2020 Sulphur cap

Status review

London, 17th Oct 2019
Resolution MEPC.176(58) ---- EIF: 1/07/2010

The sulphur content of any fuel oil used on board ships shall not exceed the following limits:

0.50% m/m on and after 1 January 2020.

Resolution MEPC.305(73) ---- EIF: 1/03/2020

The sulphur content of fuel oil used or carried for use on board a ship shall not exceed 0.50% m/m.
Switching fuel
Apparently is very simple, but
is it really like that?

Alternative compliance options

Time is sufficient?
3.5% S fuel is on board

0.5% S fuel is ordered

Timing of fuel supply!

Start reducing fuel stocks

Stock of 3.5% S fuel is reduced to enable Transfer / Debunker

Today:
fuel systems possibly not suitable to future fuels or to multiple fuels (Compatibility issues)

Systems re-design:
Segregation?
Additional tankage?
Special procedures?

Upgrade planning:
Drydock?
Yard?
Harbour?
During navigation?

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3.5 % S fuel is on board

Start reducing fuel stocks

Stock of 3.5 % S fuel is reduced to enable Transfer / Debunker

Transfer fuel / Debunker

Fuel systems possibly not suitable to future fuels

Systems re-design: Segregation ? Additional tankage needed ? Special procedures ?

Upgrade planning: Drydock ? Yard ? Harbour ? During navigation?
Empty tanks are available

Warning! SOLAS Reg. II-1/26.11 requires redundant service tanks

Fuel supply timeline

Required time? Off-service?

Tank cleaning/flushing

Clean tanks are available

On-board systems can deliver 0.5% S fuel to consumers

Crew training

On-board systems and personnel are capable of delivering 0.5% S fuel to consumers

0.5% S fuel is bunkered

Fuel supply system modification

Class survey and testing!
Suitable 0.5 % S fuel is available on board. On-board systems and personnel are capable of delivering 0.5 % S fuel to consumers. Clean tanks are available. Crew training.

Switch over to 0.5 % S fuel on 01/01/2020. 0.5 % S compliance.
Most of the steps highlighted above are addressed in the available Guidelines either from IMO:

- Resolution MEPC.320 (74) : 2019 GUIDELINES FOR CONSISTENT IMPLEMENTATION OF THE 0.50% SULPHUR LIMIT UNDER MARPOL ANNEX VI
- MEPC.1/Circ.875: GUIDANCE ON BEST PRACTICE FOR FUEL OIL PURCHASERS/USERS FOR ASSURING THE QUALITY OF FUEL OIL USED ON BOARD SHIPS

or from the industry:

IMO Circular Letter 4020: JOINT INDUSTRY GUIDANCE: The supply and use of 0.50% sulphur marine fuel
The process may be guided and documented by a Ship implementation plan, according to:

MEPC.1/Circ 878 Guidance on the development of a ship implementation plan for the consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI

and IACS Members are assisting the shipowner in their preparation.
However, the above mainly concern the preparation to the one-time change for the 1-1-2020 deadline, but ships will continue to operate after 1-1-2020 in a somewhat new scenario:

• Stability, and compatibility of fuels may require to be checked regularly

• Compliance with Sulphur limit may require to be checked regularly

• What about handling tanks and systems after bunkering non-compliant fuel (either due to unavailability or by supplier mistake)?

Operational procedures and/or contingency measures are to be made available for everyday handling of fuel.
What after 1/1/2020?

New IMO measures on safety of fuel?

Bunkering

Compatibility check

Mix / Change over procedures

Contingency measures

Compliance check

01/01/2020

...
Other aspects to be considered:

• Change over between incompatible batches of fuel will imply some commingling in the service/daily tanks and in the piping systems

• Change over will be required between 0.50 % S and 0.10% S on entering/exiting ECAs

Will these operations cause problems?

Are solutions available?

Experience is still to be gained !!!
IACS also identified an issue that requires clarification:

SOLAS II-1/26.11 Requires TWO service tank for each type of fuel used on board, each having a capacity for 8 h of operation.

IACS considers that 0,10% S and 0,50% S fuel are not different types provided the viscosity is similar and they can be used interchangeably.

So two tanks, respectively filled with HSHFO and LSHFO are regarded to comply with the SOLAS requirement and also the MARPOL requirements for operation in SECA:

- HSRMF
- LSRMF

Each 8h operation M/E
However, a ship which operates D/G with distillate fuel, is also required to have two service tanks for distillate fuel. Two distillate fuel tanks, respectively filled with HSDMF and LSDMF, are regarded to comply with the SOLAS requirement.

IACS included in UI SC123 the following potential equivalent arrangement with two DMF tanks and one residual fuel tank (HSRMF/LSRMF) when main engines that can operate also on distillate fuel.

However, since this arrangement has not been agreed at MSC 101, it is presently unclear how existing ships could comply with the SOLAS requirement.