

1 QBL 2 Red Memorandum
S.N. 107-055-394.
James Chaudiere.

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- A. TURBO GENERATOR
- B.V. DIESEL GENERATOR
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- H. FIRE MAIN & MAIN SUCTION LINE.

CNS-469A (Rev. 61)
NATO No. 7530-21-562-1381

ROYAL CANADIAN NAVY

ENGINEERING SKETCH BOOK

FOR USE IN DESTROYER DEPOT SHIPS
PARENT SHIPS and REPAIR SHIP ONLY

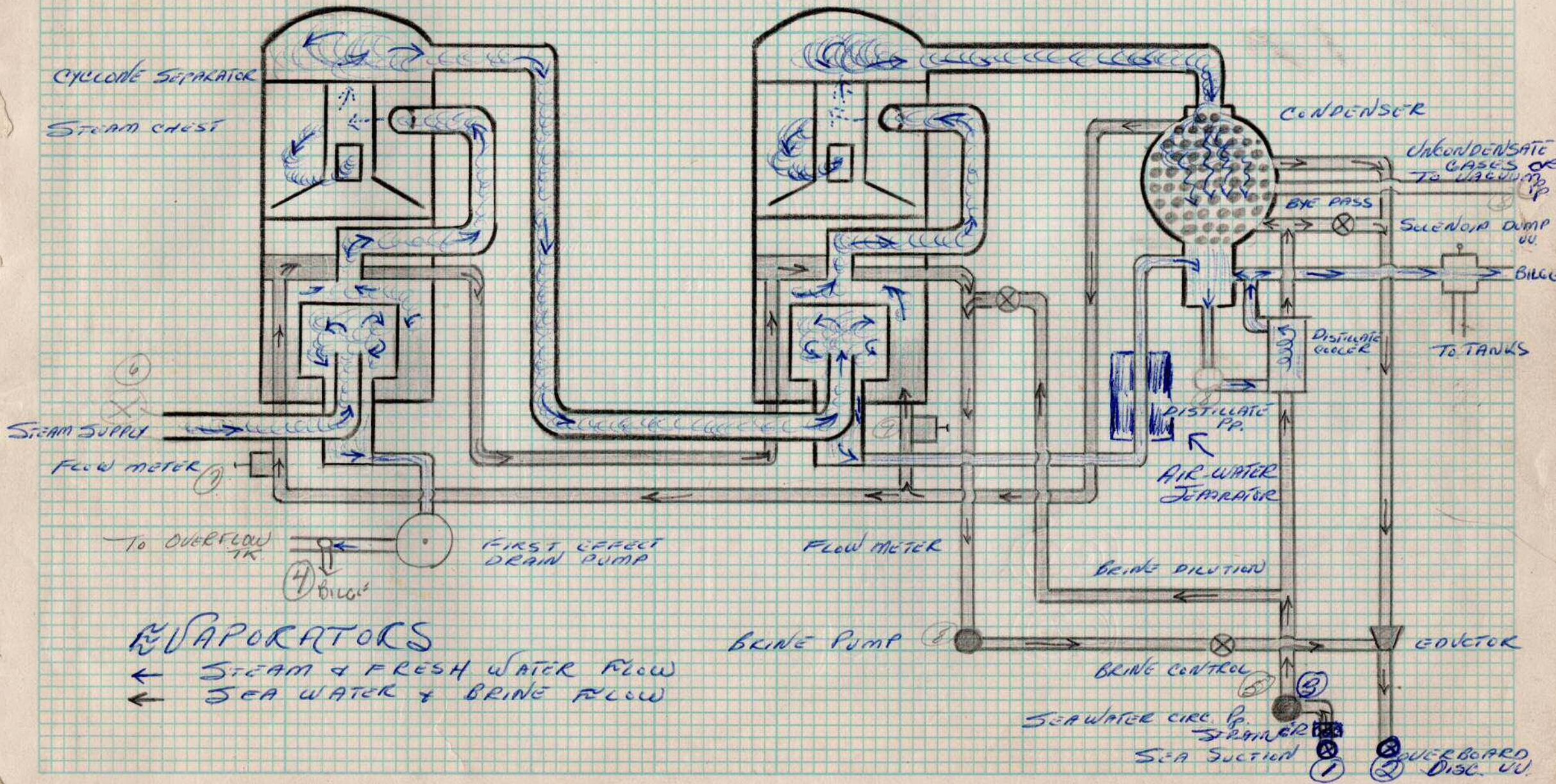
SHIP'S HEATING
OPEN DRAIN (SHIP'S HEATING)

M

or purbs ✓

FIRST EFFECT

SECOND EFFECT



EVAPORATORS

- ← STEAM & FRESH WATER FLOW
- ← SEA WATER & BRINE FLOW

OVERBOARD DISC. VV.
 1 2

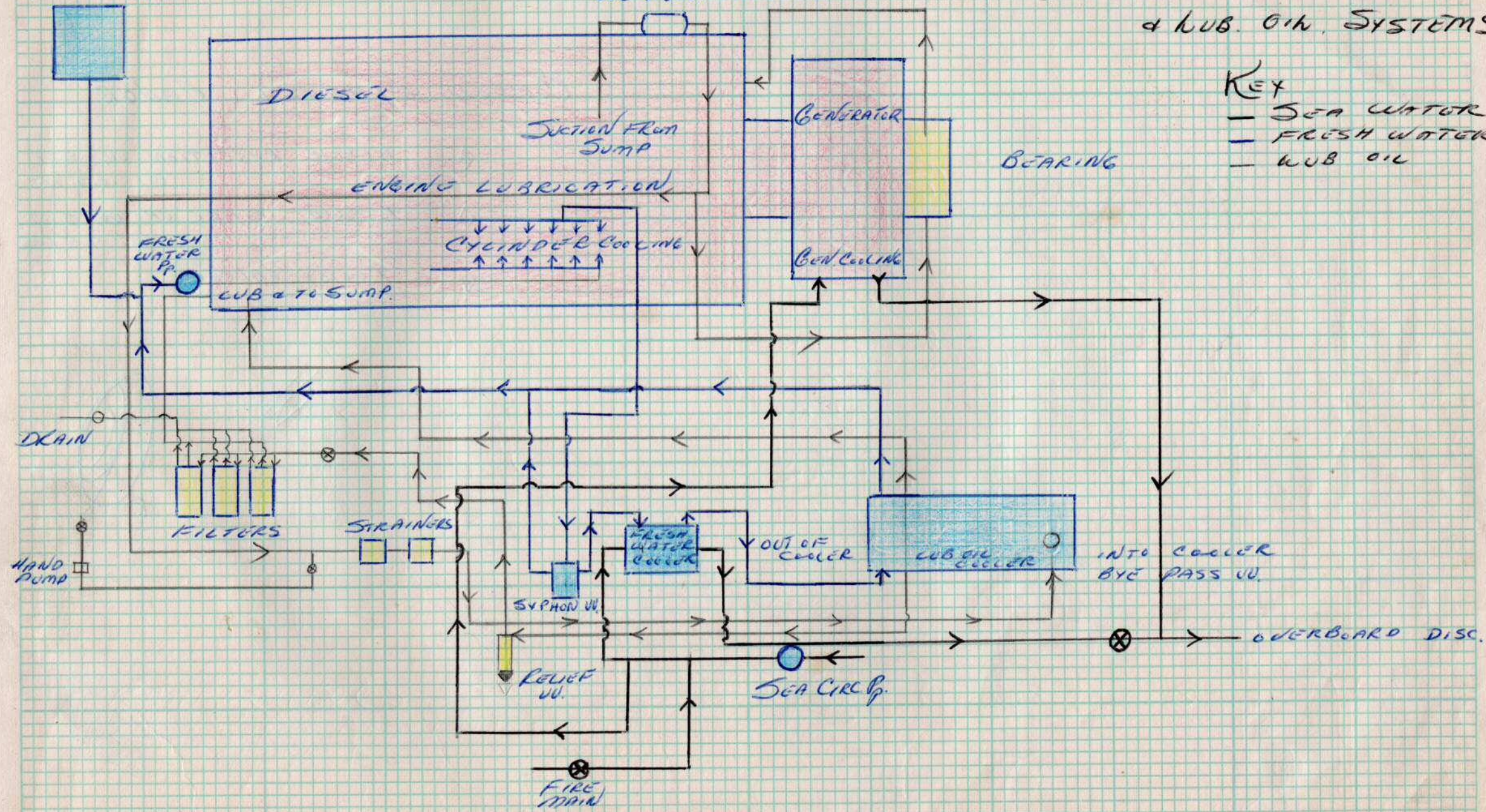
EXPANSION TANK

OIL PUMP (in sump)

DIESEL COOLING & LUB. OIL SYSTEMS

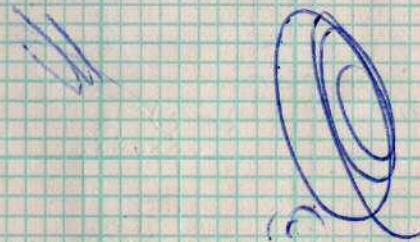
WFO ✓

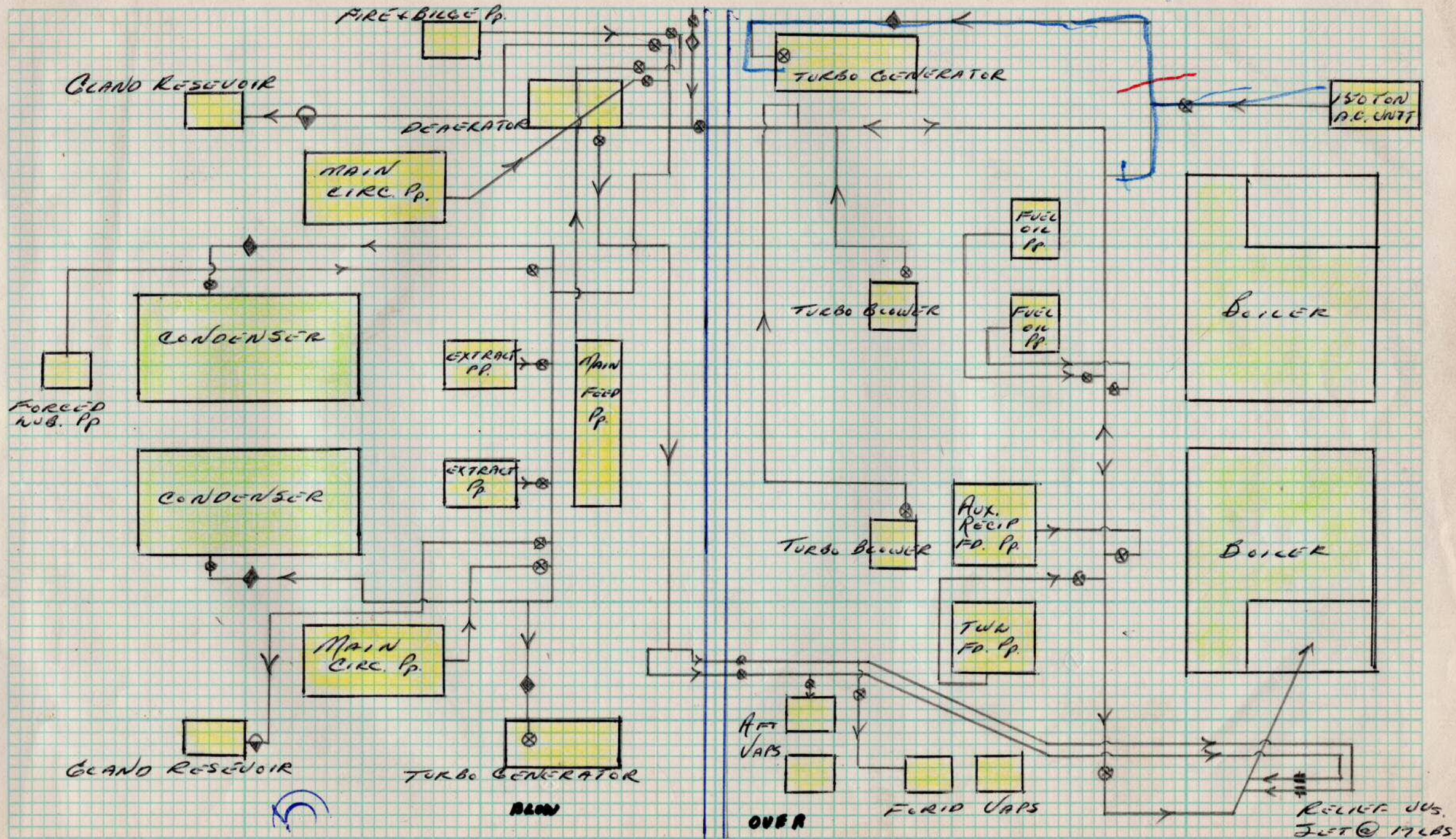
KEY
 — SEA WATER
 — FRESH WATER
 — LUB OIL



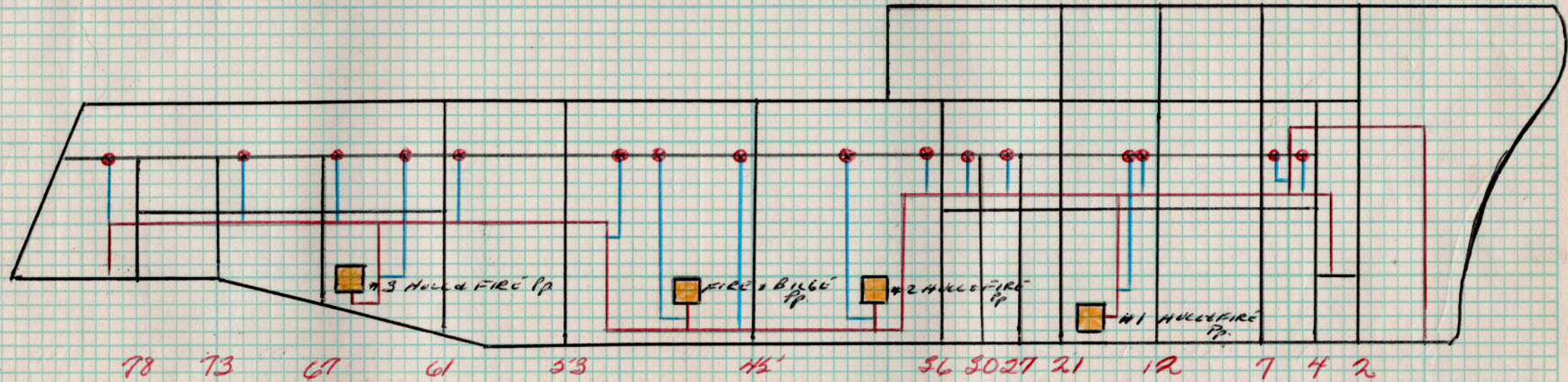
CLOSED EXHAUST RANGE

- ◆ RESUME RESECTION UU. SET @ 10.5 LBS.
- ◆ RESUME MAKE UP UU. SET @ 9.5 LBS.
- ◆ RELIEF VALVE.





PUMPING MAIN SECTION & FLOODING

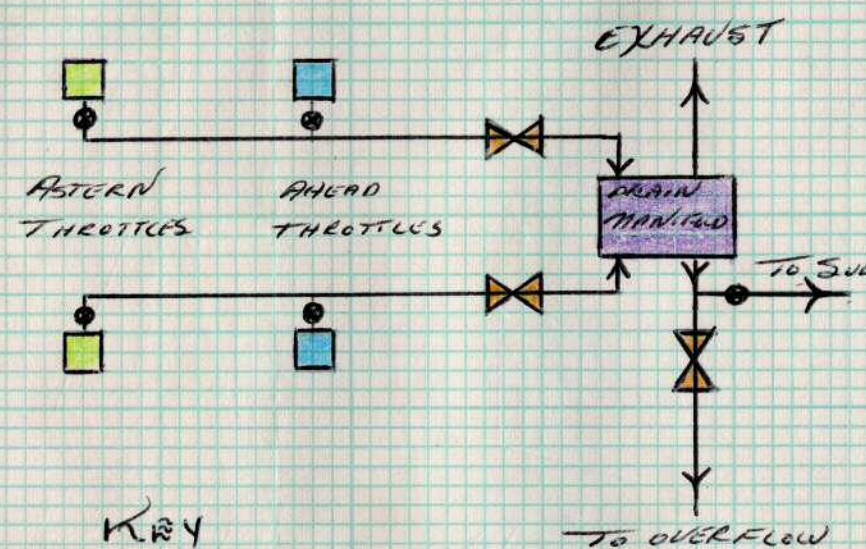


— Pumping MAIN SECTION
— Flooding

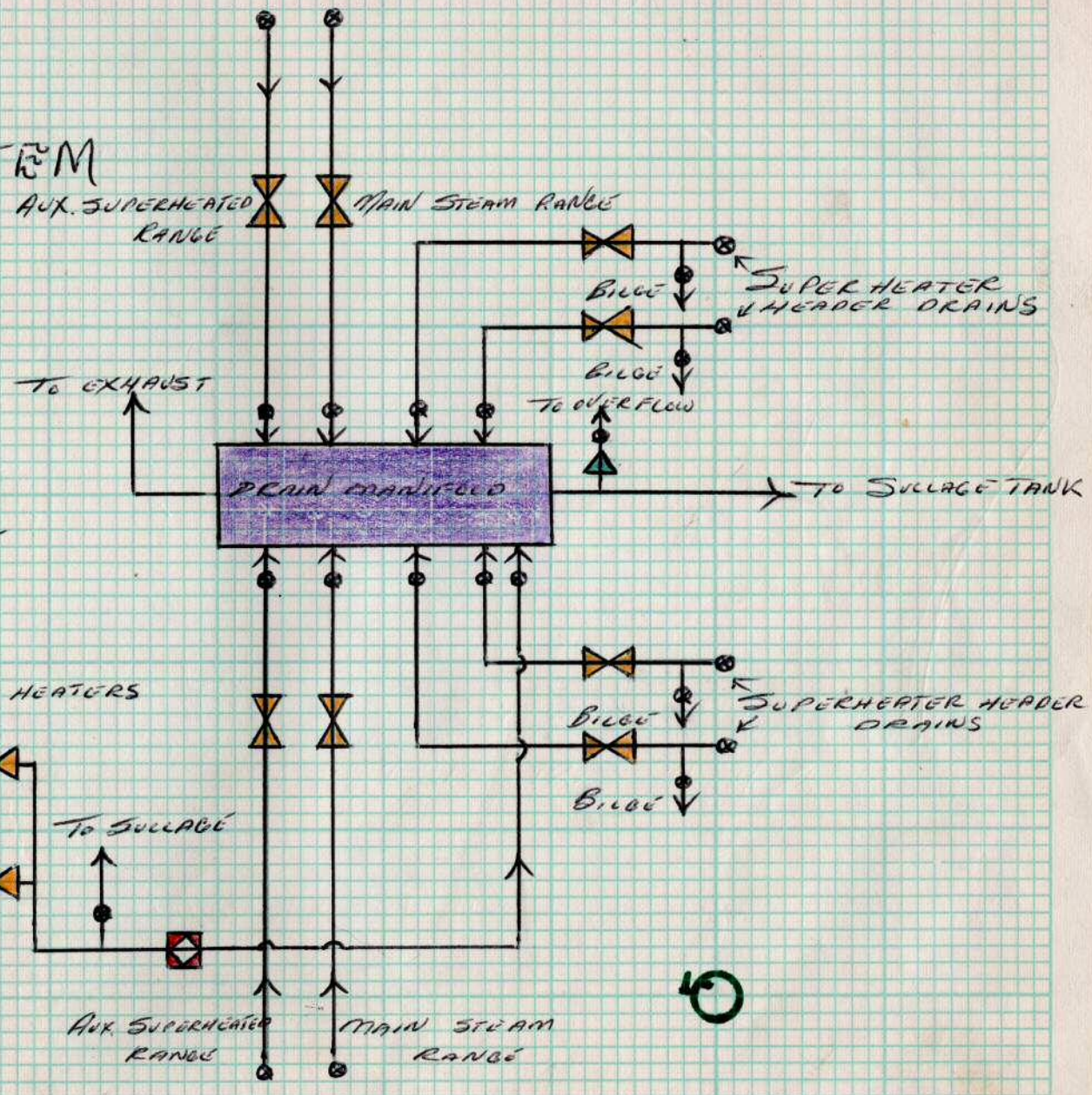
ENGINE ROOM

BOILER ROOM

CLOSED DRAIN SYSTEM

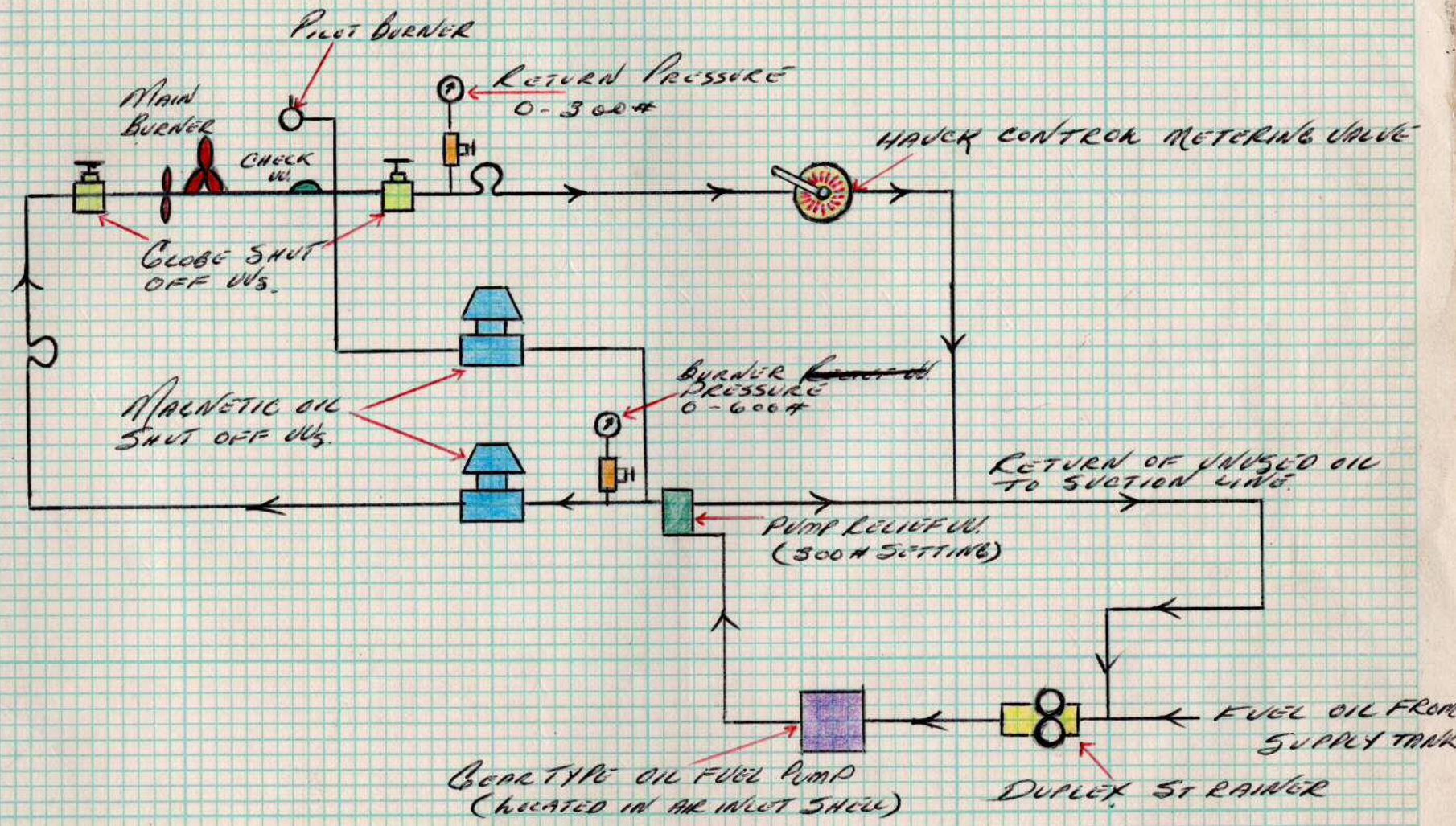


- KEY**
- STEAM TRAP (BYE PASS)
 - STEAM TRAP (NO BYE PASS)
 - OBSERVATION TANK
 - OIL FUEL HEATERS
 - ASTERN THROTTLE
 - AHEAD THROTTLE

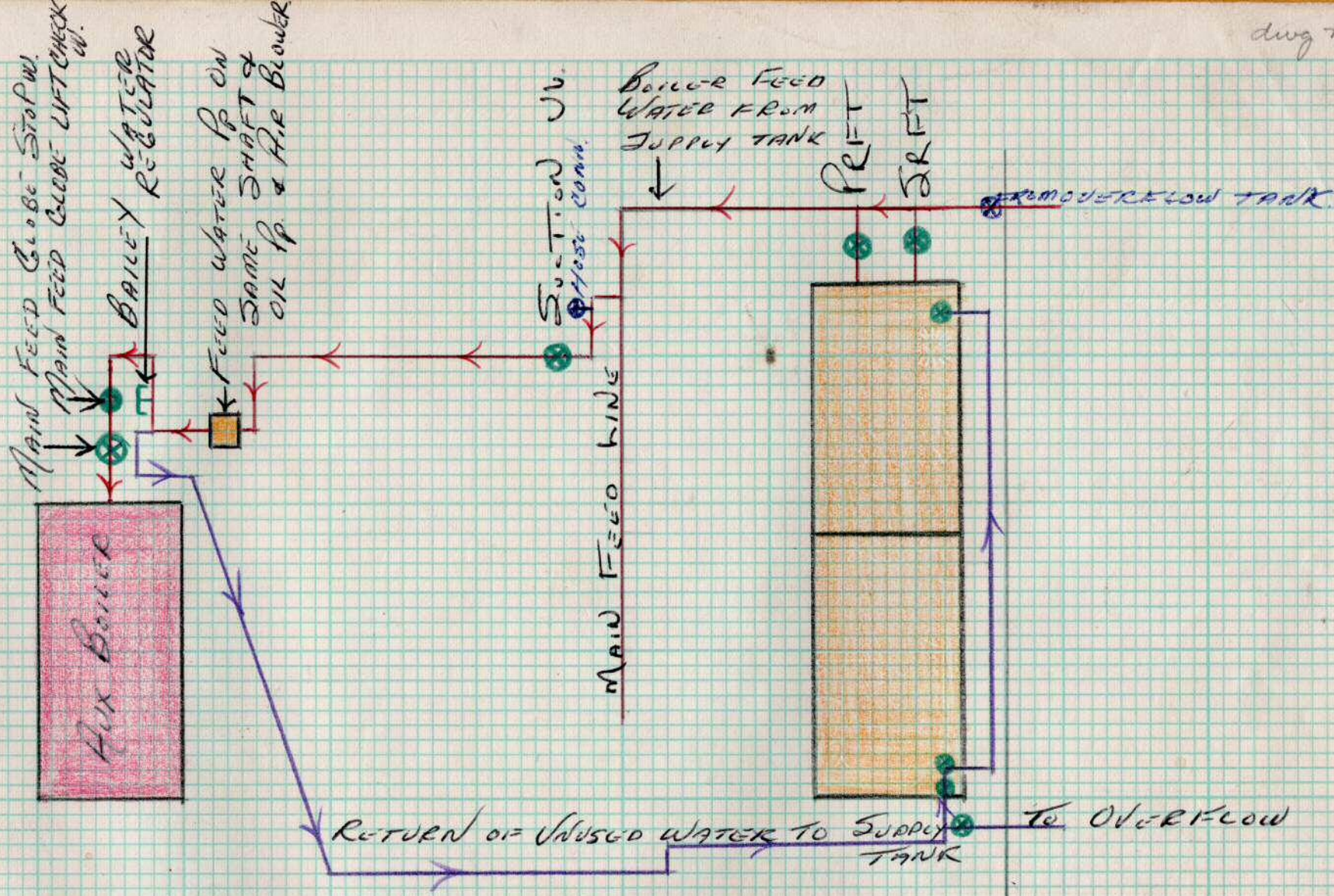


dwg not req'd

FUEL OIL CIRCUIT - AUXILIARY BOILER.



FEED WATER TO AUX. BILER & RETURN TO RFT.



dwg not rep'd

FILLING UU (QUARTERDECK) x HOSE CONNECTION.

drag not rigid

BULKHEAD 67

BULKHEAD 61

BULKHEAD 53

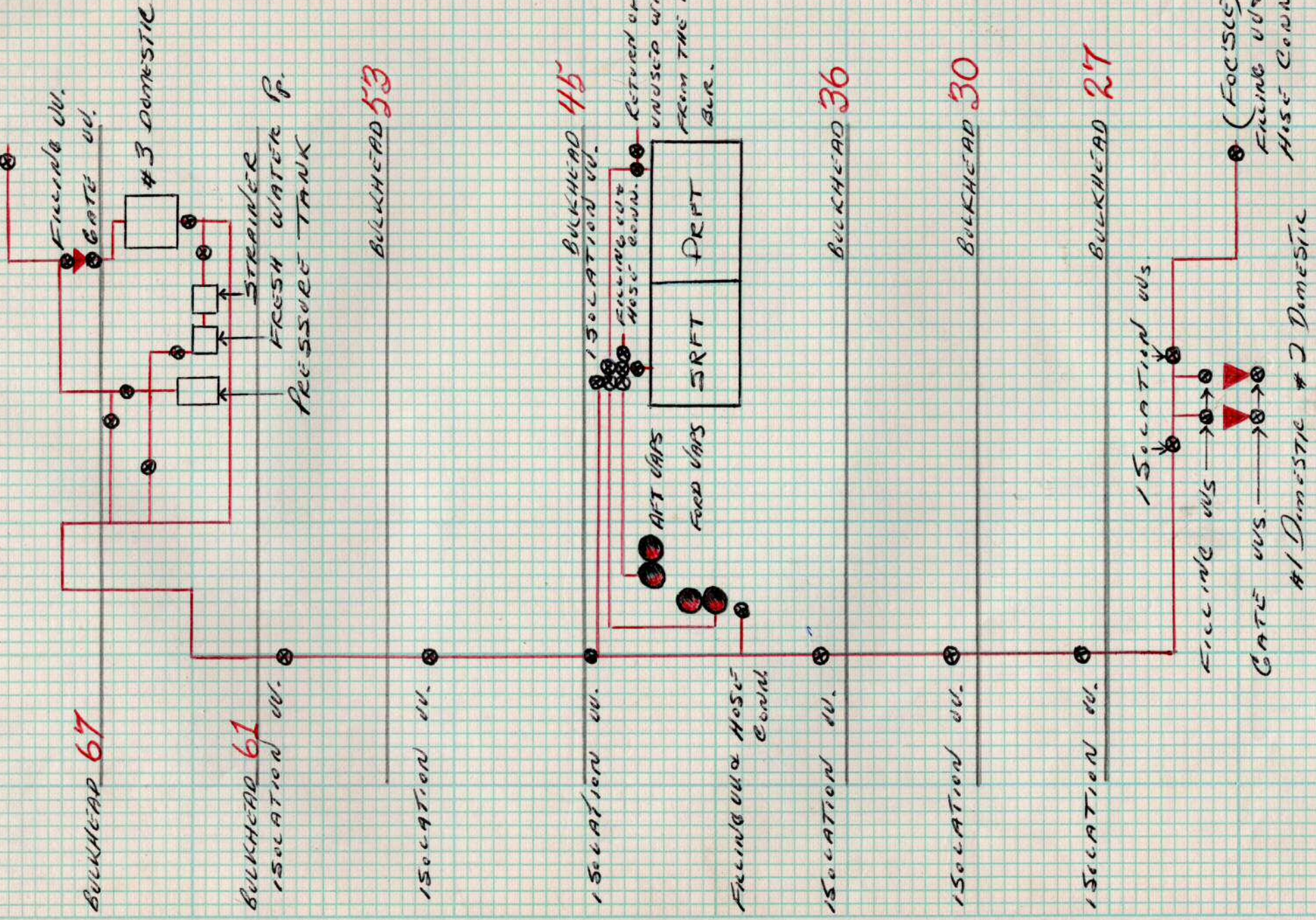
BULKHEAD 46

BULKHEAD 36

BULKHEAD 30

BULKHEAD 27

FEED WATER TRANSFER



#1 DOMESTIC #2 DOMESTIC

(FOCUS) FILLING UU HOSE CONN.

ISOLATION UUs
FILLING UUs
GATE UUs

RETURN OF UNUSED WATER FROM THE RWL BUR.

ISOLATION UU

FILLING UU HOSE CONN.

SRFT PRFT

AFT VAPS FWD VAPS

FRESHWATER HOSE CONNECTION

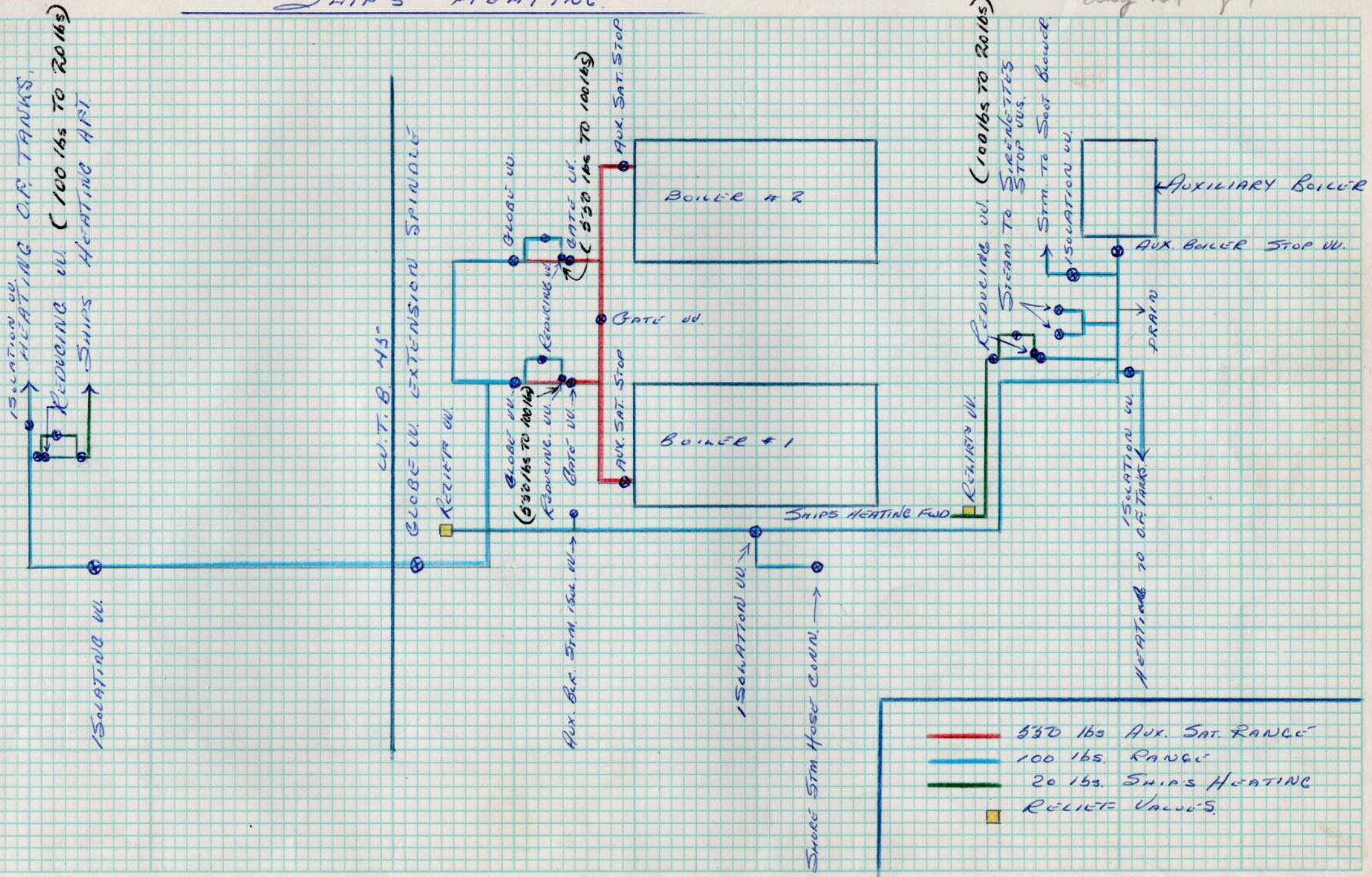
ISOLATION UU

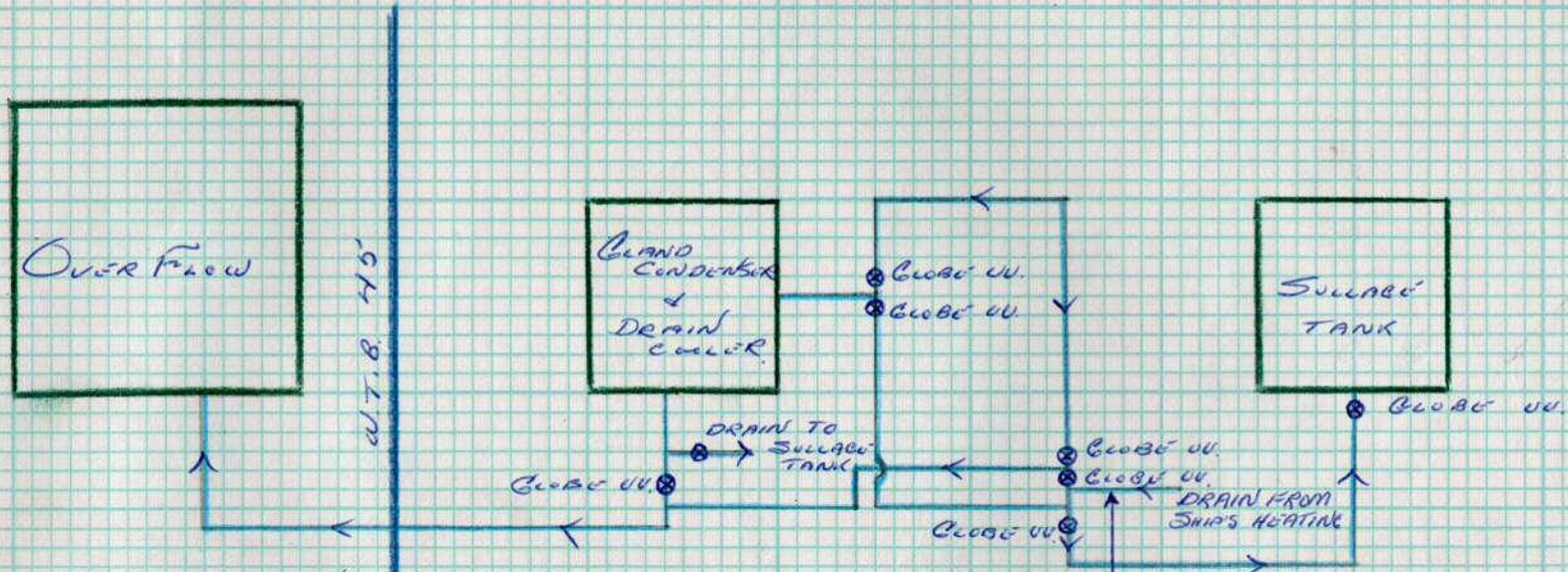
ISOLATION UU

ISOLATION UU

SHIP'S HEATING.

avg not up'd





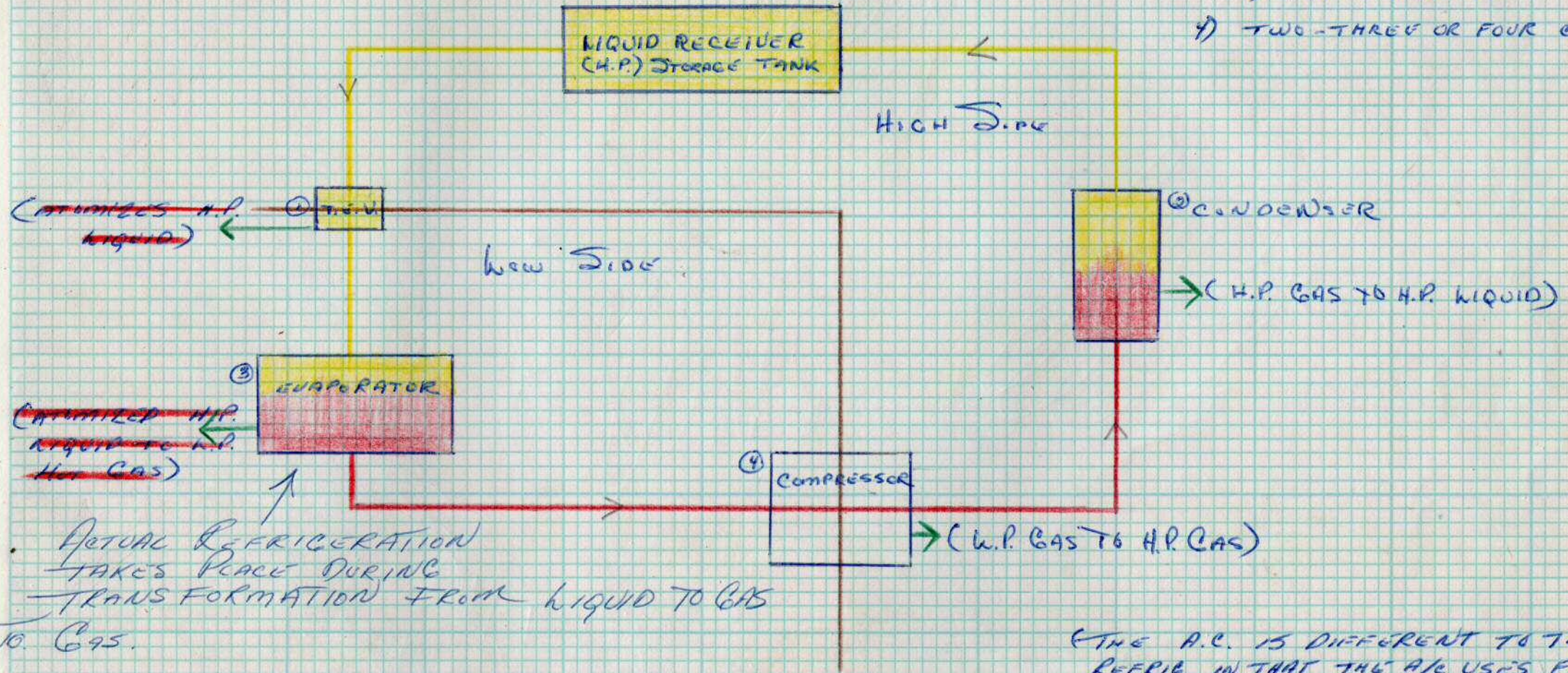
DRAIN FROM SHIP'S HEATING

REFRIGERATION Cycle & Components

2/1/15

LEGEND

- 1) T.E.V. - THERMAL EXPANSION VALVE (PART OF ATOMIZES H.P. LIQUID)
- 2) COND. a) SHELL & TUBE. GAS IN SHELL CONDENSED BY S.W. IN TUBES
b) FIN & COIL
- 3) a) DOSE PLATE
b) TUBE & BLOWER
- 4) TWO-THREE OR FOUR CYLINDERS

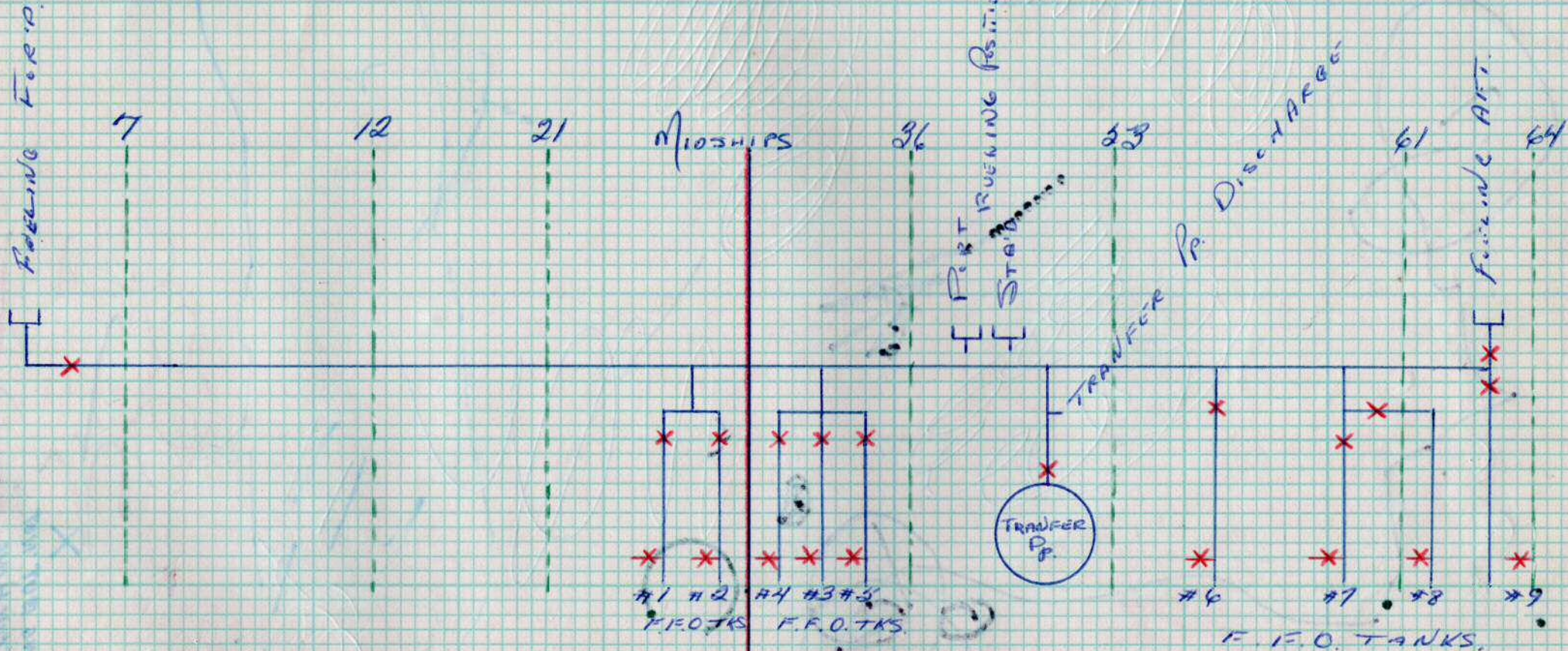


ACTUAL REFRIGERATION TAKES PLACE DURING TRANSFORMATION FROM LIQUID TO GAS TO GAS.

(THE A.C. IS DIFFERENT TO THE REFRIG. IN THAT THE A.C. USES FREON II WHICH COOLS THE BRINE WATER IN TURN COOLS THE SPACE CONCERNED THIS IS CALLED A SECONDARY METHOD)

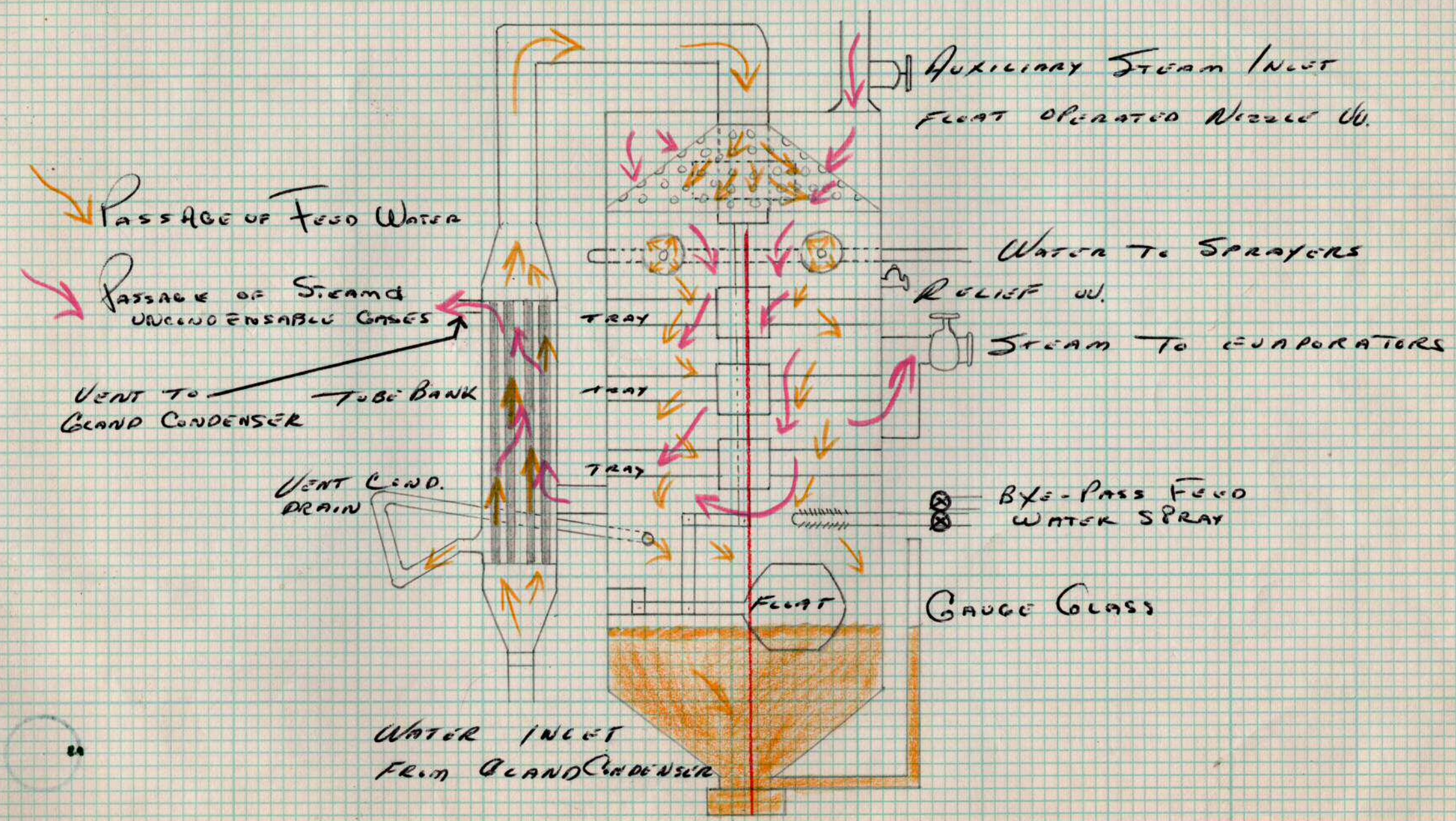
OIL FUEL FILLING SYSTEM

2/1/73



- X ISOLATION VUS
- X ISOLATION VUS TANK TOPS
- ┌ FUELING POSITION

De-Aerator + Vent Condenser





ABERZ Red Merriook

CFAO 9-42
ANNEX A

CERTIFICATE 1 - AUXILIARY MACHINERY OPERATOR'S CERTIFICATE

PURPOSE OF CERTIFICATE

1. Certificate 1 qualifies a man to operate major items of auxiliary machinery and supporting systems:

- a. of the type on which training was received; and
- b. with a minimum of acquaintance training, on similar types of machinery of different design.

ELIGIBILITY

2. To be eligible for examination a candidate must:

- a. be an able seaman (AB), pay level 3, of the Marine Engineering Technician trade;
- b. be serving at sea in a steam-propelled ship;
- c. have a minimum of six months sea-time in the rank of AB(3); and
- d. have completed the training prescribed in paras 4 and 5.

CONTENT OF CERTIFICATE

3. To qualify for Certificate 1, the candidate must be successfully examined on the following machinery and associated systems:

- ✓ a. turbo-generator (self-contained or exhausting to the closed exhaust range);
- ✓ b. diesel-generator;
- ✓ c. evaporating plant;
- d. auxiliary boiler;
- ~~e. motor boat engine;~~
- ✓ f. fire and bilge/hull and fire pumps;
- g. feed transfer system;
- ✓ h. closed exhaust and auxiliary drain systems; and
- ✓ j. firemain and main suction line.

Note: He may be considered competent to keep watch in accordance with para 7 of this order on a machine for which he has been successfully examined, before qualifying for the whole certificate.

AL 17/68

TRAINING

4. Before examination, the candidate must have completed a period of training on the machinery covering all items listed in the Examination Guide. Such training shall ensure sufficient practical operating experience, particularly in the more complex procedures, to enable the candidate to gain confidence in his ability. The candidate must be acquainted with the contents of relevant handbooks.

5. In addition, during the training period the candidate must complete the following sketches for the items listed in para 3:

- a. the general layout of the machine or system or both, showing the position of controls, gauges, safety fittings, etc, used in operating the equipment, and
- b. the path of operating fluids.

EXAMINATION

6. The examination shall be given in three parts, as follows:

- a. Sketch Book. The candidate shall produce sketches, as listed in para 5, to the satisfaction of the examining officer.
- b. Practical Operating Knowledge. The candidate shall be examined by a written and oral test set by the examining officer in accordance with the Examination Guide issued by the officer in charge, Engineering Division of the Fleet School.
- c. Practical Operating Ability. The candidate shall demonstrate to the satisfaction of the examining officer his ability to carry out the operations listed in the Examination Guide.

Issued 26 Apr 68