

88. "Scandia" 462.75' x 60.0' x 37.17' D.S.D.

Letter has been received from the Copenhagen Surveyor, enclosing particulars on Report C11 for the assignment of freeboard under the Loadline Convention regulations.

This vessel, built in 1918, is classed " + 100A1 Shelter dk with freeboard. Carrying petroleum in bulk. longitudinal framing".

In several particulars the vessel falls considerably short of the requirements for minimum tanker freeboard, the most serious being

1. The Protection of machinery openings: These are protected by casing only, the thickness of the plating being .32" with stiffeners angles 4" x 3" x .34" spaced 24" apart. Casing somewhat protected by side houses completely. Rule xcv of the Convention requires the casings to be protected enclosed by a poop, or bridge of standard height, or by a deckhouse of equal height & strength. The scantlings of the end bulkheads of the structure would be: plating .44" with stiffeners 10 x 3 1/2 x .46 B.A. spaced 30" apart.

Other deficiencies are

2. Forecastle. The Convention requires the provision of a forecastle of standard height, having a length equal to .07L. In the vessel the forecastle is considerably longer (i.e. .10L) but is 6" below the standard height of 7'-6"

3. Ventilators on the freeboard deck are all exposed

9" angle 24"

4. Only 3 bulkheads extend to the shelter dk ~~on~~ outside the expansion trunk, which extends, however, to that deck.

5. Sills of companionways and doorways on freeboard deck are less than 24" high.

6. Scantlings of gangway which extends between the ~~to~~ midship deckhouse and the after casing are below "Instructions requirements, & means of access to crews accommodation is fully exposed.

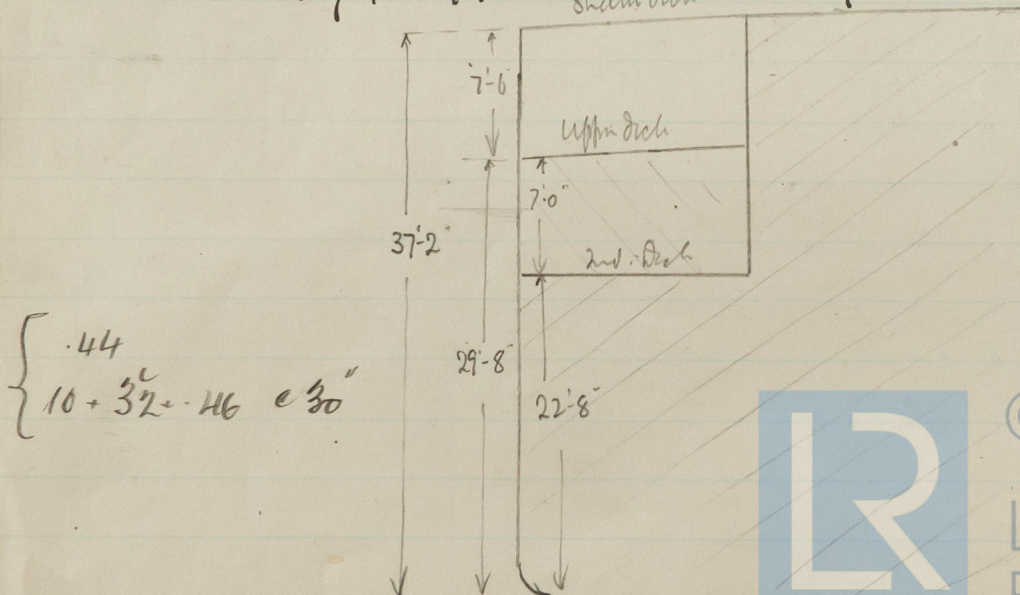
The present (1906) Freeboard from top of deck is $11'-1\frac{1}{2}"$

The Convention freeboard as a cargo vessel is $10'-11\frac{1}{2}"$

The Convention freeboard as a tanker is $9'-8\frac{1}{2}"$

The vessel is a sister vessel to the "H. M. Flagler" to which ^{U.S.} freeboards were assigned by the American Bureau, and accepted by this Society's American Committee. The freeboard assigned was $10'-2\frac{1}{2}"$. This vessel has no fore-castle. The casings in this vessel were similarly exposed, but have been ^{additionally} stiffened by fitting intermediate channel stiffeners $7 \times 3\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{1}{32}$ at the forward end of the boiler casing, and $5 \times 3\frac{1}{2} \times 3\frac{1}{8}$ reverse ~~frames~~ angles to the existing stiffeners on the exposed casing sides. The forward end of the passageway between the boiler casing and the quarters aft has been closed by a $\frac{1}{2}"$ steel plate + W.T. door. Coaming of all doors on shellin deck increased to 24". It will be seen that only about 6 inches deeper loading were permitted by the A.B. in this case.

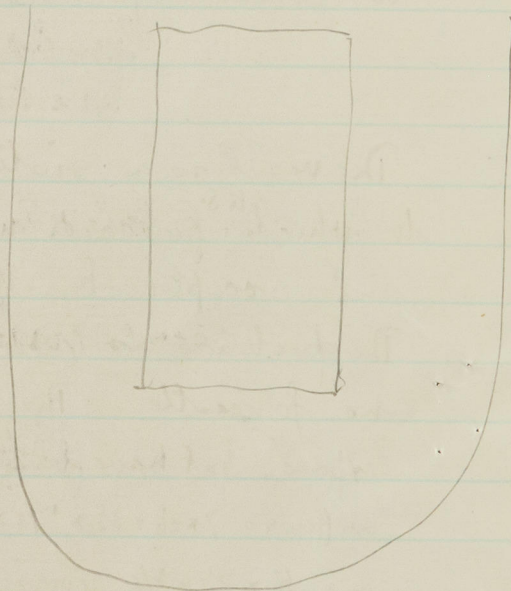
The scantlings are generally suitable for full tanker loading, the I/y ^{shellin deck} being 58% above the L.L.C. committee's requirements for a cargo vessel.



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"Scandia"

As a Freighter (minimum)

Fbd.	91.05 ✓
Corrected for coefficient	100.46 ✓
Correction for depth	+ 19.11 ✓
	<hr/> 119.57 ✓
Correction for surface tension $42.0 \times .0515 =$	- 2.16 ✓
	<hr/> 117.41 ✓
Shen correction	+ 13.49 ✓
	<hr/> 130.90 ✓
Round of beam correction	+ .53 ✓
	<hr/> <u>131.43 ✓</u>

$$\begin{aligned} D &= 37.22 ✓ \\ P.H. &= 10.95 ✓ \\ 4 \overline{) 26.27} &✓ \\ 6.57 &✓ \end{aligned}$$

$$\begin{aligned} \text{Summer fbs.} &= 131.43 ✓ (= 10' - 11\frac{1}{2}") \\ \text{Tropical} &= 124.86 ✓ \\ \text{Winter} &= 138.00 ✓ \\ \text{Winter North Atlantic} &= \end{aligned}$$



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Scandia

As a Tanker (minimum)

Fbd.	78.39 ✓
Corrected for coefft ($\times \frac{.821 + .68}{1.26}$)	86.52 ✓
Correction for depth	+19.11 ✓
	105.63 ✓
Correction for superstructure $420 \times .0721 =$	- 3.03 ✓
	102.60 ✓
Shear correction	+ 13.49 ✓
	116.09 ✓
Round beam correction	+ .53 ✓
	<u>116.62 ✓</u>

$$\begin{array}{r}
 D = 37.22' \\
 Fbd = 9.72' \\
 4 \overline{) 27.50} \\
 \underline{6.87} \\
 4.63 \\
 \underline{11.50}
 \end{array}$$

Summer fbd. =	116.62 ✓	(= 9'-8½")
Tropical " =	109.75 ✓	
Winter " =	123.49 ✓	
Winter North Atlantic =	128.12 ✓	



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