

17 OCT 1935

NP Main Boiler 250 t/hp
NP Aux Boiler 120 t/hp

System for circulating superheaters

1 When raising steam at main boiler.

Steam at 120 t/hp available at auxiliary boiler

Principle:- Any harbour requirements to be supplied by aux boiler direct. The minimum quantity of steam required for circulating thro the superheater is drawn off separately from the aux boiler & after passing thro the superheater & in turn, the de-superheater at the main boiler is diverted to Aux. Condenser via a protection nozzle. Steam is raised in the main boiler by its own fires working quietly under natural draught. In this scheme the flow passes through the boiler superheaters in parallel, from thence passing to aux. condenser. For raising steam on both boilers simultaneously that amount of steam required for one boiler must be drawn off from the aux boiler, an additional protection nozzle being supplied to pass the extra quantity required. Minimum flow thro superheater = 2000 t/hp per boiler vs 4000 t/hp if raising steam simultaneously on both boilers.

Operation:- Isolating valves A are kept shut. De-superheater inlet valves at boiler are kept open; all other valves are assumed closed. Open circulating valve or valves B on boiler tops & nozzle control valve or valves C fully. This will permit the desired flow to circulate thro superheaters or superheaters. No other valves need be touched

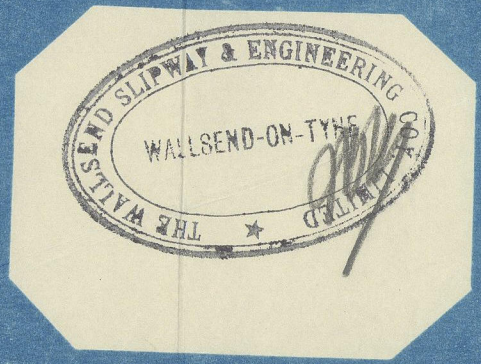
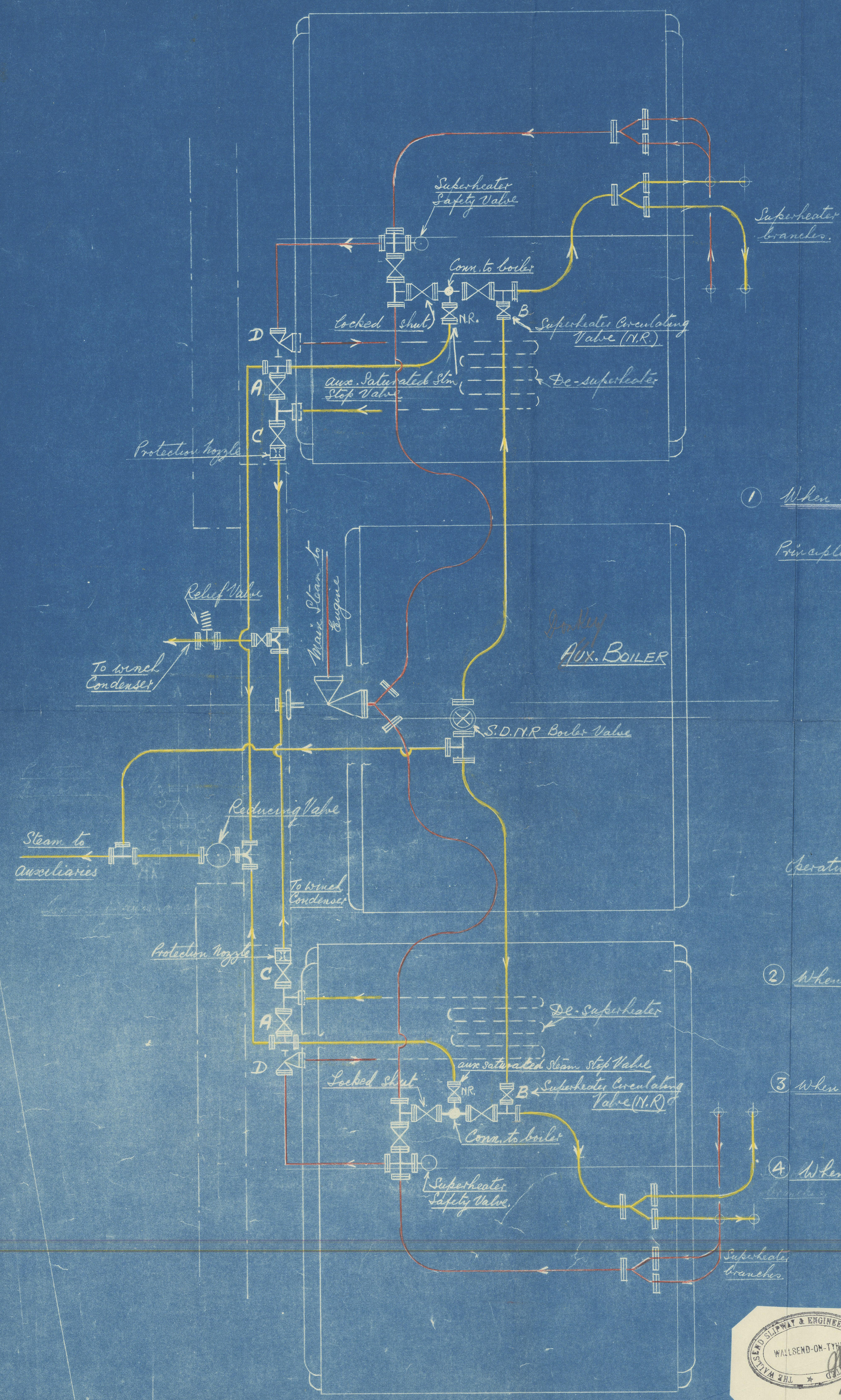
2 When normally running at sea.

In addition to main engine steam only passing through superheater, the auxiliary requirements may also be passed through & from thence pass to de-superheater, or may bye-pass both superheater & de-superheater & pass direct to auxiliaries in the normal way viz. by auxiliary saturated steam stop valve at boiler top.

3 When held up for any length of time say by fog.

If auxiliary steam to passing direct from aux. sat steam stop valve, this to be shut & aux. steam to pass through superheater & de-superheater by opening valves A & D, the fan being closed down to suit.

4 When using either main boiler for harbour duty due to harbour boiler failing - considered as a remote & therefore emergency condition only - all steam to be passed through de-superheater. The size of de-superheater is decided by this emergency quantity being passed within the pressure limits available viz from 285 t/hp at boiler to 120 t/hp at exit of reducing valve with the steam temperature having reducing valve not greater than 430°F.



Diagrammatic Arrgt. of pipes for circulating Superheaters. Sk N° 219
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219
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Warrington 3

N. E. Marine Superheaters P.H. 559
Wallcut Shipway Main Boilers 919
Swan Hunters Ship N° 1513

Diagrammatic arrangement
of pipes for circulating
Superheaters.

SS "HOPESTAR"

NEWCASTLE ON TYNE.

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