

S.S. "ZAMZAM".

Plan shewing proposals to convert Nos. 5 & 6 holds below the lower deck into fresh water tanks, and No. 2 hold, also below the lower deck, into fuel oil tanks, submitted by the Alexandria Surveyor.

It is submitted the Surveyor be informed that the scantlings and arrangements as shewn and amended on the plan will be approved, provided they be carried out to his satisfaction.

He should also be informed as follows :-

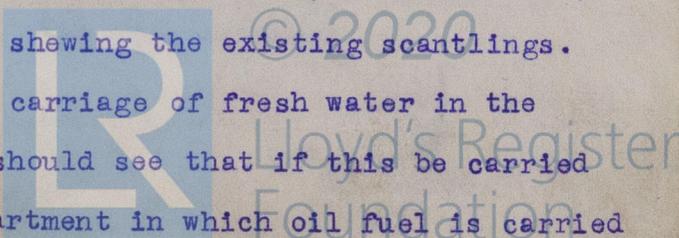
Fresh water tanks.

The scantlings of the side frames are such as could be accepted without the fitting of the channel struts proposed, and as these struts do not provide adequate stiffening to the tunnel and centre line bulkhead it is suggested they be omitted. If the centre line bulkhead is perforated so that it will not be subjected to pressure, the plating may be reduced to .30 in thickness, and the scantlings of the stiffeners may be as proposed. If, however, it is desired to adhere to the proposal to make this bulkhead watertight, the stiffeners will require to be increased to 12" x 3 1/2" x 3 1/2" x .48/.60 channels, or equivalent.

As the distance between the tunnel top and the quarter girder is comparatively small and a centre line bulkhead is to be fitted, ^{the} deep quarter wash plates ~~need not be~~ ^{by the rules} required on account of the tank at times not being completely filled, ^{need not be fitted.} In view of the length of the compartment, ^{however} an athwartship bulkhead should be fitted.

No particulars are available in this Office of the scantlings of the tunnel and athwartship bulkheads which form the boundaries of these tanks, and in order that the question of the additional stiffening to these parts may be considered, a sketch should be submitted shewing the existing scantlings.

With regard to the carriage of fresh water in the double bottom, the Surveyor should see that if this be carried in a tank adjacent to a compartment in which oil fuel is carried



a cofferdam should be fitted separating these spaces, as required by Section 20C, Paragraph 1(d).

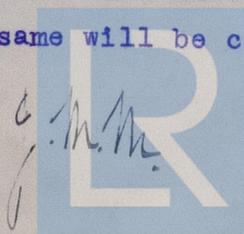
Oil Fuel.

It is assumed that the flash point of the oil will be above 150° F., and the proposals have been considered on this basis. Instead of horizontal channel stiffeners, a deep girder will require to be fitted supporting the centre line and transverse bulkheads, as shewn on the plan, and the upper horizontal ~~girder~~ ^{channel} can be omitted. A deep quarter wash plate should be fitted, as required by the Rules for oil fuel bunkers. All single riveted butts, seams and boundary angles (both flanges) of the bulkheads and decks forming the boundaries of the tanks will require to be electrically welded to the Surveyor's satisfaction. The divisional transverse bulkhead, also the centre line bulkhead, may be single riveted without reinforcement to the riveting by electric welding.

It is observed that expansion trunks, 3 feet in diameter, extending to the upper deck, are to be fitted. It is assumed, however, that the oil will ^{not} be carried in these trunks above the level of the second deck, and the scantlings have been dealt with on this basis. If, however, oil is to be carried in these trunks to the level of the upper deck, thereby subjecting the boundaries of this tank to a head to this level, the stiffening of the boundary bulkheads will require to be increased and the third deck beams additionally stiffened.

Gutterways should be fitted on the tank top at the aftermost and foremost bulkheads, and if cargo is to be carried in Nos. 1 or 3 holds, sparring or lining should be fitted on the bulkheads.

A plan should be submitted shewing the existing scantlings of Nos. 61 and 33/40 bulkheads, when the details of the additional stiffening required on the same will be considered.



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MEMO.

As the upper deck is sheathed the question of extra stiffening on account of the fitting of the deep tanks does not arise.

J.M.M.

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It is submitted the Alexandria Surveyor be informed that provision should be made for isolating the fresh water pipes and fittings from those which may contain oil or oily water; for controlling the suction valves at the deep oil fuel tanks as per Section 20D, Clause 6(b), and for the remaining requirements of Section 20 to be complied with so far as they are applicable.

J.R.B.

[Signature]

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