done. Select right partner to carry out 3D scanning of the spaces on board and prepare engineering drawing for class review. Detailed engineering drawing helps shipyard develop fabrication drawings and pre-fabricate several pipes, fittings, foundations, etc and thus reduce the scrubber installation time, which means keeping vessel out of business for minimum period.

EE. On board installation supervision

Select skilled and well experienced team to supervise on board installation of scrubber, carry out pre-commissioning survey together with yard personnel & scrubber supplier, and attend commissioning of the scrubber.

FF. Class Approval

Classification societies are offering optional class notation for EGC scrubber system. Coordinate with all parties and liaison with class surveyor for engineering drawing approval, on board inspection, commissioning verification and certification. It is important to manage information flow among all stakeholders in timely manner and efficiently to ensure all sub tasks are completed on time which will help avoid project cost and time overruns.

GG. Commissioning and Certification

Thorough sea trial to be conducted preferably operating Main Engine to the design load to assess scrubber performance. Scrubber commissioning trial to be conducted with yard personnel, scrubber supplier, owner representative and class surveyor (in case required to issue class notation). All required data to be collected and stored for future reference. Obtain new main class certificate from class with scrubber notation printed on it.

HH. Planned Maintenance System and Critical Spare Parts

Various sensors such as Gas sensor, pH sensor likely require periodical calibration by maker's approved competent person. Include these jobs in Planned Maintenance System and vessel to carry critical spares on board at all times.

Contributed by : Mr. Alok Misra (Technical Manager)

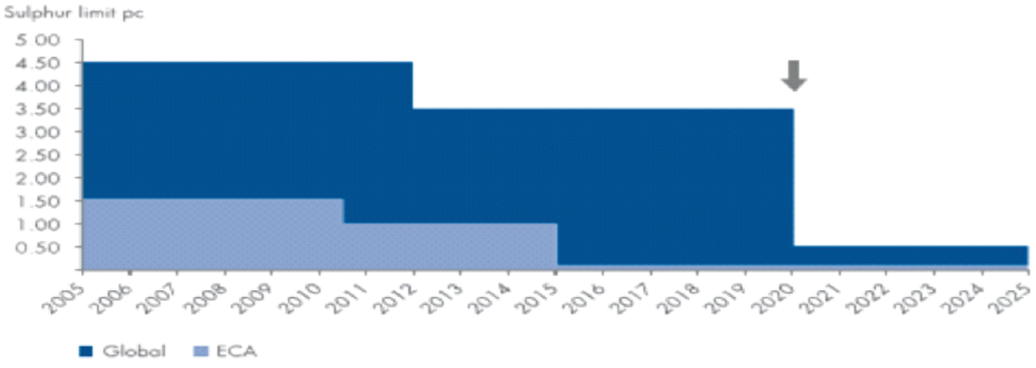
Products Useful For The Body

IMO 2020 Compliance Conundrum

At MEPC 72 in April 2018, draft amendments to MARPOL Annex VI for a prohibition on the carriage of non-compliant fuel oil for combustion purpose with a sulphur content exceeding 0.50%, excluding for ships which are provided with exhaust gas cleaning system (EGCS), were approved.

The amendments to MARPOL Annex VI are expected to be formally adopted at MEPC 73, which will be held in October 2018 and enter into force on 1 January 2020.

Under the new global cap, ships will have to use marine fuels with a sulphur content of no more than 0.5% S against the current limit of 3.5% S in an effort to reduce greenhouse gas emissions. The Emission Control Areas (ECAs) will remain at the 2015 standard of 0.1% S content.



IMO's Sub-Committee on Pollution Prevention and Response (PPR) is developing guidelines to support the implementation of the 2020 sulphur limit and ensure appropriate guidelines can be considered and issued in good time. These guidelines will cover a range of issues related to implementation, including ship planning for implementation; verification and control issues; and fuel oil non-availability reporting.

Once the rule is implemented, the shipping industry will have three options to choose from:

- Switching to LSFO, which are costlier than dirty fuels – HFO.
- Using liquefied natural gas (LNG) as an alternative for dirty fuels after costly infrastructural changes
- Installing costly scrubbers on the ship to cleanse sulphur from dirty fuels.

The survey result confirms that the shipping industry is going to witness strong demand for LSFO.

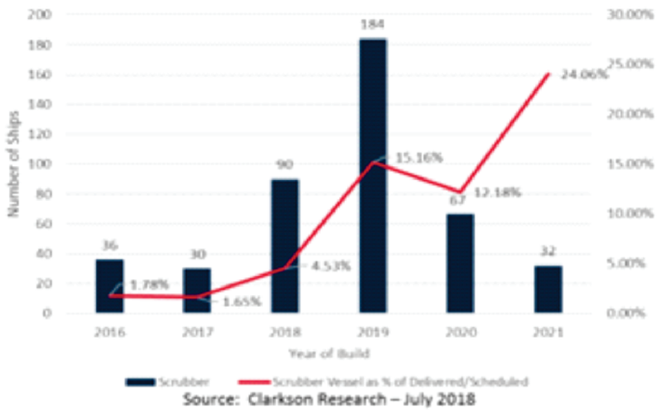
For ship owners planning to switch to LSFO, they must plan around fuel availability, given the possibility that some ports may be unable to meet the demand from the industry. Also, the actual switchover process from heavy fuel oil (HFO) to new low-sulphur alternatives will need careful management. There are also implications for the selection of lubricants. Operators will need to ensure that their fuel tanks do not contain high-sulphur HFO by the IMO deadline. Without careful preparation, operators may jeopardise their sulphur compliance, which carries the risk of costly fines.

To ensure compliance, the vessel operators should work with suppliers who have adopted the latest ISO 8217:2017 fuel standard and have the proven technical expertise to help them navigate the upcoming changes.

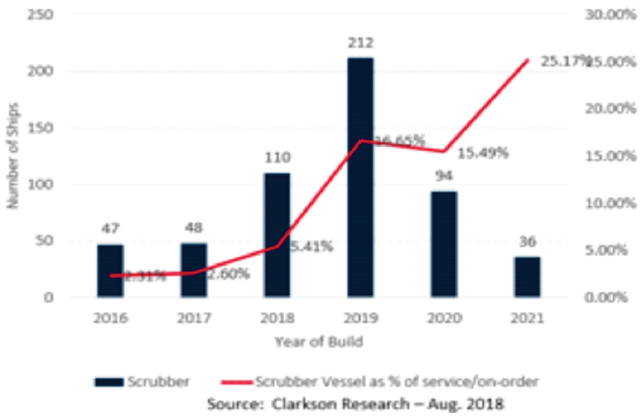
SOx Scrubber Adoption Trends

The marine market has witnessed momentum building on the implementation of exhaust gas cleaning systems.

Adoption Summary	Apr-18	May-18	Jun-18	July-18	Aug-18
New Building	293	338	422	487	557
Retrofit	169	169	175	254	344
Total	462	507	597	741	901

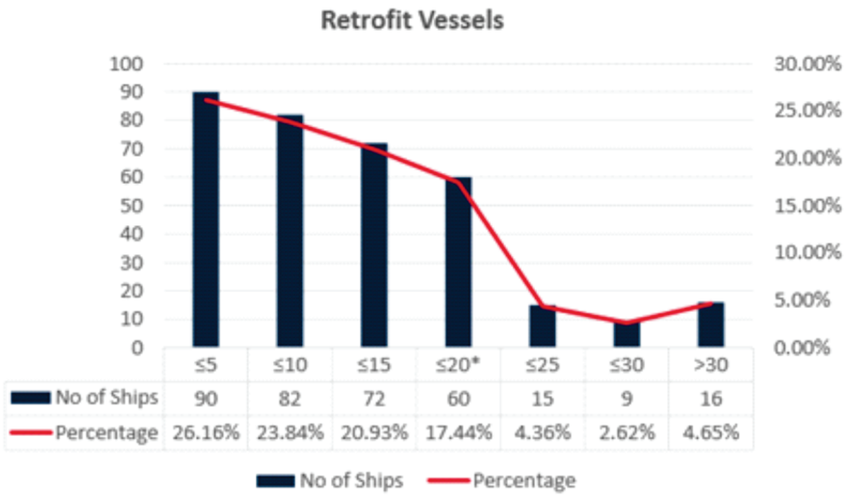


Source: Clarkson Research – July 2018



Source: Clarkson Research – Aug. 2018

Retrofit Ship Age Profile
(Clarkson Research – August 2018)



Goodwood Ship Management is currently operating two new builds with scrubbers installed for air emission compliance and Company has planned to retrofit 22 vessels in 2019. Dry dock spaces and scrubbers have already been blocked to ensure timely compliance. For other vessels in its fleet, Goodwood Ship Management plans to adopt the 1st option regarding switching to LSFO.

Contributed by: Mr. Sanjeev Bhandari HSQEEn Department

DHT Jaguar encounters an Iceberg while rounding Cape Horn

It was a cold chilly winter morning whilst the vessel was en-route to Angra Dos Reis from PAL USWC. Many days had passed without any co-travellers in the vast Pacific Ocean, other than the eternal companion " Rough weather". Sighting of Cape Horn was a welcome sight which brought some excitement to the otherwise sombre lives of the crew on board DHT Jaguar. The South Pacific Ocean is known for it's bad weather and Icebergs. The journey through Drake Passage was uneventful but beautiful. Warnings of possible encounters or sightings of Iceberg were received via EGC after passing Drake Passage. Vessel received Iceberg warning on NAVTEX followed by EGC, eventually sighted the iceberg and took all precautions while transiting Iceberg prone area.

Contributed by : Capt. Santulan Srivastava

Helicopter Operations at Sea: What you should know

Helicopter operations are commonly used on ships for crew changes, Pilot transfer (embarkation and disembarkation), emergency situations as MEDEVAC (medical evacuation) and/or rescue. They are considered to be complicated high risk operations, as they involve personnel / equipment and crafts other than vessel's and they demand accuracy, training and clearly established procedures. The officers and crew members associated on scene for these operations should show high level of situational awareness and good seamanship.

When it comes to these challenging operations, the following issues are of outmost importance:

#1 Procedures

The vessels' operators/ ship owners and every vessel should be able to respond to the requirements of the ICS Guide related to Helicopter operations. Related checklists, reports, standard communication expressions related to helicopter operations must be used.

#2 Safety precautions

Helicopter operations must not be permitted over the tank deck unless all other operations have been suspended and all cargo tank openings closed. The area should be unaffected by flue gases, readily accessible with a clear flight path along the ship's side, capable of being illuminated by downward facing floodlights, without obstructions such as masts and all moving parts secured.

#3 Equipment

Vessels, have to be equipped with extra firefighting equipment dedicated to Helicopter operations, in conjunction with lifesaving or operational equipment and crew should never compromise on wearing proper PPE and of staying clear from the area of operation. Landing or winching areas should be appropriately established and maintained in order for safe operations to be conducted.

#4 Communication

It is vital for these operations, that a good communication path has been established between helicopter and vessel's bridge team throughout the operation. The Course to be steered and the Speed to be maintained by the ship during the operation, the intended position of operation, the ETA to that position, the desired Landing or Winching Area and current weather conditions are the most important information to be passed to the pilot of helicopter.

#5 Weather Forecast/Conditions

Weather plays a crucial role to these operations. Vessel should review the weather forecast and especially wind speed and direction; visibility; sky condition; rain, fog, drizzle and snow conditions and sea state. All relevant information should be passed to Helicopter Providing Service Company and/or to the Helicopter itself.

#6 Training & Familiarization

A sufficient number of crew members should be trained in helicopter operations. Roles and responsibilities should be clearly mentioned in Muster list and drills to be contacted in appropriate intervals with the use of relevant equipment. A safety check-list should be used as the basis in preparing the ship/helicopter operations. It must be ensured that the Deck Crew are fully familiar with equipment for winching and landing operations and are trained and regularly drilled in the tasks required of them in both routine operations and emergencies.

#7 Contingency planning

A contingency plan should be devised to minimize the effect of a helicopter crashing onto the ship/or in the sea nearby and seafarers should be trained in the operation of the plan. Fire party, rescue party, readiness of means for recovery from water, are some of key factors that should be addressed in a proper shipboard contingency plan. Preparedness of ship's crew to perform safe and short time landing and/or hoisting to and from the vessel is important.

#8 Roles and Responsibilities

The ship's Master is ultimately responsible for the safety of his ship. If there is any doubt whether the proposed helicopter service meets the requirements of his shipping company concerning safety, liability, indemnity and insurance, he should seek company advice before operations commence. He may stop or curtail the operation at any time for reasons of ship safety. In this event, the helicopter must move clear of the ship immediately.

HOW VISUAL PERCEPTION AFFECTS DECISION MAKING AT SEA

How we see, how we process multiple Information sources, such as alarms and bridge sensors and how perception is affected by other factors such as night conditions, fatigue and movement, can be proven crucial factors for the safe operation of a ship and the safety of seafarers in general.

HOW WE SEE

Limitations affecting vision

- ü **Our eyes are fully adapted to the night vision only after 30 minutes in the dark**
- ü **We can only track a maximum of 4 moving objects**
- ü **Even brief exposure to bright screens compromises your night vision**
- ü **Stress can lead to risky decision making in emergency situations**
- ü **More 'severe' & 'very severe' maritime incidents occur at night than during the day**

HOW TO IMPROVE

vision onboard		decision making onboard
Don't work alone on safety critical activities. Check with a mate and have one person lead on each element.	1	Have a culture on board that promotes questioning of decisions
Lift your head when scanning the horizon.	2	An explicit layout of the hierarchy on board clarifies where every crew member needs to report.
Make sure that you are exposed to at least some daylight daily.	3	Have procedures in place and available for easy reference.
Use multiple clues to judge size, distance and motion.	4	Remain calm, trust your expertise and the ships protocols in emergency situations.
Use a red light zone before entering the bridge on all ships at night.	5	Two heads are always better than one and decisions should be made by groups.
Wear red lensed glasses before taking over shift.	6	Double checking the data with another member of crew.
Regulate your use of torches and aim for better light discipline by crew.	7	A balance between use of electronic instrument onboard and seafarers' experience is required.

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