USNS GENERAL JOHN POPE, T AP 110
FPO San Francisco, California 96601

1 MAY 1968

STANDING ORDER #19 - LEAVE

1. Military Sea Transportation Service, Pacific Area policy is to grant leave generously which will be carried out. However, the vessel's necessities come first. On these basis leave will be granted.

2. EXCHANGE OF WATCHES:

(a) This method is encouraged as it does not burden the vessel but in turn indicates good relations between crew members.

(b) However, when exchanging watches, it is necessary that the exchange is made with a person possessing certified Coast Guard endorsement for the position, also that is agreeable to Senior Watch Engineer on that particualr watch and finally agreeable to First Assistant Engineer. Blank forms are obtainable from the Engine Yeoman and must be filled out and submitted to First Assistant Engineer the day before the Exchange is to take effect. Contrary to this, is in violation of CMPI.

NOTE: In foreign ports it is wise to submit a leave slip, of which one copy the person on leave will have in his possession ashore as identification and permission for being ashore in case of any unforseen incident with Port Authorities. On return from leave or liberty this particular leave slip will be destroyed.

(c) Application for leave, MSTS FORM 12630-1 (Rev. 11-61)

It is mandatory that this leave form be filled out and signed by Chief Engineer (Department Head) previous to leaving the vessel. It too, will be filled out in detail previous to leaving the vessel not later than the day leave is granted. Chief Engineer's signature will be affixed before leave is valid. This form will be made out in triplicate, the original and one (1) copy for ship's records and one (1) copy returned to the person requesting leave which he will retain while on leave as documentary evidence he is legally off the vessel. Contrary to this, is in violation of CMPI and the person subject to disciplinary action.

W. L. Chamberlain
Chief Engineer

USNS GENERAL JOHN POPE, (T AP 110)
FPO San Francisco, California 96601

1 May 1968

STANDING ORDER #20 - FIRE PUMPS AND FIRE DRILLS

1. Normally one (1) Fire Pump will always be on the line furnishing Sanitary Service at no less than seventy-five (75) P.S.I. Pressure.

2. Should the Fire Signal be sounded the Senior Watch Engineers will see that the pressure is immediately increade to one-hundred twenty-five (125) P.S.I. At this pressure the Relief Valve should open, do not exceed one hundred thirty-five (135) lbs. The Senior Engineer in the other Engine Room and the Evaporator Utilityman on watch will immediately start the Fire Pump in their respective spaces in a like manner as outlined above. Failure of the pump or relief valve to comply with the above outline, the person in charge of that particular pump will report the deficiency to the Chief Engineer immediately, the Senior Engineer in the After Engine Room will log the deficiency. All pumps and valves operating as outlined, will be recorded on the Engineering Log as follows: Nos. 1,2, and 3 Fire Pumps on the line, relief valves floated at 125 lbs., also at the pressure the relief valve closed.

3. In port when watches have not been assigned the Second Assistant Engineers will assign an Oiler to each Motor Driven Fire Pump and a Junior Engineer to each Diesel Driven Fire Pump located Forward and Aft to carry out instructions in the preceding paragraph. Normally Engine Utilityman 380-1 and 380-3 will attend the Diesel Fire Pump as per the Ship's Station Bill.

4. Each Fire Drill as soon as possible all Fire Pumps will be put on the line and maintain 125 Lbs., pressure until the Fire Drill or Emergency has been completed. As soon as the Diesel Fire Pumps are on the line and maximum pressure maintained, the operator will notify the Bridge of this condition.

5. The operators of each Fire Pump will report to the Bridge should their particular Pump Fail to start or stay on the line. Any deficiencies noted will be reported to the Chief Engineer immediately after Fire Drill.

W. S. Chamberlain
Chief Engineer

USNS GENERAL JOHN POPE, T AP 110
FPO San Francisco, California 96601

1 MAY 1968

STANDING ORDER # 21 - EVAPORATOR OPERATION & CHLORINATION

1. The After Engine Room being the control Engine Room will be in Charge of the Evaporator Watch.

2. The Evaporator Utilitymen will notify the Senior Watch Engineer in the After Engine Room of any mal-functioning of the Evaporator equipment.

3. (a) All Evaporator water will first be discharged into the test tanks, tested for SALINITY content, then transferred to Storage Tanks. Water con taining more than 5 grs. sea salt per gallon will not be discharged into any Storage Tank but will be dumped into the Bilge.

(b) Water con taining more than .02 gr. salt per gallon will not be discharged into Boiler Feed make-up Storage Tanks at anytime.

(c) The contents of each test tank will be chemically tested before transferring.

(d) The Evaporator Watch will log any and all mal-functioning and time it occurred. Particular attention is directed to Salinity Alarm Instruments. These are only an indicator and must not be relied on entirely, double check with a CHEMICAL TEST.

(e) Add 5 oz's Chlorine to every 1000 gallons of Potable Water evaporated. Comparator test should indicate 0.2 to 0.4 P.P.M.

(f) Add 5 oz's of Evaporator Treatment twice a day thru proportioner pumps to each evaporator Set. This should develop a soft slime on the tubes. Should a hard scale start to form, reduce the amount of treatment.

4. Third Assistant Engineer, After Engine Room 0800-1200 - 2000-2400 watch will take Chlorine Comparator Tests of water in Storage Tanks in service, log reading in Chlorine Test Log once each watch. Amount of Chlorine added to system per 1000 gallons will also be logged.

(a) He will also keep Evaporator Utilitymen informed as to any addition or reduction required in amount of Chlorine required to main tain a reading of 0.2 to 0.4 P.P.M.

(b) Storage Tanks which do not reflect a Chlorine content will be charged with 1 oz. of 10% Chlorine for each ton of Potable Water content when tank is put on the line. This will be supplemented as per para. 3 (e) above.

NOTE: 32 Oz. = one (1) quart.

W. S. Chamberlain
Chief Engineer

USNS GENERAL JOHN POPE, (T-AP 110)
FPO SAN FRANCISCO, CALIFORNIA 96601

1 May 1968

STANDING ORDER #22 - SANITARY AND FRESH WATER SYSTEM

1. Notify the Chief or First Assistant Engineer before securing the Fresh Water Systems for repairs.

2. In case of an emergency which would require immediate action of securing the system, such as ruptured pipe or flooding, secure the System immediately and report the action as soon as possible thereafter.

W. A. Strickland

Chief Engineer

USNS GENERAL JOHN POPE, (T-AP 110)
FPO San Francisco, California 96601

1 May 1968

STANDING ORDER #23 - FUEL OIL TRANSFER:

1. The Second Assistant Engineer on the 04-08 Watch in the Forward Engine Room is assigned the duties of Fuel and water King. He will be closely assisted by his counterpart in the After Engine Room who will assume the duties of Fuel & water King in the absence of the other. The Chief Engineer will lay out the schedule for both each voyage.

2. Settling Tanks will be filled twice daily at sea and as necessary in Port.

3. Fuel oil in the Storage Tanks will be heated to 100° F., and never over 120° F., previous to transferring into the Settling Tanks. At no time will the settling Tanks exceed 120° F.

4. Should it be noted that after replenishing settlers, the oil in the Storage Tank will be below 12" level, this oil will be transferred into a smaller tank where the same can be heated.

5. All double-bottom tanks will be stripped to a minimum, approx., 2" in the C/L and zero in the wing tanks. In case of ballasting, they will be flushed back from the sea to approximately one (1) foot innage and then pumped out through the oil and water separator. The oil will not be allowed to accumulate in #6 double-bottom but will be pumped into the settling tanks when all the water has been removed. <u>At no time will oil be pumped over the side.</u>

6. When operating the Oil and Water Separator, steam will always be applied to the heating coils in the upper section of the Separator for proper separation.

7. Manual soundings of all Fuel oil, Lube Oil, Diesel Oil and Water Tanks will be taken at arrival, departure and before and after bunkering. One (1) copy of the recordings given to the Chief Engineer, one (1) copy to the First Assistant Engineer and one (1) retained by the Second Assistant Engineer (DW)

8. Daily soundings will be taken and one copy of the recordings given to the Chief Engineer, at 1200 hrs., the other disposed of as in paragraph 7.

9. Previous to and directly after taking Fresh water, the fresh water meter reading will be recorded in the Engine Room Log as well as a copy given to the Chief Engineer.

STANDING ORDER #23 - Cont'd

10. When Fuel oil tanks are suspected of being contaminated immediately report to the Chief Engineer. The oil will be pro cessed thru the Oil and Water Separator. Thieving paste is provided for detecting the presence of water in Fuel oil.

11. The Fuel and Water Utilityman will keep Galley, Forward and After Diesel Fire Pumps, Emergency Diesel Generator full at all times.

12. In addition to the above, the Fuel and Water King will maintain all pressure gauges, tank level indicators, all fuel oil filling and suction valves and steam smothering and heating valves in the best of repair. The threads and packing glands on all fuel oil Filling and Suction Valves will be kept clean, free of paint and well greased at all times. All vent screens and ball checks will be kept clean. The Fuel Oil and Diesel Oil pumps will be kept in the best repair.

13. When transferring Fuel Oil Grade No. 6/or Bunker "C" Fuel oil and the Storage Tank is not over 95% full, steam should be supplied to to the heating coils no less than 12 hours before transferring. Should the tanks be 100% full, caution should be exercised in heating Grade 6 fuel due to expansion.

W. A. Schneidman

Chief Engineer

USNS GENERAL JOHN POPE, (T-AP 110)
FPO San Francisco, California 96601

1 MAY 1968

I-N-D-E-X T-O

ENGINEERING CASUALTY DRILL

USNS GENERAL JOHN POPE, (T-AP 110)
FPO San Francisco, California 96601

1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E- 1
LOW WATER IN THE BOILER; LOSS OF FEED WATER PRESSURE

1. This particular vessel has been provided with an inch and one-quarter (1-1/4") line from No. 1 Starboard Deep Tank to each Main Condenser. The standing head of water in No. 1 Starboard Deep Tank plus the vacuum on the Main Condenser will serve any normal means of Boiler Feed requirements. The valve on the Main C6ndenser marked "DYNAMITE" is the control valve.for this make up system.

NOTE: This line is also connected to the bottom of the Atmosphere drain tank for retrieving heating returns when vacuum is off the Main Condenser.

2. Start the Standby Feed Pump until the boiler water level has been maintained at normal.

3. When normal conditions have been maintained start the remaining Boiler Feed water pump or pumps and secure the Standby Feed Water Pump. Slowly open the throttle to the Main Unit until normal plant operations have been maintained.

NOTE: The Standby or Vertical Feed Pump should always be kept in Standby Status as it is a possible source of feed supply. It being a positive displacement pump, it is very easy to lift water from the distilled water tank or the dearating heater and also will produce positive displacement against high pressures.

4. Triplex Main Boiler Feed Pumps may be changed to either boiler but only on Manual Speed Control. This may be done by closing the Feed Stop at the Economizer and crossing over at Bulkhead #102/or #130 respectively under 5th deck level.

Chief Chief Engineer

USNS GENERAL JOHN POPE, (T-AP 110)
FPO San Francisco, California 96601

1 May 1968

SUBJ: ENGINEERING CASUALTY - BOILER TUBE FAILURE, E - 2

1. Secure the fire in the boiler having the tube failure.

2. Slow down the Main Propulsion Unit so as not to overload the remaining boiler.

3. Close all Steam Stop Valves.

4. Maintain the water level at normal until the boiler has cooled.

5. Keep the Forced Draft Blower going fast enough to clear the Furnace of steam.

6. If not possible to keep the Furnace free of steam with the Forced Draft Blower, lift the Safety Valves with the Easing Gear to reduce pressure.

7. Should the rupture exceed the capacity of the Feed and Condensate System, close in on the Feed Check of the leaking boiler to maintain the normal steaming water level in the remaining boiler.

8. As soon as all pressure has been removed, drain superheaters, secure Feed checks.

9. When the boiler has cooled sufficiently effect repairs.

W. A. Chamberlain
Chief Engineer

USNS GENERAL JOHN POPE, (T-AP 110)
FPO SAN FRANCISCO, CALIFORNIA 96601

1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL E - 3
HIGH SALINITY IN THE BOILER OR BOILERS

1. AS SOON AS AN EXCESSIVE SALINITY CONDITION IS KNOWN TO EXIST, REDUCE THE STEAMING RATE OF THE MAIN UNIT. THIS WILL IN TURN REDUCE THE INFLUX OF WATER TO THE BOILER, AND INCREASING THE DENSITY OF THE WATER PASSING THRU THE SALINITY CELL. THIS WILL HELP TO ISOLATE THE CONTAMINATED SYSTEM AND MAKE CHEMICAL TEST MORE EXPEDITIOUS.

2. SECURE THE FIRES IN ONE BOILER, AND ALLOW THE BOILER TO VENT UNTIL THE SUPERHEATER UNITS HAVE COOLED TO A SAFE TEMPERATURE.

3. PUT MAKEUP EVAPORATOR ON THE STEAMING BOILER TO REDUCE SALINITY AS MUCH AND AS SOON AS POSSIBLE/OR UNTIL IT TOO CAN BE TAKEN OFF THE LINE.

4. WHILE SUPERHEATER UNITS ARE COOLING, DETERMINE THE SOURCE OF CONTAMINATION AND REPAIR SAME.

5. WHEN THE CIRCULATION OF WATER HAS CEASED IN THE BOILER, FEED AND BLOW UNTIL SAFE LIMITS HAVE BEEN RESTORED.

6. LIGHT OFF AND RESTORE TO SERVICE, CONTINUE TO FRESHEN THE BOILER WATER THRU THE MAKEUP EVAPORATOR UNTIL A DENSITY OF FOUR (4) GRAINS OF SALT PER GALLON HAS BEEN MAIN TAINED BY CHEMICAL ANALYSIS. ADD COMPOUND TO MAINTAIN THE HIGHEST RECOMMENDED CHEMICAL LIMITS TO KEEP THE SOLIDS IN SOLUTION. DO NOT ADD CHEMICALS UNTIL THE BOILER WATER HAS BEEN FRESHENED WITHIN THE EXTREME SALINITY LIMITS AND THEN ADD THEM WITH DISCRETION. IF CHEMICALS ARE ADDED IN TOO LARGE QUANTITIES, THE CONTROL WILL BE LOST, AND THIS WILL RESULT IN THE BOILERS PRIMING AND POSSIBLE LOSS OF TURBINE BLADING.

NOTE: A HIGH SALINITY CONDITION SHOULD NEVER OCCUR ABOARD THIS VESSEL IF THIS "STANDING ORDER" IS CARRIED OUT: "CHEMICAL TESTS OF THE CONDENSATE WILL BE TAKEN AND RECORDED AT LEAST ONCE EACH WATCH, OR MORE OFTEN IF SUCH ACTION IS DEEMED NECESSARY". NEVER DEPEND ON THE SALINITY INDICATOR ALONE FOR SIGNS OF HIGH SALINITY, AS ANY SOLID WILL SHOW A HIGH INDICATION. THE INDICATOR IS TO BE USED AS A WARNING DEVICE ONLY, AND SHOULD THE ALARM SOUND, CHECMICALLY TEST THE WATER PASSING THRU THAT PARTICUALR SALINITY CELL IMMEDIATELY.

W. L. [illegible]
Chief Engineer

USNS GENERAL JOHN POPE, T AP 110
FPO San Francisco, California 96601

1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL - E-4
RUPTURED FIREMAIN (SELECTED SECTION)

NOTE: This drill is considered one of the most important of all drills and concerns all members of the entire vessel. This is a drill each and every member of the crew should become acquainted with.
The term, "RUPTURED FIREMAIN", is primarily meant to imply a split or broken pipe, Indirectly the DRILL is concerned with any casualty such as pipes, valves or pumps.
The following instructions are intended to locate the fireman and isolation valves, and to explain ways of overcoming any casualty with the definite purpose of expediting the re-routing or by-passing any or all damaged and inoperative sections.

1. This vessel is fitted with five (5) Fire Pumps. Three of them are motor driven centrifugal, and two (2) Diesel powered pumps.

2. The forward Diesel powered Fire Pump is located on the Hold Deck between frams #16 & #24, and the After Diesel Powered Fire Pump is located on the Hold Deck between frames #196 & #202, Port Side. Access has been provided to these fire Pumps from the first and second decks and platform. In emergency only, will the forward Diesel Pump room be entered thru the brig.

3. The motor driven Fire Pumps are located as follows:
One in the forward Engine Room, one in the Evaporator Flat or Auxiliary Engine Room, and one (1) in the After Engine Room.

4. The Discharge line from each of these pumps is led vertically from the pump to the 2nd deck near the Center Line of the vessel where the line branches off to Port and Starboard. Each branch is fitted with an isolation valve before it connects to the Fire Main in the Port and Starboard passage-ways on the 2nd deck.

5. This vessel is fitted with two (2) Fire Mains which run continuously from the troop heads forward at frame#16 to the Troop heads aft., at frame #210.

6. The Port and Starboard Fire Mains are joined at frames #16 and again at frame #210. On each side of the junction where the Diesel Fire Pump discharge joins the Fire Main, an isolation valve is fitted. The Diesel Fire Pump discharge main is also fitted with an isolation valve.

7. At frames #67, #103, #131, #161 & #196, cross connections are made joining the port and starboard Fire Mains together. Each cross connection is fitted with an isolation valve. In addition, at regular intervals ~~on~~ on the forward and after mains, there are installed isolation valves as well.

USNS GENERAL JOHN POPE, T AP 110

1 MAY 1968

SUBJ: ENGINEERING CASUALTRY DRILL - E - 5
HIGH SALINITY IN THE BOILER FEED WATER.

1. The first indication of this condition will be the sounding of the Alarm on the Salinity Indicator. NOTE: (The Salinity Indicator Selector Switch will normally be on the Main Feed Pump Suction Salinity Cell and on the Alarm position.) Should the Alarm sound, check the cells installed in the Auxiliary condensate and Main Condensate Pump suctions to determine the point of greatest density. The Salinity Alarm System is an Alarm system only, and does not indicate a true salinity reading as any solid will sound off the Alarm.

2. At the FIRST sound of the Alarm, check the Condensate with chemicals as follows: Main Condensate, Auxiliary Condensate, Low Pressure Evaporator Condensate Return and the Atmosphere Drain Tanks until the source of HIGH SALINITY is determined.

3. Call the Chief or First Assistant Engineers should the Salinity reach two (2.0) grains per gallon by Chemical Test or when the source of the HIGH SALINITY is determined.

4. Regardless of the above instructions, test the Boiler Feed Water once each watch with Chemicals for Chloride contents and log the results.

5. For additional information refer to Engineering Casualty Drill E-3.

W. A. Chamberlain
Chief Engineer

USNS GENERAL JOHN POPE, T AP 110

1 MAY 1968

SUBJ: ENGINEERING CASUALTY - E - 6
OIL FIRE IN THE ENGINE ROOM BILGE..

1. In case of an oil fire in the Engine Room bilge, notify the Bridge, Chief Engineer and First Assistant Engineers immediately.

2. Should the fire be in a dry bilge, use sand stowed in a 10 cubic foot metal container provided for this specific purpose and located in the fireroom, also in this container, a metal scoop or shaker for spreading the sand evenly over the fire, is located/or CO2 contained in 15 lb., bottles/or by water from the fire main using a fog nozzle. NOTE: At no time use a fog nozzle having one (1) or more holes plugged, should the periphery of the spray be broken, air will be permitted to enter the circle of spray resulting in a greater fire. The purpose of the spray is to seal all air, cool the area with the water and drown out the flames. With the periphery of the spray broken, the result would be agitation of the fuel and admission of air which would tend to increase the fire rather than extinguish it.

3. Should the fire be in a wet, flooded bilge and of not too great extent, use a fog nozzle and direct the fire away from vital equipment to a place where the least damage will be done and extinguish it.

4. Should the fire be in a wet or flooded bilge of fairly great extent, use a fog nozzle to the best advantage at the same time apply chemical foam thru a pick-up nozzle provided for this purpose. When the Chemical foam has covered the entire area except that where the Fog nozzle is being used, secure the Fog nozzle. NOTE: When using Chemical-foam never play the stream of foam directly on the fire, let it play on a pipe or bulkhead or plate and run down on the surface of the fire, it being a liquid, it will seek its own level. The intent is to smother the fire not to splash close to it, as air can be provided by the agitation and feed the fire if the blanket of foam is broken. Strive to maintain a stream of water on plates or any material close to the fire to keep them as cool as possible. All material must be heated to its combustible temperature in order to burn freely.

5. Should the fire become out of hand, notify the Bridge, secure the plant, leave the Engine Room and apply CO-2 as provided for this purpose.

W. L. Stonebraker
Chief Engineer

USNS GENERAL JOHN POPE, T AP 110
FPO San Francisco, California

1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E - 7
Water in Fuel Oil to the Burner

1. At the first indication of water in fuel oil to the burners, change from contaminated Settler to Stdby Settler High Suction.

2. Strip the Contaminated Settler thru the low suction using Stdby fuel oil service pump discharging to oil and water Separator or to any empty fuel oil storage tank. When water has been removed, change back to original Settler high suction from the Stdby Settler and carry on normal.

EXTREME CONDITION:

3. Should water contamination extinguish the fires in the boilers, open discharge valves in manifold to any empty tank, open discharge valve in fuel oil transfer manifold to the filling main (farthest valve aft. with yellow spoke hand wheel) open discharge valve to oil & Water Separator, (second valve aft. in same manifold with yellow spoke handwheel) open yellow valve at Stdby fuel oil service pump and yellow valve on each fuel oil header at #1 & #2 boilers. This is for the Forward Engine Room.

4. Very similar in After Engine Room; open discharge valve to any empty tank, open discharge valve to fuel oil filling main (second valve from inboard on manifold at Blkd 6-146-1, spokes painted yellow), open discharge valve to oil & water separator, (next to filling main valve, also wheel with yellow spokes), open yelow valve at Stdby Fuel oil Service Pump and again the yellow valves on each fuel oil header at #3 & #4 boilers.

5. This will direct the oil from Settler thru the Fuel Oil Service Pump and thru the entire fuel oil Service System directly to an empty tank very expeditiously .

6. The valve at the Oil & Water Separator will always be closed as will the oil and water by-pass valve. The valve wheels will also have yellow spokes.

7. After good oil has passed thru test valve at Fuel oil pumps, close in on header drain valves to maintain pressure and attempt to light burners when oil is hot enough.

8. It is still possible to maintain a suction from any tank thru the Fuel Oil Suction Main and the Stdby Fuel oil Service Pump/or by taking suction from the Fuel oil Main with the Fuel oil Transfer Pump and discharge into the Fuel Oil Standby Pump/or directly into the Fuel oil Header on the boilers.

9. NOTE: The discharging of Fuel Oil overboard within the limits of 100 miles from shore is not permitted. This is a U.S. Coast Guard Ruling and will be followed in detail.

10. This condition should never be allowed to actually occur. It is possible to burn off the low fuel oil Suction with the Stdby Fuel oil Service Pump and this should be done while in every port when alongside the dock. By burning off the low fuel oil suctions in port, slight moistures will not be allowed to accumulate to any great extent. Nevertheless, it is still possible for the tanks or heating coils to leak, which would permit excessive water accumulation and create this type of casualty.

W. S. Chamberlain
Chief Engineer

USNS GENERAL JOHN POPE, (T-AP 110)
FPO San Francisco, California 96601

1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E- 8
FORCED DRAFT BLOWER FAILURE

1. On this particular vessel, each boiler, its own Forced Draft Fan, Fuel Oil Heaters and Triplex Main Boiler Feed Pump are one integral unit. Failure of any of these particular units will mean securing the boiler.

NOTE: However, the Triplex Main Feed Pump may be changed to either boiler but only on Manual Speed Control. This may be done by closing the Feed Stop at the Economizer and crossing over at Bulkhead #130 under 5th deck level.

2. Further; one boiler may be steamed on very light load with access plate open on air duct to furnace front, some eight (8) feet above the 5th deck level. This natural draft may be supplemented by using two (2) Red devil Portable blowers discharging into the air duct access opening.

W. A. Chamberlain
Chief Engineer

USNS GENERAL JOHN POPE, T AP 110
FPO San Francisco, California 96601

1 MAY 1968

SUBJ: ENGINEERIN G CASUALTY DRILL, E - 9
MAIN GENERATOR FAILURE

1. At least three (3) Ship's Service Generators will be in operation at all times while at Sea. In Port, when necessary, both generators, in the steaming engine room, will be on the line except when the total electrical load is under 1600 amps and then but one (1) generator will be on the line and the other will idle. When at Sea two (2) generators in one (1) engine room will supply the ship's entire electrical load or requirements except in the other engine room. That generator will supply the electrical requirements for that engine room alone. This system is known as split plant operation.

2. Should one generator fail which is supplying power for the entire vessel, parallel the single generator in the other engine-room and maintain cross-plant operation.

3. Check all Safety devices on the failed generator, determine the cause of failure and secure same for repairs.

4. PARALLELING GENERATORS: CROSS PLANT OPERATION

(a) Determine both Bus Tie Circuit ~~Branches~~ Breakers on "B" Board are closed.

(b) Have Voltage on the on coming generator slightly lower than the Generator supplying hotel service.

(c) Close the Main Distribution Board Circuit Breaker FB 0270 Fwd./or FB 0280 Aft., on Engine Room generator Switchboard, then equalize load on both Engine Room Generators.

W. A. Thornton
Chief Engineer

USNS GENERAL JOHN POPE, (T-AP 110)
FPO San Francisco, California 96601

1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E - 10
A HEAVY SHORT IN THE GENERATOR SWITCHES AT THE DISTRIBUTION BOARD

1. It is assumed this drill is concerned with a short between the Main Bus Bars and the Generator. This being the case the Main Circuit Breaker will become overloaded and trip off the line.

2. Carry out the Drill as outlined in Engineering Casualty E-9, Main Generator Failure. Transfer load as required. This could involved switches for ~~load~~ Auxiliary equipment or section for power to "B" Board.
(use)

3. Locate the short and make repairs, bearing in mind that the Bus Bars are hot behind the board up to the Circuit Breaker.

W. A. Churchman
Chief Engineer

USNS GENERAL JOHN POPE, (T-AP 110)
FPO San Francisco, California 96601

1 MAY 1968

SUBJ: ENGINEERING CASUALTY, E- 11
Electric Power Failure to the Steering Gear.

1. This particular vessel is fitted with separate power leads from the Forward Engine Room to the Steering Gear Compartment and from the After Engine Room to the Steering Gear Compartment. Normal operation is from the Forward Board and should the power fail in the Forward Engine Room the power will automatically change to the after Engine Room. To restore power to normal or the forward board, close the Circuit Breaker to the Steering Gear and normal operation is in service.

2. Should all power to the Steering Gear fail, carry out the following instructions:

(a) Notify the Bridge of this particular casualty.

(b) The Engine Department will close all High Pressure Hydraulic valves, four (4), on the top of each ram cylinder and open the low pressure valves on the bottom outer end of the ram cylinders. Open suction from Steering Motor Lube Oil sump to Gerotor pump, Open discharge valve from Gerotor pump to low pressure hydraulic ram system and man Gerotor pump.

3. Locate and repair the electrical deficiency.

W. A. Chamberlain
Chief Engineer

USNS GENERAL JOHN POPE, (T-AP 110)
FPO San Francisco, California 96601

1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E- 12
HYDRAULIC PIPE TO ONE STEERING RAM CARRIES AWAY

1. In this particular installation and this casualty should occur, secure the Steering Gear Motor to save any and all Hydraulic Fluid Possible.

2. (a) Notify the Bridge of this particular casualty.

(b) Close all High Pressure Hydraulic valves, (four (4) on the top of each ram cylinder and open the low pressure valves on the bottom outer end of the ram cylinders (those valves with hand wheels painted yellow) this will line up the Emergency Steering hand pump. Man the Emergency Steering hand pump and maintain the course as directed from the bridge.

3. Remove the fractured pipe and if possible repair the same. If not possible to replace or repair the pipe, blank of that section that is fractured and also that section leading to the ram cylinder diagnally across the tiller from the ram originally blanked off, drain the hydraulic fluid from the two ram cylinders that are blanked off by opening the valves on the bottom outer ends of the cylinders, recharge the entire hydraulic system, bleed all air from the two operating rams and restore the system to service. Additional bleeding will be necessary while the rams are under normal operating service in order to remove all air.

Chief Engineer

USNS GENERAL JOHN POPE, (T-AP 110)
FPO San Francisco, California 96601

1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E - 13
SERIOUS STEAM LEAK REQUIRING ABANDONMENT OF THE MACHINERY SPACE.

1. Should this occur and to the extent that it is not possible to isolate the leak, and leave the plant, always remember that steam being lighter than air will try to escape thru the fidley. That being the place to stay away from, consequently the best or safest place would be in the Bilge. Nevertheless try to secure the fires as soon as possible.

2. Should it be possible to escape the steam or leave the Machinery Space the plant may be shut down by switches and valves located in the remote control room on B-deck, the first passage way athwartship after the B-deck switchboard room, 3-127-0. This remote control room is provided just for such a purpose as this.

3. By securing the Fuel Oil Service Pump the plant will be allowed to die of its own free will. By allowing the plant to die out in an operating condition, about the only casualty that could occur would be the flooding of the boilers. This would cause priming which would trip out the auxiliary generators and load the Main Turbines which would possibly stop the Main Unit in time to save the bearings.

4. Locate the leak, effect repairs and start raising steam to restore normal operation.

5. Quick closing valves at the fuel oil heaters are remotely controlled at 2-105-1/2 and 2-132-1/2 by Manual pull cable.

6. Quick closing valves are also fitted in fuel oil line at the header of each boiler for local emergencies.

W. S. Chamberlain
Chief Engineer

USNS GENERAL JOHN POPE, (T-AP 110)
FPO San Francisco, California 96601

1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E- 14
MAIN LUBE OIL FAILURE TO THE MAIN TRUBINE.

1. Should this failure occur start the Standby Lube Oil Pump, this pump being a steam simplex design contr-lled by a Leslie Governor should start of its own accord, nevertheless it might be necessary to drain the water from the steam line and adjust the Leslie Governor to the proper pressure.

2. Should the Standby Lube Oil Pump fail to start and the low oil Alarm continue to sound, immediately stop the Main Turbine by closing the ahead throttle valve and opening the astern throttle valve until the Turbine comes to rest. The ahead throttle valve should close itself due to low oil pressure. It will b e necessary to maintain the main turbine in the stopped position until way is off the vessel as the wash of water thru the propeller is great enough to start the propeller in ahead motion.

3. There is approximately three (3) minutes lube oil supply to the bearings once the pumps are stopped.

4. Locate and effect repairs.

5. On arrival and departure Standby Lube oil pump and Standby Boiler Feed Water pump will be actuated at very slow stroke so they will be warmed up and ready for emergency use.

W. L. Thompson
Chief Engineer

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FPO SAN FRANCISCO, CALIFORNIA 96601

1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E- 15
MAIN HIGH PRESSURE TURBINE RUBS

1. Should this occur bring the M ain Propulsion Unit to the stop position immediately by closing the ahead throttle and opening the astern throttle. The Main Propulsion unit will of necessity have to be controlled in the stop position with Astern Throttle until way is off the vessel.

2. When vacuum has been released from the Main Condenser, install the blank provided for this purpose in the exhaust trunk from the high to the low pressure turbine, break the high pressure turbine coupling to the pinion gear, install the steam line from the throttle to the low pressure turbine as provided and resume operations at reduced rate.

W. S. Thomas
Chief Engineer

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1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E - 16
SERIOUS FLOODING OF THE ENGINEERING SPACES

1. Should the level of the Bilge Water continue to rise after the two (2) Bilge Pumps, one (1) Submersible Bilge Pump, two (2) Clean Bilge and Ballast Pumps and three (3) Fire Pumps have been put on the line with all suction open to the Machin ery space affected, carry put the following instructions:

2. The two (2) Fuel oil Transfer Pumps may then be put on the Bilge Suction System and discharge either directly overboard or indirectly thru the Oil and Water Separator.

3. With all the above listed pumps on the Bilge System be sure the port and starboard Independent Bilge Suction Valves are open in the M achinery space affected.

4. Should the After Engine Room be affected close the Watertight door leading into the Shaft Alley.

5. Open the 20" Emergency Bilge Suction valve to the Main Circulator and close the Main Sea Suction valve to the Main Circulator. NOTE: This 20" Emergency Bilge Suction Valve is provided especially for this purpose. It being a check or non-return valve necessitates closing the Main Injection or Sea Suction Valve before it can open as the weight of the valve disc and head of Sea Water in the Condenser will normally keep it closed.

6. Locate and eliminate the cause of this excess Bilge Flooding.

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1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E - 17
ELECTRICAL FIRE BEHIND THE MAIN SWITCHBOARD.

1. Isolate the panel in which the fire is found to be present. Should it be in a Main Power Panel, trip out the Generators and carry out instructions as E - 10

2. Extinguish the Fire with CO-2 in 15# bottles or the large bottles fitted with 50' lengths of hose provided for this purpose.

3. Determine the cause, make repairs and resume operations as normal.

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Chief Engineer

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1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E-18
POWER FAILURE, COLD START (COLOR CODE YELLOW)

1. When a potential failure is eminent, there is a possibility of saving the plant if the Engine Room in trouble will trip out Circuit Breaker (FB 0270, Fwd./or FB 0280 Aft, whichever the case maybe) to the Main Distribution Switchboard located 3-123-1/2. This will hold power for Engine Room Auxiliaries. One generator may be secured and Engine Room load, approximately 300 amps., provided by remaining generator.

2. Close throttle, apply seal steam to save vacuum. (Due to way on the vessel and kinetic energy in reduction gears the Main Turbine will continue to rotate).

3. With both boilers in service, secure and vent one (1) to hold steam for relighting.

NOTE: This vessel will normally operate on split plant condition. One (1) generator in one Engine Room and two (2) generators in the other Engine Room which will have ship's hotel and lighting load.

COLD START:

1. Open Main Distribution Circuit Breaker (FB 0270) on forward Engine Room generator switchboard/or FB 0280 on After Board.

2. Open all Circuit Breakers on Engine Room Generator Switchboard that is experiencing Power Failure Casualty.

3. Open Emergency Switchboard Circuit Breaker (FB 300) on Main Distribution Switchboard ("B" Board) located 3-123-1/2.

4. Open Bus Tie Fwd. and Aft., on Main Distribution Switchboard ("B" Board)

5. Strip Main Distribution Switchboard ("B" Board).

6. Strip Emergency Switchboard in I.C. Room, located 2-90-1, of all circuits except XFE 105 (Fwd. Engine Room Emergency Lighting).

7. Throw Switch FB 0300 from position "A" to position "B" (from right to left) on bottom of Emergency Switchboard.

8. Manually start Emergency Diesel Generator, located 03-97-2.

9. Raise voltage to 240 volts by means of rheostat on Emergency generator Switchboard.

10. Close Emergency Generator Switchboard Circuit Breaker XFE 0200-0201.

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1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E-19
ECONOMIZER SOOT FIRE.

1. As soon as the fire is detected secure oil burners.

2. Close the Air Register.

3. Increase the flow of boiler feed water to attempt cooling the Economizer elements. Keep water in sight in gage glass by using surface or bottom blow valves.

4. Extinguish the fire as soon as possible using Soot Blowers or any other suitable fire extinguisher.

5. Examine the Economizer for damage and cleanliness.

6. Apply hydrostatic test and prove tight before restoring to service.

Chief Engineer

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1 MAY 1968

SUBJ: ENGINEERING CASUALTY DRILL, E- 20
MAIN AND AUXILIARY CIRCULATING PUMP FAILURE

1. Saltwater Circulating System to Main & Auxiliary Condensers Lube Oil Coolers for Auxiliary Generators, Main Lube oil cooler, feed pump Lube oil coolers and water service to line shaft bearings are one integral System supplied by Main Circulating & Auxiliary Circulator and supplemented with Fire Pump and Bilge Pump.

2. Normal operation the Main Circulator discharge is isolated from the Auxiliary Circulator by closing the cross-over valve in the discharge line between the two pumps.

3. A ~~cross-over~~ common operating procedure on a long leg of a voyage is to open the cross-over valve, close the Auxiliary Circulator injection valve, permitting the Main Circulator to service both Main and Auxiliary Condensers as well as Auxiliary Cooling water service.

4. The first indication of failure of Main Circulator would be in lighting on of electrical power load followed immediately by loss of vacuum.

(a) Slow down Main Propulsion Unit.
(b) Open Auxiliary Circulator Sea Injection Valve.
(c) Start Auxiliary Circulator.
(d) Close Main Circulator Sea Injection Valve.
(e) Open cross-over from Fire Pump discharge to Saltwater Circulating cross-over main.
(f) Start Fire Pump.
(g) Vacuum should start to raise. When fully restored speed up Main Propulsion Unit.
(h) If required open discharge from bilge pump to Saltwater circulating cross-over main.
(i) Open Sea Suction to bilge pump.
(j) Start Bilge Pump.

Adequate Saltwater Circulating Service should be restored for full power operation.

W. L. Chamberlain
Chief Engineer