



ACTIVATION SPECIFICATION

CAPE ISABEL CAPE INTREPID
CAPE ISLAND CAPE INSCRIPTION

DTMA8C00022 and DTMA8C00023

Contract effective date:
November 1, 2000

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VESSEL INFORMATION

Located in Long Beach

CAPE INSCRIPTION

EX S.S. MAINE
 BIW HULL NUMBER 368 MA HULL 279
 OFFICIAL NUMBER 569400
 ABS ID 7602586
 BUILT 4/1976

CAPE ISABEL

EX S.S. NEVADA
 B.I.W. NUMBER 368 MA HULL 281
 OFFICIAL NUMBER 577636
 ABS ID 7615266
 BUILT 11/1976

Located in Tacoma

CAPE ISLAND

EX S.S. ILLINOIS
 B.I.W. NUMBER 369 MA HULL 282
 OFFICIAL NUMBER 581745
 ABS ID 7704241
 BUILT 05/1977

CAPE INTREPID

EX S.S. ARIZONA
 B.I.W. NUMBER 367 MA HULL 280
 OFFICIAL NUMBER 573093
 ABS ID 7606645
 BUILT 06/1976

DESIGN C7-S-95a
 BUILT AT: Bath, Maine

L.O.A.	684'-09"
BREADTH	102'-00"
DEPTH	69'-06"
ENGINES	S/TURBINE
SHP	29,600-37,000
FUEL CAPACITY	26,056 BBLs (Cape Inscription/ Isabel) 31,580 BBLs (CapeIsland/Intrepid)
FUEL CONSUMPTION	
PER DAY AT SEA	1,100 BBLs
PER DAY IN PORT	195 BBLs
DWT	20,683
GROSS	23,383
NET	17,022

1. INTRODUCTION

ACTIVATION SPECIFICATION

The **CAPE ISABEL** and **CAPE INSCRIPTION** located in Long Beach plus the **CAPE INTREPID** and **CAPE ISLAND** located at the Port of Tacoma are owned by the United States of America acting through the Maritime Administration, Department of Transportation (hereinafter called MARAD). Crowley Liner Services (CLS) is the contracted Ship Manager. The primary mission of RRF ships such as these is to support Navy strategic sealift requirements in support of the Department of Defense (DOD). Upon activation, RRF ships are tendered to the Military Sealift Command (MSC) for operational control and husbanded by the Ship Manager.

The Cape "I" Ships Activation Specification calls for a delivery in 96 hours because all four ships are in Reduced Operating Status (ROS).

All work will commence at the outport berth immediately upon Notice to Proceed (NTP).

Attending the vessel for MARAD will be the Contracting Officer's Technical Representative (MARAD COTR). The term "MARAD COTR" may also be defined as the MARAD Surveyor.

<u>Contract #</u>	<u>Group</u>	<u>Vessels</u>	<u>Location</u>
DTMA8C00022	28	CAPE ISLAND, CAPE INTREPID	Tacoma
DTMA8C00023	29	CAPE INSCRIPTION, CAPE ISABEL	Long Beach

Telephone numbers and means of emergency contact for entities (CLS, MARAD, MSC, etc.) which may be involved in an activation are contained in the appendices listed below. All are updated on a regular basis. Please see for details ...

- Appendices:
- A. CLS Organization / Contacts
 - B. Ship Manager Information Sheet
 - C. Regulatory Body Organizations/Contacts/Approvals
 - D. Prime and General Contractors
 - E. Agency List
 - F. MSC COMSCINST 4626.1B
 - G. Declaration of Inspection Prior to Bulk Transfer
 - H. Emergency Purchases

2. PREFACE TO SPECIFICATION

The Cape "I" Activation Specification outlines the activating of the CAPE ISLAND, CAPE INTREPID, CAPE INSCRIPTION and CAPE ISABEL. All of these vessels are manned with an ROS crew. Contractor will be used only as needed.

All work is to be accomplished by ROS crew.

GENERAL INFORMATION

- All labor, material, equipment and transportation will be furnished to accomplish repairs, tests, and activation outlined in this Specification. All work is to be diligently carried out under competent supervision, and completed in an expeditious manner.
- Furnished materials and equipment used for repairs to, or replacement of, existing shipboard materials or equipment must comply with all applicable American Bureau of Shipping (ABS), U.S. Coast Guard (USCG), and FCC requirements.
- All repairs and/or renewals are to be completed to the satisfaction of the Ship Manager's Contracting Officer's Technical Representative (MARAD COTR) and representatives of the regulatory bodies. Contractor shall give MARAD COTR timely, written prior notice of anticipated inspections for efficient coordination of same.
- Contractor shall apply a hose test, head test, or pressure test to prove all work accomplished, tight, and otherwise satisfactory to all concerned parties.
- All removals and replacements required to gain access shall be accomplished, as necessary, in order to effect the repairs, renewals, and additions enumerated herein.
- All new and/or disturbed equipment, gaskets, joints, etc., covered by these Specifications are to be checked and hardened up before being covered or lagged.
- Unless otherwise specified, all steel renewals and/or repairs, and disturbed areas adjacent thereto, at completion of repairs will be blasted and/or wire brushed, or mechanically cleaned with compatible prime and finish-coating system built up to level of surrounding area.
- Unless specifically approved by the MARAD COTR, the Contractor shall not use any of the ship's spare parts, material, tools, or equipment for repairs or replacements in the performance of the repairs described in these Specifications.
- If the MARAD COTR agrees to the use of vessel spare parts for expediency, Contractor will place an order to replace the parts via a signed purchase order.
- Access to vessel will be required by other Contractors designated by the MARAD COTR.
- Where specific equipment or materials are identified in the Specifications, equivalent products may be substituted in accordance with the provisions of the Contract after approval by the MARAD COTR.

2. PREFACE TO SPECIFICATION

GENERAL INFORMATION – Continued

- Any dimensions for work involved in these Specifications are given for the guidance of the Contractor who is, however, responsible for taking his own measurements.

NOTE: Quantities, sizes, locations and description of equipment, appurtenances, and fixtures indicated in these Specifications are given as guidance and are not limited to the amounts as shown. Therefore, all interested companies wishing to be considered for this Contract must, by arrangement before repairs, inspect the ships and make a fair assessment of the labor force required to meet the repair schedule.

- The vessel's mooring lines shall not be used for towing purposes, or mooring at Contractor's facility. Collect, palletize, and stow all mooring lines in a location as designated by the MARAD COTR. Upon completion of contract reinstall mooring lines for use.
- Contractor shall prepare working drawings or sketches necessary for performance of the work and submit the documents to the MARAD COTR for review before submittal to the Regulatory Body and Classification Society for approval.
- All new, disturbed, or soiled surfaces affected by the work shall be properly cleaned and/or lagged. Tanks, cargo holds, and other spaces affected shall be left clean and ready to receive their contents.

2. PREFACE TO SPECIFICATION

GENERAL INFORMATION - Continued

- No debris shall be allowed to accumulate on the vessel during repairs. Trash shall be removed daily, and decks left in a clean and safe condition. Remove bilge water and oil daily or more frequently as needed.
- Upon completion of all repairs and removal of all Contractor equipment, the MARAD COTR and a representative of the Contractor are to inspect all areas of the vessel to ensure that the vessel is clean (free of trash, dust, sand, grease, debris, or residue), dry, and ready for Activation. Any cleaning required to achieve this standard will be accomplished before the vessel leaves the Contractor's facility.
- All insulation of the vessel shall be considered asbestos-based. If it is necessary to disturb any insulation during repairs, Contractor shall furnish qualified/certified facility and chemist to ascertain and define the material through laboratory analysis. If laboratory analysis is positive, Contractor shall furnish a qualified/certified facility for containment and disposal of material according to OSHA Regulations, Volume One, Article 1910.1001 and/or MIL/STD-769F.
- Contractor shall supply staging and/or scaffolding required to complete any Items, including erection and dismantling of same.
- Contractor shall maintain good housekeeping affecting all Contract Items, i.e., all parts removed in way of machinery, equipment, and structural components shall be put aside in an orderly manner, in proper and safe locations and/or containers, and identified by tagging for correct, speedy reuse and reinstallation. Proper care is to be exercised to protect all exposed machinery, equipment, and structural parts of vessel covered under repair Items which might be subject to weather and/or mechanical damage.
- If Contractor intends to use an equally qualified service technician in lieu of the manufacturer representative, Contractor must present sufficient evidence to the MARAD COTR proving that the intended Subcontractor is capable of satisfactorily completing the Item(s). The MARAD COTR will approve or disapprove the intended Subcontractor at that time.
- Contractor shall not allow employees, Subcontractor, or others to manufacture gaskets as required in various Items in this Specification by using the ball-peen-hammer method. All gaskets are to be cut by using proper gasket-forming tools, such as arch punches.

3. ACTIVATION SPECIFICATION "PART A"

ACTIVATION PROCEDURES

INITIAL MEGGER TEST

All meggering to be done by ROS crew during Phase IV.

Motor list

Forced draft fans, two (2)
Warping Winch, one (1)
Air compressor, control, one (1)
Air compressor, ship service, one (1)
Jacking gear motor, one (1)
Emer. Generator Hydraulic pump, one (1)
Gland leakoff exhaustor, one (1)
Hatch cover hydraulic pumps, thirty eight (38)
A/C Chill or Hot Water Pumps, two (2)
Bilge and Ballast Pumps, two (2)
Main circulating pump, one (1)
Auxiliary circulating pumps, two (2)
Main Condensate pumps, two (2)
Auxiliary Condensate pumps, two (2)
Distiller Brine Overboard Pumps, two (2)
Distiller Condenser Condensate Pumps, two (2)
Distiller Feed Pumps, two (2)
Contaminated Evaporator Feed Pumps, two (2)
Shaft Alley Fire Pump, one (1)
Potable freshwater pump, two (2)
Fuel oil service pumps, two (2)
Fuel oil transfer pump, one (1)
H.W. recirculating pump, one (1)
Lube oil service pump, one (1)
Priming pumps- Bilge & Ballast, two (2)
Saltwater service pumps, two (2)
Sanitary Drain Tank pumps, two (2)
MSD, one (1)
Diesel Oil Transfer Pump, one (1)
Lube oil purifier, one (1)
Electric L.O. Heater Circ. pump, one (1)
Air conditioning compressors, two (2)
Ship service refrigeration compressor, two (3)
Steering gear hydraulic pumps, two (2)
Main scoop valve, one (1)
Main circ low suction valve, one (1)
Main circ high suction valve, one (1)

3. ACTIVATION SPECIFICATION "PART A"

ACTIVATION PROCEDURES

INITIAL MEGGER TEST (cont)

- Main Cond. Ovbd. valve, one (1)
- Low sea Suct. Generator #1, one (1)
- High sea Suct. Generator #1, one (1)
- Low sea Suct. Generator #2, one (1)
- High sea Suct. Generator #2, one (1)
- Ventilation system fans, twenty-seven (27)
- Accommodation ladder winches, two (2)
- Lifeboat winches, two (2)
- Anchor windlass, one (1)
- Lathe, one (1)
- Drill press, one (1)
- Grinder, one (1)
- S.S.T.G. Lube Oil start pump, two (2)
- Coffin Feed Pump Lube Oil start pump, two (2)

ENGINE ROOM DUCTING (PERFORMED DURING DEACTIVATION ONLY)

Furnish the services of an experienced and qualified power vacuum facility and all support labor, material, and equipment to power vacuum from centralized vacuum truck the entire engine room and steering gear space supply and exhaust ducting system. Make removals, install blanks, operate dampers, and cut access as needed to accomplish cleaning. Prior to initiation of work submit sequential work plan to the PORT ENGINEER for approval. All gasketed joints opened shall be closed up on new gaskets. Renew any broken or missing fasteners. This item shall be accomplished in a manner so as not to hinder the progress of the activation items and shall be accomplished as early as possible in the activation sequence to keep contamination of the spaces to a minimum when ventilation systems are started up.

FIRE DAMPERS (USCG)

Should be done by ROS crew during Phase IV.

Provide labor, equipment, and material to service all below listed manual and automatic fire dampers. Lubricate and operate each fire damper through its range of travel ensuring dampers adequately block the ducting to USCG satisfaction and that securing devices function as intended. Total of thirteen (13) manual fire dampers (MFDs), and three (3) automatic fire dampers (AFDs) to be dealt with.

Type	Location	Service
AFD (1)	05-130-0	E/R exhaust
MFD (2)	1-42-1&2	Hold #2 exhausts
MFD (2)	1-92-1&2	Hold #3 exhausts
MFD (2)	1-146-1&2	Hold #5 exhausts
MFD	01-139-2	AC. System Supply
MFD	01-142-2	Tempered Air System Supply
MFD/AFD	01-140-0	Galley exh.
MFD	01-140-2	Galley exhaust
MFD (2)	05-131-1&2	E/R Exhaust
MFD	05-133-2	Quarters Exhaust

3. ACTIVATION SPECIFICATION "PART A"

ACTIVATION PROCEDURES

INTERIOR DRAIN CLEARING

Furnish the services of a professional drain clearing facility with power snakes ie. "ROTO-ROOTER" or similarly qualified service and all support labor, equipment and material to snake out all deck and domestic quarters drain piping that is encountered as clogged during the activation. The drains shall be verified clear to the PORT ENGINEER. The drains and piping systems may require piping or trap disassembly, cleaning, and reassemble using new Contractor Furnished fittings, fasteners, to replace any found defective and new gaskets on any gasketed joint opened. For bidding purposes assume that the service shall be available for three straight days two eight hour shifts/day, and that two-yard support pipe fitters are utilized for the same period of days and shifts.

SYSTEMS CLOSURES

Furnish the necessary labor, material, and equipment to ensure that various steam and water system components and piping that have been opened for D/H purposes are closed up. Piping flanges, machinery drains, saltwater strainers, traps, and manholes have been removed and are marked with fittings and fasteners adjacent or in the removals storage box in plastic heat sealed packaging. The contractor shall furnish any missing gaskets, pipe plugs and caps (of the proper pressure and fluid rating) for proper closure of the system. The intent of this item is that all systems will be made tight and ready for service.

The following list represents those covers or heads which must be closed up, but is not all inclusive:

- Fore Peak and After Peak manhole covers
- D.C. Heater manhole cover
- Two (2) Coffin main feed pump covers

INSULATION BLANKETS

Furnish the necessary labor, material, and equipment to properly reinstall insulation blankets in their respective locations throughout the engine spaces. Blankets have been laid aside their respective location and will require stainless steel wire lacing. Do not reinstall blankets removed for D/H purposes until system/machinery has been closed and proven tight in the activation process.

3. ACTIVATION SPECIFICATION "PART A"

ACTIVATION PROCEDURES

Perform the following ONLY AS REQUIRED BY LAY-UP STATUS

OILY WATER SEPARATOR (O.W.S.)

The Heli-Sep Model 10,000 oil water separator shall be started by a an authorized manufacturer representative. The unit shall be proven by an operational test to the satisfaction of the PORT ENGINEER. Controls and alarms shall be placed in good order, calibrated where appropriate and demonstrated in good order to the attending PORT ENGINEER and the Regulatory bodies. After successful testing and sea trial, all units (including piping and associated pumps) are to be thoroughly drained, blown dry, and closed up in good order, renewing any defective or missing fasteners, securements, or gaskets..

MSD (Marine Sanitary Device)

Furnish the services of a factory technical representative to start up, place on line, make necessary repairs and adjustments and demonstrate proper operation of the OMNIPURC MSD, manufactured by Envirovac Inc. Operation of the unit shall be demonstrated to the satisfaction of the Regulatory Bodies and the PORT ENGINEER.

COMPASSES & GYRO

Provide necessary technicians, labor, material, and equipment to accomplish the following:

- Thoroughly check out Sperry Gyro compass, repeaters, and automatic pilot. Reinstall repeaters on stands. Service and check out all systems making adjustments as necessary.
- Provide the services of a compass adjuster to adjust the magnetic compass en route to vessel sea trial. The Contractor shall furnish tugs to swing compass if needed.

FCC INSPECTION

Furnish services of an approved contractor for radio station licensing and a qualified service representative to check out, activate, test and adjust the vessel's radio equipment.

Bridge communication equipment to be removed from security locker and reinstalled in mounts and connected. Furnish service of radio operator technician to perform a full FCC license inspection.

NOTE: Contact with the FCC and arrangements for the inspection times should be made as soon as possible.

3. ACTIVATION SPECIFICATION "PART A"

ACTIVATION PROCEDURES

Perform the following ONLY AS REQUIRED BY LAY-UP STATUS

BOILERS

Provide the services of a qualified boilermaker facility with all-necessary labor, material, and equipment to accomplish the light off, testing and satisfactory operation of the dry, deactivated port and starboard boilers.

- **Buttoning Up Boilers**
Remove all boiler-casing doors associated with boiler handholes that are not already stowed adjacent. Install any missing handhole gaskets. Harden up on all handholes, and manways. Close all boiler mounts and drain valves on entire system to prove water and airtight. Verify tight to the satisfaction of the Chief Engineer with a 100 psi air test of each boiler. Blanks are installed on all superheater and drum safeties.
- **Hydro Boilers**
After boiler watersides are closed and air test is successful, fill boilers with boiler quality water and conduct working pressure hydro to prove boiler tight to the satisfaction of the Chief Engineer and regulatory bodies. Take up on any leaking gaskets. After hydro is complete, drain down boiler to light off level as directed by the Chief Engineer.
- **Light Off**
Reinstall all casing doors and covers, all manholes and inspection covers. Remove safety valve blanks and return safety valves to their respective mounts. Verify that studs for safety valve mounting are high temperature B-16. Furnish any studs that are missing or not high temperature B-16 studs.

SHAFT & RUDDER LOCKS

Furnish the necessary labor, material, and equipment to accomplish the following:

- Disconnect coupling bolts and remove shaft locking device in shaft alley. Rig lock aside and stow as directed. Make up coupling bolts. Reinstall coupling guard. Leave ready for service.
- Remove rudder locks and stow as directed by the P/E.

NAVIGATION EQUIPMENT

Furnish services of qualified service representative to test, activate, and adjust the vessel's navigation and radar equipment:

Bridge navigation units are to be removed from security locker and remounted in their proper mounting brackets and reconnected. All units are to be tested for proper operation and a report of all deficiencies provided to the P/E.

3. ACTIVATION SPECIFICATION "PART A"

ACTIVATION PROCEDURES

MACHINERY TEST - MISCELLANEOUS AUXILIARY SYSTEMS

Under the direction of the vessels engineering staff the auxiliary systems listed below are to be given a service demonstration and checked off as a satisfactory operation is observed. Note the time of system started/filled/on line, as is applicable.

- Auxiliary Steam Systems
- Condensate Systems
- Distilling Plant
- Saltwater Service and Sanitary Systems
- Ventilation And Heating System
- Boiler Water Treatment System
- Ballasting And Deballasting Systems
- Saltwater Service System
- Freshwater Service System
- Marine Sanitation Device
- Machinery Vibration On All Overhauled Pumps
- Fuel Oil Handling
 - Bunkering (4500 BBLs for Dock Trials-Full load for voyage.)
 - Fuel Oil Transfer
 - Fuel Oil Service Heaters
- Electrical Generating System
 - Ship Service Turbogenerators (2)
 - Overspeed Trip
 - Reverse Power
 - Parallel Operation
 - Low Lube Oil
 - Emergency Diesel Generator
 - Automatic start and transfer
 - Overspeed Trip
 - High water temp trip
 - Low Lube Oil Alarm
- Switchboards
 - Main
 - Emergency
 - Main
- Wiring
 - Emergency
- Oil Water Separator

3. ACTIVATION SPECIFICATION "PART A"

ACTIVATION PROCEDURES

MACHINERY TEST - MISCELLANEOUS AUXILIARY SYSTEMS (continued)

Boilers

Oil Fired

Piping

Safety Valves

Fuel Oil System

Feed water System

Lube Oil Purifiers

Lube Oil Transfer System

Stern Tubes Cooling And Packing

Machinery Space Ventilation

4. ACTIVATION SPECIFICATION "PART B"

TRIALS - Dock and Sea

Notify the MARAD COTR immediately (Dock and Sea trials) upon discovery of any unusual circumstances that could be detrimental to any equipment and/or conduct of the trial.

DOCK TRIAL

The purpose of the dock and seatrial is to demonstrate the readiness of the vessel's engineering plant and auxiliary systems. During the dock trial, operating tests will be performed on all major vessel components and systems to ensure the vessels' seaworthy operating condition.

During the dock trial, operating tests for machinery and systems, not previously tested, shall be given their operating tests.

SEA TRIAL:

The Owner (MARAD) will furnish operating personnel and tech-assist personnel to accomplish a sea trial of no less than 24 hour duration. CLS will furnish line handlers and tugs to let loose vessel, and tugs and line handlers to dock the vessel upon return from Sea Trial. Pilots for the outbound and inbound voyages shall be arranged for by the Ship Manager. Disconnect services prior to departure and reconnect services upon return of the vessel. Contractor will furnish qualified craft assistance for adjustments and minor repairs.

5. ACTIVATION SPECIFICATION "PART C"

REPAIRS/DEFICIENCIES

The Ship Manager has assigned Port Engineers overseeing the maintenance phase (Phase IV) of the Cape Isabel, Cape Intrepid, Cape Island and Cape Inscription. As part of his routine duties, the Port Engineer tests, checks and inspects various machinery, equipment, and spaces aboard the vessel(s). If any deficiencies are noted, they would be input into the MARAD MARTS system. Priority would be given to items that are vital to the success of an Activation and supported Phase "O" Operation.

After conferring with the MARAD COTR, the Port Engineer would include the deficiencies requiring Industrial assistance in his Activation Specification to take advantage of their presence during a call-out.

6. ACTIVATION SPECIFICATION - PART "D"

ELECTRICAL CIRCUITS - POWER AND LIGHTING

ROS crew to handle during phase IV. Information only.

Motor List: Forced draft fans, two (2)
 Air compressors, control, two (2)
 Air compressor, ship service, one (1)
 Dumbwaiter, one (1)
 Jacking gear motor, two (2)
 Gland leakoff exhauster, two (2)
 Hatch cover hydraulic pumps, three (3)
 Bilge and Ballast Pumps, two (2)
 Main circulating pump, one (1)
 Auxiliary circulating pumps, two (2)
 Main condensate pumps, four (4)
 Auxiliary condensate pumps, one (1)
 Distiller Brine Overboard Pumps, two (2)
 Distiller Distillate Pumps, two (2)
 Distiller Feed Pumps, two (2)
 Distiller chemical injection pump, one (1)
 Engine Room Fire Pump, two (2)
 Shaft Alley Fire Pump, one (1)
 Potable freshwater pumps, two (2)
 Fuel oil service pumps, two (2)
 Fuel oil transfer pump, one (1)
 H.W. recirculating pump, one (1)
 Ice water recirculating pump, one (1)
 Lube oil service pump, two (2)
 Priming pumps- Bilge & Ballast, two (2)
 Saltwater service pumps, one (1)
 Sanitary pumps, two (2)
 Diesel Oil Transfer Pump, one (1)
 Lube oil purifier, two (2)
 Ship service refrigeration compressors, two (2)
 Dairy Room Diffuser, one (1)
 Fruit and Veg. Room Diffuser, one (1)
 Steering gear hydraulic pumps, two (2)
 Gyro Pilot Hydraulic Pumps, one (1)
 Ventilation system fans, forty-eight (48)
 Accommodation ladder winches, two (2)
 Lifeboat winches, two (2)
 Mooring winch aft, two (2)
 Mooring winch M/G set one (1)
 Anchor windlass, one (1)
 Marine Sanitation device blower, one (1)
 Marine Sanitation device pump, two (2)
 Oily-Water Separator drive motor, one (1)
 Oily-Water Separator pump, one (1)
 Drill press, one (1)
 Grinder, one (1)

6. ACTIVATION SPECIFICATION - PART "D"

ELECTRICAL CIRCUITS - POWER AND LIGHTING - Continued

<u>FEEDER LINE LIST:</u>	
<u>FROM CIRCUIT BREAKER</u>	<u>TO</u>
1P	Shore Power
2P	Forced Draft Fan #1
3P	Main Circ Pump #2
4P	Group Control "A"
6P	Engine Room Vent Power Panel
7P	Emerg Switchboard Bus Tie
8P	Steering Gear Transfer Panel
9P	Steering Gear Transfer Panel
10P	Forced Draft Fan #2
12P	Main Circ Pump #1
13P	Group Control "B"
18P	Test Panel
14P	Vehicle Starting Power Panel
19P	Group Control "D"
20P	Group Control "C"
21P	Commissary Power Panel
23P	Engr Work Shop Power Panel
24P	Quarters Vent Power Panel
25P	Misc Vent Power Panel
26P	Winch Power Panel #2
27P	Winch Power Panel #1
28P	Anchor Windlass
29P	Accom Ladder Winches
30P	Lifeboat Winches
31P	Aft Deck Machinery Power Panel
32P	Winch Power Panel #3
40P	Misc 115V Power Panel
1L	Lighting Panel #1
2L	Lighting Panel #2
3L	Lighting Panel #3
4L	Lighting Panel #4
5L	Lighting Panel #5
6L	Lighting Panel #6
7L	Lighting Panel #7
8L	Lighting Panel #8
9L	Lighting Panel #9
10L	Lighting Panel #10
11L	Lighting Panel #11
12L	Lighting Panel #12
13L	Lighting Panel #13
14L	Lighting Panel #14
3EP	Fire Pump #3

6. ACTIVATION SPECIFICATION - PART "D"

DISTILLED WATER

ROS crew to provide certified demineralizing equipment and qualified operating and monitoring personnel, who will test and keep written records, of water supplied to the vessel's Boilers, Distill Tank, Reserve Tank, D.C. Heater, RFW-DB Tank, etc. Water supplied will be on an as needed basis.

Distill Tank Capacity	73 Tons
RFW Tank Capacity	94 Tons
Boiler Capacity	18 Tons

Top off tanks as required prior to shifting/sailing to loading berth

BILGE SLOPS

ROS crew to furnish labor, material and equipment to provide a tank(s) and/or tank truck(s) to receive vessel's bilge slops during activation and properly dispose of same in accordance with all applicable Federal, State and Local Environmental Regulations.

For bid purposes assume a total of 50 long tons of water will require removal.

SHIP'S TELEPHONE SYSTEMS

Crew to furnish skilled electrical labor to inspect, service, and test all Sound Powered Telephones throughout the vessel. Furnish a condition report of all deficiencies to the PORT ENGINEER.

Check all Handsets, Transmitters, Cords, Ringers, Selector Switches, Headsets. On the exposed weather deck stations, phone enclosures boxes shall have the gaskets replaced and proven water tight.

Perform the following ONLY AS REQUIRED BY LAY-UP STATUS

BOILERS

ROS crew to furnish labor, material and equipment to remove blower/heaters from boiler firesides, close up access plates and leave port and starboard boilers ready for service.

Ensure breakers supplying power to blower/heaters mounted on Forced Draft Fan exhaust plenums access manholes are open and tagged. Disconnect power pigtailed at junction boxes adjacent to blowers. Unbolt blowers and mounting platforms from Forced Draft Fan Plenums, remove, tag and stow as directed. Close up manholes using new gaskets and renewing any defective fasteners.

Close up access opening manholes above economizers in both boiler uptakes using new gaskets. Remove stack covers, tag and stow as directed.

Close, using new press seal(s), all boiler casing access doors on both boilers. Fit 2-1/2", Owner supplied, pipe cap on casing drains. Four (4) per boiler.

6. ACTIVATION SPECIFICATION - PART "D"

Perform the following ONLY AS REQUIRED BY LAY-UP STATUS

D. C. HEATER

ROS crew to furnish labor, material and equipment to close up D. C. Heater access using new gasket. Replace insulation/lagging on cover after checked and hardened up the cover to the satisfaction of the P/E.

TURBINES

ROS crew to furnish labor, material and equipment to close up covers on Main Steam inlet strainers for Main Engine using new gaskets. Close up turbine end covers of Nos. 1 & 2 Coffin Feed pumps using new gaskets. Replace insulation/lagging on covers after checked and hardened up all the above covers to the satisfaction of the Chief Engineer or Port Engineer.

Remove and stow as directed screen mesh at Main Engine Low Pressure Turbine and install turbine access cover using new gasket.

AUTOMATION AND CONTROLS

Contractor to furnish labor, material and equipment to conduct a check and calibration of all Combustion Controls, Feedwater Controls, Throttle Controls, Ballast Valve Controls and console equipment. Prove proper operation. During Dock Trial, Shaft RPM Indicator and Main Unit Bearing Temperature Monitoring System to be checked out, calibrated and proven operational.

Contractor to assist crew as required in demonstrating proper operation of Automation using the USCG approved Automation Check Off List Procedure.

Furnish the services of a PORT ENGINEER approved automation and combustion control technician. The services of the technician shall be required for the entire activation period including sea trial.

CO2 AND SMOKE DETECTING SYSTEMS

Furnish services of qualified personnel to test CO2 and smoke detecting systems to the satisfaction of the Port Engineer and leave ready for service.

NAVIGATION EQUIPMENT

Crew labor, material and equipment to checkout, test, calibrate and activate all the Navigation Equipment including the Sperry Gyro Compass, Steering and Course Recorder, Anti-Collision Radars, LORAN, SATNAV, Rudder Angle Indicator, etc.. Prove satisfactory operation.

RADIO EQUIPMENT

Crew labor, material and equipment to checkout, test, calibrate and activate all the Radio equipment and Conduct an FCC licensing inspection after vessel is on ship's power. Prove all equipment fully operational to the satisfaction of the P/E.

6. ACTIVATION SPECIFICATION - PART "D"

Perform the following ONLY AS REQUIRED BY LAY-UP STATUS

LIFERAFT CERTIFICATION

Remove four (4) liferafts from vessel to U.S.C.G. approved service facility for service and re-certification. Return rafts to vessel complete with certificates and properly stow as original.

The rafts to be re-certified are three (3) B. F. Goodrich rafts and one (1) Uniraft for a total of four (4) rafts.

SALINITY INDICATING SYSTEMS

Crew to furnish labor, material, equipment and qualified service personnel to check out and prove operational all Salinity Indicating Systems. Check that all Salinity Cell valve bodies are operational and will permit the removal of cells with fluid pressure on the line(s). Three (3) separate Salinity Indicating Systems are involved, with a total of ten (10) cells.

BOW THRUSTER

Furnish qualified service technician to check out and prove proper operation of the bow thruster system to the satisfaction of Chief or Port Engineer. Provide hydraulic fluid if required.

Bow thruster operation is to be proven using the bridge console control station and also the active slave control stations on the bridge wings.

NOTE: THE BOW THRUSTER IS DRIVEN BY A 1500 HP MOTOR. BOTH GENERATORS MUST BE ON THE LINE BEFORE ENERGIZING BOW THRUSTER MOTOR. VISUAL INSPECTION OF BOW THRUSTER FROM BOTH SIDES OF VESSEL SHALL BE COMPLETED JUST PRIOR TO ENERGIZING MOTOR TO PREVENT INGESTING FLOATING DEBRIS.

7. ACTIVATION SPECIFICATION PART "E"

DOCK TRIAL

All dock trial to be done by ROS crew. Contractor will only be used as needed.

Sufficient qualified personnel, equipment, manufacturer's representatives, etc., shall be furnished conduct a Dock Trial of not less than four (4) hours duration. All necessary arrangements shall be made to ensure that the vessel is held securely alongside the dock during the trial period. The Main Engines will be turned both ahead and astern at whatever RPM is considered safe. The purpose of the operational testing of ship's installed equipment is to demonstrate the readiness of the engineering plant, auxiliary systems, and major deck machinery following repairs. PORT ENGINEER to be provided with a written report detailing findings and repair recommendations, if any.

Systems and all equipment within systems to be tested by the crew include but are not limited to the following:

A. MISCELLANEOUS AUXILIARY SYSTEMS

The auxiliary systems listed below are to be given a service demonstration and checked off as a satisfactory operation is observed.

- Auxiliary Steam Systems
- Condensate Systems
- Saltwater Service and Sanitary Systems
- Ventilation And Heating System
- Boiler Water Treatment System
- Ballasting And Deballasting Systems
- Saltwater Service System
- Freshwater Service System
- Marine Sanitation Device
- Machinery Vibration On All Overhauled Pumps
- Fuel Oil Handling
- Bunkering (4500 Bbbs for Dock Trials)(Full load for voyage)
 - Fuel Oil Transfer
 - Fuel Oil Service Heaters
- Electrical Generating System
 - Ship Service Turbogenerators (2)
 - Overspeed Trip
 - Reverse Power
 - Parallel Operation
 - Low Lube Oil
 - Emergency Diesel Generator
 - Automatic start
 - Overspeed Trip
 - High water temp trip
 - Low Lube Oil
- Switchboards
 - Main
 - Emergency
- Wiring
 - Main
 - Emergency
- Oil water separator

7. ACTIVATION SPECIFICATION PART "E"

Boilers
 Oil Fired
 Piping
 Safety Valves
 Fuel Oil System
 Feedwater System
 Lube Oil Purifiers
 Lube Oil Transfer System
 Stern Tubes Cooling And Packing
 Machinery Space Ventilation

B. DISTILLING PLANT

Distilling plants to be operated for a period of six (6) hours' duration each to provide the rated capacity in gallons/day.

Time Of Test (Start):
 Time Of Test (Completion):
 Distilling Plant Meter (Start):
 Distilling Plant Meter (Completion):
 Gallons Per Day:
 Salinity Reading:

PREREQUISITES

- Furnish two (2) standby tugs of a minimum of 3,500 bhp each for dock trial.
- Mooring stations and adequacy of mooring lines are to be checked to ensure proper securing of the ship to the dock while under power.
- Additional mooring lines shall be supplied, set, and properly adjusted for dockside, tidal and ship conditions as directed. Upon completion of dock trial the additional lines shall be removed.
- Before turning over the main engines, verify that there are no obstructions in way of propellers. Ensure a watch is stationed aft to report any floating or other object that may foul the propeller, or otherwise cause ship damage. Both main engines are to be rolled over and warmed up in accordance with manufacturers instruction book and good marine engineering practices.
- Communication systems between machinery spaces, bridge and stern stations to be satisfactorily checked out.
- All instrumentation used for the collection of data shall be in service condition.
- The installation and testing of safety devices used for the protection of equipment and personnel shall be completed.
- The following to be satisfactorily tested prior to trial:
 1. Low lube oil alarm/trips (both main engines).
 2. Standby lube oil pumps operation.
 3. All Main Engine safety equipment

7. ACTIVATION SPECIFICATION PART "E"

DOCK TRIAL

TEST PROCEDURE

The plant will be lit off and in a standby condition. To obtain an acceptable steamload on the boilers during the dock trials, only one boiler at a time shall be used to supply steam to the propulsion engine and auxiliaries.

Operate the main propulsion plant for a period of at least four (4) hours at maximum safe propeller rpm; at least one-half hour during this period will be astern operation. The propulsion machinery shall be maneuvered through the powers and speeds, as permitted by the facilities at the dock. If, due to the light load condition of the vessel, excessive vibration should develop, or if the action of the propeller wash should tend to prove hazardous, the rpm shall be decreased.

Operational test data (including at least two sets of data for astern) shall be recorded at 30 minute intervals. Data to be recorded shall consist of that which is available from permanently installed ship's instruments.

Each propulsion auxiliary (normal-standby) shall be operated for approximately its proportionate share of the total scheduled dock trial period.

During operations, observe the various units, particularly the main propulsion unit, for excessive vibration, noise, gland leakage, overheating, and satisfactory lubrication.

Record engine rotor position indications for both ahead and astern operation during operation.

The last reading of the ahead and astern runs shall commence sufficiently in advance to ensure that all required data is recorded prior to completion of that particular run.

Insofar as can be determined during the dock trial, the following combustion control features will be observed.

Ability to regulate supply of air to the burners.

Ability to regulate supply of oil to the burners in the correct air-to-fuel ratio throughout the operating range of the burners.

Ability of equipment provided to maintain automatically the fuel oil header pressure.

Verify satisfactory installation and operation of Feedwater controls.

Proper combustion at all burners throughout load range.

Notify the MARAD COTR immediately (Dock and Sea trials) upon discovery of any unusual circumstances that could be detrimental to any equipment and/or conduct of the trial.

The vessel's engine log book will be utilized in recording temperatures and pressures.

Additionally, the following items are to be satisfactorily demonstrated.

STEERING GEAR TEST--All modes of operation, including emergency steering, rudder angle indicators to be tested and checked. Rudder movement to be tested and monitored.

ENGINE ROOM REMOTE SHUTDOWNS--Tested (i.e., Fuel Oil Pumps, Lube Oil Pumps, Ventilation Fans, Forced Draft Fans, F.O. Transfer Pump).EMERGENCY DIESEL GENERATOR--Tested and proven in good operating condition.

ENGINE ORDER TELEGRAPH--Tested and proven properly functioning.

HOUSE COMMUNICATIONS SYSTEM--Tested and proven in good order in locations.

8. ACTIVATION SPECIFICATION PART "E"

TEST PROCEDURE - Boilers

See following pages

Periodic Safety Test Procedure

TMS SYSTEM 2000 BOILER AUTOMATION TEST PROCEDURE

**SS CAPE INTREPID
SS CAPE ISLAND
SS CAPE INSCRIPTION
SS CAPE ISABEL**

NOTES:

- 1) "Alarm energized" means that the appropriate light flashes, and the horn sounds, until the alarm acknowledge button is pressed, at which point the horn is silenced and the lamp remains on steady until alarm condition is clear.
- 2) Unless otherwise specified, all local manual bypass controls must be in the Auto position, the Burner Sequence in MANUAL sequence, and the Combustion Control in the normal operating mode.

SECTION I - BOILER CONTROLS

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK	
				S	P
1.	LAMP TEST	This should be done at the operating console and at the local panel. Press the lamp test push button.	<ol style="list-style-type: none"> 1) Horn sounds for a very short time. 2) All lamps light. 		
2.	MANUAL BOILER TRIP	While tested boiler is on the line, at either panel push the BOILER TRIP button on the tested boiler	<ol style="list-style-type: none"> 1) Main Oil Valve closed within 4 seconds. 2) All Burner Oil Valves closed within 4 seconds. 3) BOILER TRIPPED alarm energized. 4) Post purge cycle initiated, PURGE IN PROGRESS light illuminated. 		

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK	
				S	P
3.	DRUM LEVEL HIGH/LOW ALARMS	A) Place the feedwater control in MANUAL and raise the drum level to +6 inches.	Note HIGH DRUM LEVEL alarm is energized.		
		B) Next, raise the drum level to +8 inches.	Note HI-HI DRUM LEVEL alarm is energized.		
		C) Next lower the drum level to -6 inches.	Note LOW DRUM LEVEL alarm is energized.		
4.	LOW-LOW DRUM LEVEL ALARM AND TRIP	While the tested boiler is on the line, put the feedwater system in manual, and run the level down to -8 inches. The alarm and trip have a time delay of not more than 15 seconds.	<p>Note the following:</p> <ol style="list-style-type: none"> 1) LOW-LOW DRUM LEVEL alarm energized. 2) Main Oil Valve closed within 4 seconds. 3) All Burner Oil Valves closed within 4 seconds. 4) BOILER TRIPPED alarm energized. 5) All air registers close and no automatic post purge. 		
5.	FORCED DRAFT FAN FAIL ALARM AND TRIP	While tested boiler is on the line, stop the forced draft fan.	<p>Note the following</p> <ol style="list-style-type: none"> 1) FAN FAILURE alarm energized. 2) Main Oil Valve closed within 4 seconds. 3) All Burner Oil Valves closed within 4 seconds. 4) BOILER TRIPPED alarm energized. 5) No automatic post purge. 		
6.	LOW AIR FLOW ALARM	While tested boiler has only one burner in operation, set boiler to minimum firing rate, put FD fan on low speed, and close air damper all the way.	<p>Note the following:</p> <ol style="list-style-type: none"> 1) Flashing low air flow light on burner mgmt cabinet. 2) Boiler trips after 15 sec. 3) All Burner Oil Valves closed within 4 seconds. 4) BOILER TRIPPED alarm energized. 5) All air registers close and no automatic post purge. 		

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK	
				S	P
7.	LAST FLAME OUT ALARM AND TRIP	While tested boiler has only one burner in operation, close the manual fuel oil to burner root valve for the operating burner.	Note the following: 1) FLAME FAILURE alarm for particular burner. 2) Main Oil Valve closed. 3) Burner Oil Valve closed. 4) BOILER TRIPPED alarm energized. 5) All air registers close and no automatic post purge.		
8.	BOILER CONTROL POWER	While tested boiler is on the line, turn power off to burner management system.	Note the following: 1) Main Oil Valve closed. 2) All Oil Valves closed 3) All air registers close and no automatic post purge.		
9.	BURNER SAFETY TRIP CONTROL	Two burners must be operating for this test and the burner management must be in manual sequence. A) Close the manual fuel oil to burner root valve on the burner front of an operating burner on the tested boiler.	Note the following: 1) FLAME FAILURE alarm for that burner. 2) Burner Oil Valve closes. 3) Air Register for that burner closes		
		B) Now press Burner Stop/Reset for the tested burner.	Note the following: 1) Flame Failure alarm light clears.		
		C) With boiler under test in manual sequence, lift the mechanical interlock lever for an operating burner by removing one mounting screw of the limit switch or other practical means.	Note the following: 1) Tested burner trips. 2) Burner out of service light illuminates for tested burner.		

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK	
				S	P
10.	TRIAL FOR IGNITION	A) With boiler under test in Manual Sequence, and a purge complete is accomplished, firing, press Burner Start for a burner. While that burner is sequencing, press Burner Start for the other burner.	Note the following: The first burner started, but the other burner did not start.		
		B) With boiler under test in Manual Sequence, and one burner firing, turn the air supply off to the igniter solenoid valve for another burner. Press Burner Start for this burner.	Note the following: 1) The igniter will not insert, the IGNITER INSERTED light remains off, and the igniter does not energize. 2) BURNER TROUBLE alarm initiated. 3) The fuel valve will not open because the igniter is not energized. 4) After trial for ignition is completed, FLAME FAIL alarm will energize		
		C) With boiler under test in Manual Sequence, and one burner firing, turn off the circuit breaker to the igniter for another burner. Press Burner Start for this burner.	Note the following: 1) The igniter will insert, but does not energize. 2) Since the igniter will not energize, the igniter inserted light will not flash fast as it does when it is energized and inserted. 3) The fuel valve will not open because the igniter is not energized. 4) After trial for ignition is completed, FLAME FAIL alarm will energize. Note: After alarm is silenced, press Burner Stop to reset FLAME FAIL alarm.		

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK	
				S	P
10.	TRIAL FOR IGNITION (cont)	D) With one burner firing for boiler under test, and boiler in Manual Sequence, shut the manual burner valve for the other burner. Now press the Burner Start button for that burner.	<p>Note the following:</p> <ol style="list-style-type: none"> 1) Ignition cycle initiates as normal except no flame signal is present. 2) After trial for ignition period (15 seconds) igniter de-energizes and retracts, fuel valve closes, air register closes and FLAME FAIL alarm energizes for the burner under test. <p>Note: After alarm is silenced, press Burner Stop to reset FLAME FAIL alarm.</p>		
11.	PURGE CYCLE	To initiate a purge cycle, the boiler must be tripped, the Forced Draft Fan must be operating, the combustion control master must be in auto, the air controller must be in cascade, the boiler drum level must not be too low, and all flame failure alarms must be cleared by pressing the Burner Stop/Reset pushbutton.			
		A) Now press any burner start button to initiate a purge.	<p>Note the following:</p> <ol style="list-style-type: none"> 1) WAITING FOR PURGE light illuminates 2) Air damper opens, and air flow increases to the purge setpoint. 3) PURGE IN PROGRESS light illuminates. 4) WAITING FOR PURGE light is extinguished. 		
		B) Before the purge time is completed, close the fan damper manually from A/M station.	<p>Note the following:</p> <ol style="list-style-type: none"> 1) PURGE IN PROGRESS light extinguished 2) WAITING FOR PURGE light illuminated. 		
		C) Release the fan damper to cascade.	Note the purge cycle resumes when sufficient air flow is restored.		

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK	
				S	P
11.	PURGE CYCLE (cont)	D) Before the purge time is completed, manually open an automatic burner oil valve (be sure the stop valve is closed). There may be a time delay of up to 10 seconds for the alarm.	Note the following: 1) PURGE IN PROGRESS light extinguished 2) FLAME FAIL alarm energized 3) BURNER TROUBLE alarm energized.		
		E) Now close the burner valve, reset the flame fail, and start the purge cycle. Before the purge time is completed, manually close any air register.	Note the following: 1) PURGE IN PROGRESS light extinguished. 2) WAITING FOR PURGE light illuminated 3) BURNER TROUBLE alarm energized.		
		F) Now open the air register to resume the purge cycle.	Note the following: 1) After 30 seconds, the PURGE COMPLETE light illuminates. 2) The PURGE IN PROGRESS light is extinguished 3) After the air flow has come down to the lightoff flow rate the BURNER READY lights will illuminate.		
		G) Wait 3 minutes.	Note the following: 1) The PURGE COMPLETE light will extinguish. 2) The BURNER READY lights will extinguish		
12.	BOILER IN BYPASS INDICATION	At the Local Panel for the tested boiler, first be sure that all selector switches are in the AUTO position and the BOILER IN BYPASS indicator light is off, then turn any selector switch out of the AUTO position.	Observe the BOILER IN BYPASS light is illuminated and flashing on both the Local Panel and remote station located in the Engineers Operating Console.		
13.	POWER FAILURE ALARMS	A) Open circuit breaker PCBB12 that supplies 120VAC to the Port igniter actuator circuit.	Note the BURNER MANAGEMENT SUPPLY FAIL alarm activated.		

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK		
				S	P	
		Reset breaker.	Note alarm is cleared.			
Note: During the following procedures the boiler will trip if it is online.						
		B) Open port burner mgmt circuit breaker PCBB1 that supplies 120VAC to the port PLC.	Observe among other alarms, that the PLC FAIL alarm is activated.			
		C) While the boiler is in operation but off line, open circuit breaker PCBB9 which supplies the port burner solenoid valve circuits with 120VAC. Boiler will trip.	Observe among other alarms, the BURNER MANAGEMENT SUPPLY FAIL alarm activated.			
		Reset breaker.	Note alarm is cleared.			
		D) Restart boiler. Open circuit breaker PCBB10 which supplies 120VAC to the Main and Recirc oil valves. Boiler will trip.	Observe among other alarms, the BURNER MANAGEMENT SUPPLY FAIL alarm activated.			
		Reset breaker.	Note alarm is cleared			
		E) While the boiler is in operation, open circuit breaker CB2-10 which supplies 120 volt power to the port combustion control. Boiler will trip.	Observe among other alarms, the COMBUSTION CONTROL POWER SUPPLY FAIL alarm activated.			
		Reset breaker.	Note alarm is cleared.			
		Repeat (A) through (E) for Stbd circuits, substituting breaker CB1-10 for CB2-10 in item (E).				

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK	
				S	P
14.	ATOMIZING STEAM LOW PRESSURE ALARM	Make sure the burner to be tested has a burner in place and that the Burner Out of Service switch is in the IN position so the BURNER OUT OF SERVICE indicator light is not on. Shut the valve to the pressure switch, bleed off the pressure until less than setpoint.	Observe ATOMIZING STEAM LOW PRESSURE alarm.		
		Repeat for all burners.			
15.	FUEL OIL LOW PRESSURE ALARM	Put the burner fuel controller in manual, and adjust the fuel pressure down to below the minimum fuel setpoint (about 30 PSI).	Observe F.O. LOW PRESSURE alarm energized.		
16.	PROCESS CONTROLLER OPERATION	Proper operation in the MANUAL and AUTOMATIC (or CASCADE as required) modes for all process controllers must be proven. This is to be done by observing proper response in the AUTOMATIC (or CASCADE) mode, and watching the process change in the MANUAL mode. Test manual operation first, then change to auto or cascade as required and note proper operation. The controllers and correct modes are indicated below:			
		A) P & S Master Controllers. M and A modes. <i>Note: Select INDIVIDUAL mode on the Boiler Master selector switch for this test.</i>	Observe proper operation.		
		B) P & S Air Ratio Controllers. Test MANUAL mode only as AUTO mode is only available at higher plant loads.	Observe proper operation.		
		C) P & S Air Controllers. M and C modes.	Observe proper operation.		
		D) P & S Fuel Controllers. M and C modes.	Observe proper operation.		

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK	
				S	P
16.	PROCESS CONTROLLER OPERATION (cont)	E) P & S Drum Level Controllers. M. or A modes.	Observe proper operation.		
		F) #1 Feedpump Controller. M and C modes.	Observe proper operation.		
		F) #2 Feedpump Controller. M and C modes.	Observe proper operation.		
		F) In Port Feedpump Controller. M and C modes.	Observe proper operation.		
		G) DC Heater Level Controller. M and A modes	Note: If the controller is in automatic, a normal level results in a 50% signal from the controller which closes both the dump and makeup valves. A 0% output results in a 100% makeup signal, and a 100% output results in a 100% dump signal.		
		H) Hotwell Level Controller. M and A modes.	It may be impossible to affect the process while at hotel load		
		I) Fuel Oil Pressure Controller. M and C modes.	Observe proper operation.		

END OF BOILER CONTROL TEST

9. ACTIVATION SPECIFICATION PART "E"

TEST PROCEDURE - Throttles

See following pages

Periodic Safety Test Procedure

TMS SYSTEM 2000 THROTTLE CONTROL TEST PROCEDURE

SS CAPE INTREPID
SS CAPE ISLAND
SS CAPE INSCRIPTION
SS CAPE ISABEL

NOTES:

- 1) "Alarm energized" means that the appropriate light flashes, and the horn sounds, until the alarm acknowledge button is pressed, at which point the horn is silenced and the lamp remains on steady until alarm condition is clear.
- 2) In order to clear a trip fast flash light, press and hold the alarm acknowledge button for 2 seconds.

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK
1.	PROVE TURNING GEAR CONTROLS AND SHAFT STOPPED ALARM	A) With Turning Gear engaged and operating, observe:	1) Engaged Indicating light 2) Running Indicating light 3) Forward or reverse indicating light.	
		B) While operating Turning Gear and in ER Control mode, move Throttle Lever to an Ahead position. Observe:	Throttle control cannot be reset, "RESET REQUIRED" Light cannot be cleared. Interlocks prevent throttle from opening.	
Return Throttle Lever to Stop position.				
Note: Next step may be performed after step 3(C) for convenience.				

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK
		C) Stop and disengage the Turning Gear. Observe the following:	1) TURNING GEAR STOPPED indicating light. 2) DISENGAGED indicating light. 3) SHAFT STOPPED indicating light after approximately 2 minutes.	
2.	PROVE OPERATION OF THROTTLE CONTROL LEVER	A) With control at Engine Room Console, set the following switches as indicated: (1) Astern Guard Valve in "AUTOMATIC" (2) Control Location in "ENGINE ROOM" (3) Normal/Maneuvering in "MANEUVERING" (4) Boiler Switch in appropriate position for current situation. (5) Speed Feedback in "OFF" (6) Control Override Switches (3) in "AUTO" (7) Acknowledge any alarms as required.		
		B) Establish lube oil pressure and vacuum and verify that no trip conditions exist. Depress Control Reset pushbutton.	RESET REQUIRED light goes out.	
		C) With throttle in STOPPED position press Control Motor Start pushbutton.	Control Motor start pushbutton illuminates, Hydraulic Pump Fail alarm light goes out.	
		D) Move Throttle Lever to approximately 30 RPM Astern.	Astern Throttle Valves and console position indicator slowly rise to an open position.	
		E) Move Throttle Lever to approx. 50 RPM Ahead.	Astern Valve closes and Ahead Valve opens. Console Position Indicator slowly rises to an open position.	
3.	PROVE BRIDGE/ ENGINE ROOM TRANSFER	A) Match Bridge Throttle Lever with ER and turn BR Control Transfer Switch to "BRIDGE".	Observe "TRANSFER REQUESTED" signals on BR and ER	

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK
		B) Turn ER Transfer Switch to "BRIDGE".	"TRANSFER REQUESTED" lights go out and "BRIDGE" control lights illuminate.	
		C) Demonstrate BR has control of throttle by moving Bridge Control Lever.	Throttle responds to BR control.	
		D) Match ER throttle lever with Bridge and turn ER Transfer Switch to "ENGINE ROOM".	Observe "TRANSFER REQUESTED" and "ENGINE ROOM" control lights on BR and ER consoles.	
		E) Demonstrate that ER has regained control by moving ER Throttle Control Lever.	Throttle responds to ER control.	
4.	PROVE TRANSFER TO HAND PUMP	A) Set Throttle Lever in ER to approx. 60 RPM Ahead. Turn ER Transfer Switch to "HANDPUMP".		
		B) Pump up Handpump in Ahead position.	Handpump "ENGAGED" light comes on.	
		C) Move ER Throttle Lever to prove it has no effect. Move throttle up and down with Handpump and bleed valve to prove controls.	Observe no response to Throttle Lever and Throttle Valve responds to Handpump.	
		D) Turn ER Transfer Switch to "ENGINE ROOM".		
		E) Move ER Throttle lever past current speed setting. Observe.	Handpump "DISENGAGED" Light illuminates.	
5.	PROVE MANEUVERING CONTROLS	A) Set Throttle Lever in ER to Full Ahead and Normal / Maneuvering Switch to "NORMAL".	"EMERG MANEUVERING" light if on, goes out. Guard Valve closes and Extraction Valves open.	

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK
		B) Move Throttle Lever to 50 RPM Ahead.	1) Guard Valve opens 2) Extraction Valves close 3) "EMERGENCY MANEUVERING" light comes on.	
		C) Move Astern Guardian Valve Switch to "CLOSED".	1) Guard Valve closes. 2) In less than 8 seconds the "GUARD VALVE FAILED TO OPEN" indication illuminates on ER Console. In an additional 4 seconds, the "GUARD VALVE FAILED" indication illuminates on the BR console.	
		D) Place Normal / Maneuvering Switch in "MANEUVERING" and Guardian Valve Switch in "AUTOMATIC".	"EMERGENCY MANEUVERING" light goes out.	
		E) Move Throttle Lever to 100 RPM Ahead.	Guardian Valve remains open and Extraction Valves remain closed.	
		F) Place Normal / Maneuvering Switch in "NORMAL".	Guardian Valve closes and Extraction Valves open.	
6.	PROVE MANUAL TRIP	A) Depress "EMERGENCY TRIP" pushbutton.	1) "MANUAL TRIP", and "RESET REQUIRED", lights flash on console. "TRIP" alarm illuminates on Bridge. 2) Ahead Valve closes. 3) "AHEAD VALVE TRIPPED" light illuminates. 4) "AHEAD VALVE CLOSED" light illum.	

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK
		B) Before moving Throttle Lever, attempt to reset controls by pulling out Emergency Trip pushbutton and depressing Reset pushbutton.	Observe that reset is not possible.	
		C) Move Throttle Control Lever to STOP and press Reset pushbutton.	Observe reset action.	
7.	PROVE HIGH DRUM LEVEL THROTTLE TRIP	A) Set Throttle Lever to approx. 60 RPM Ahead.		
		B) Starting with drum level at normal in Stbd boiler, raise level slowly.	Ahead Throttle trips at +10 inches.2) "HIGH DRUM LEVEL", and "RESET REQUIRED" lights flash on console. "TRIP" light illuminates on Bridge.	
		C) Repeat above procedure for Port Boiler by aligning Boiler Selector Switch to PORT to bypass Stbd controls.		
8.	PROVE LOW STEAM PRESSURE THROTTLE TRIP	A) Restore drum levels from previous test to below trip point and set the drum level throttle override to "OFF" for further testing.		
		B) Reset the Boiler Selector to "PORT/STBD" and reset the throttle controls.		
		C) Disengage the Jacking Gear.		
		D) Open warm up valve for steam to throttle.		
		E) When steam pressure to throttle is above pressure setpoint, reset alarms on Throttle Console.	"LOW BOILER PRESSURE" trip alarm clears.	

STEP	OBJECTIVE	PROCEDURE	RESULT	CHECK
		F) Demonstrate the Low Steam Pressure Trip by securing the warm-up valve and allowing steam pressure to drop slowly.	1) "LOW BOILER PRESURE" trip alarm (600 psig +/- 50 psig). 2) Ahead Throttle Valve trips closed. "LOW STEAM PRESS" trip and "RESET REQ'D" lights flash on console. "TRIP" light illuminates on bridge.	
9.	DEMONSTRATE OPERATION OF POWER SUPPLY FAILURE ALARM	De-energize one of the throttle control primary power supplies within the Electronics Cabinet by opening circuit breaker.	Observe "LOSS OF POWER" indication on ER Console.	

END OF THROTTLE CONTROL TEST

10. ACTIVATION SPECIFICATION PART "E"

NAVIGATION / COMMUNICATION EQUIPMENT

See following pages

SS Cape Isabel -- Bridge Electronics

406 MHz EPIRB -- Alden - Satfind - 406

Bow Thruster Pitch Control Unit -- Bird Johnson Co.

Bridge Power & Steering Gear Alarm Panel -- SeaMar Electronics

Bridge Throttle Controls -- Technical Marine Services

Cargo Hold Fire Alarm System -- Kidde

Course Recorder Unit -- Appears to be Sperry Marine

Doppler Speed Log -- Raytheon Model DSL-250

Emergency Lifeboat VHF Radios -- ACR Electronics GMDSS 16/6 Survival Radio (Product #2726A)

Engine Order Telegraph (EOT) -- Henschel Corp (No Model #)

Engineer's Assistance Call Alarm -- Hose McCann

Fathometer

Raytheon Model DE-795IMO Digital Fathometer w/HP Desk Jet 842C Printer

Raytheon Model DE-740 Digital Depth Recorder

Raytheon DE 795 R IMO Fath.

GMDSS

Raytheon STR 2000 MF/HF Transceiver

Raytheon CC 2000 Sat-C Transceiver

2 - Standard Radio STR 8400 DSC VHF

Trimble Galaxy Inmarsat-C/GPS Marine Transceiver, Model TNL 7001

2 - OKI Microline 280 9 Pin Printers

2 - Keyboards Chicony Model KB-5916

GPS Receivers

Trimble Navigation

Model #: NT200 GPS

Trimble NavTrac XL GPS and III NavTrac GPS

Gyro Compass -- Sperry Marine Model Mark 37 Mod 0

Helm Steering Unit w/Built-In Gyro Pilot -- Sperry Marine Model # 03956-1805700-615

Internal Dial Telephone System -- Mitel Corp SX - 50

Lifeboat SARTS -- Two(2) Alden Marine - Aldensat MK1

Loran C -- Furuno LC-90

Navigation Light Panel -- Henschel

Naytex Receiver -- Raytheon Model NCR-300A

RADAR/APRA Units

Raytheon M34 ARPA in both 3cm and 10cm -- both units appear to have APRA software

VHF Radios -- Non-GMDSS

Standard Horizon Titan+ VHF - two(2)

Weather Fax -- Furuno Model Fax-208A Furuno DFAX 207

Whistle Control System Kahlenberg Bros.

SS Cape Inscription -- Bridge Electronics

406 MHz EPIRB -- Alden - Satfind - 406

Bow Thruster Pitch Control Unit -- Bird Johnson Co.

Bridge Power & Steering Gear Alarm Panel -- SeaMar Electronics

Bridge Throttle Controls -- Technical Marine Services

Cargo Hold Fire Alarm System -- Kidde

Course Recorder Unit -- Appears to be Sperry Marine

Doppler Speed Log -- Raytheon Model DSL-150, JRC NWW - 16

Emergency Lifeboat VHF Radios -- ACR Electronics GMDSS 16/6 Survival Radio (Product #2726A)

Engine Order Telegraph (EOT) -- Henschel Corp (No Model #)

Engineer's Assistance Call Alarm -- Hose McCann

Fathometer

Raytheon Model DE-795IMO Digital Fathometer w/HP Desk Jet 600 Printer

Raytheon Model DE-740 Digital Depth Recorder

Raytheon DE 795 R IMO Fath.

GMDSS

Raytheon STR 2000 MF/HF Transceiver

Raytheon CC 2000 Sat-C Transceiver

2 - Standard Radio STR 8400 DSC VHF

Trimble Galaxy Inmarsat-C/GPS Marine Transceiver, Model TNL 7001

2 - OKI Microline 280 9 Pin Printers

2 - Keyboards Chicony Model KB-5916

GPS Receivers

Trimble Navigation Trimble NavTrac XL GPS

Model #: NT200 GPS

and 1 Trimble Navigation Echo XL Remote Readout Unit Trimble NT200D GPS

Gyro Compass -- Sperry Marine Model Mark 37 Mod 0

Helm Steering Unit w/Built-In Gyro Pilot -- Sperry Marine Model # 03956-1805700-615

Internal Dial Telephone System -- SeaMar Electronics (No Model #)

Lifeboat SARTS -- Two (2) Plessey Tellumat SA Ltd. Model Aldensart Mk I Carry-off 1

Loran C -- Furuno LC-90 MARK - II

Navigation Light Panel -- Henschel

Naytex Receiver -- Raytheon Model NCR-300A

RADAR/APRA Units

Raytheon M34 ARPA in both 3cm and 10cm -- both units appear to have APRA software
Model #: NCD-1116R

VHF Radios -- Non-GMDSS

Standard Horizon Titan+ VHF

Weather Fax -- Furuno Model Fax-208A Furuno DFAX 207

Whistle Control System Kahlenberg Bros.

SS CAPE ISLAND

Bridge Equipment 26JAN01

- 1- Raytheon Pathfinder/ST Raster Scan 3 cm radar and ARPA
- 2- Raytheon Pathfinder/ST Raster Scan 10 cm radar and ARPA
- 3- Raytheon DE795 IMO Fathometer with HP Deskjet 842 C Printer
- 4- Trimble NT200 GPS (2 each)
- 5- Sperry MK-37 Gyrocompass and Sperry gyro pilot 1805700-615 helm unit
- 6- GMDSS CONSOLE:
 - A/ Standard Radio STR 8400DSC (2 each, one at console in chart room, one in wheelhouse stbd fwd)
 - B/ Raytheon Standard Radio STR 2000 MF/HF with OKI Microline 280 9 pin Printer
 - C/ Trimble Galaxy Inmarsat-C/GPS Marine Transceiver
 - D/ Raytheon Standard Radio CC 2000 Inmarsat-C Terminal with OKI Microline 280 9 pin Printer
- 7- Tokimec Type CR-1 Course Recorder
- 8- Raytheon Doppler Sonar Mark II
- 9- Furuno DFAX Fax-207 weather facsimile
- 10- Raytheon NCR-300A NAVTEX Receiver
- 11- Seanav Navigation Light Panel
- 12- Kidde Fire Hold Remote Annunciator Panel
- 13- Sea Mar Electronics 24 volt Wheelhouse Alarm Panel
- 14- Ventilation fans emergency stop unit
- 15- Bird Johnson 1500HP controllable pitch Bow Thruster with remote control stations on each wing (disabled)
- 16- Kahlenberg Air and Electric whistles for both bow and house, Kahlenberg type No. 3-4798 fog signal timer
- 17- 1JV, 2JV, 3JV sound powered phone system
- 18- IC Electric Phone System
- 19- Raytheon RAY90 VHF/FM Radiotelephone

SS CAPE ISLAND

Bridge Equipment (cont'd) 26JAN01

- 20- Motorola Triton II VHF/FM Radiotelephone
- 21- Weather Measure Inc Anemometer
- 22- Singer Window Wiper (3 each)
- 23- Maricom IPA-System (loudspeaker system-limited use only)
- 24- Henschel RPM Indicators (3 each)
- 25- Henschel Engine Order Telegraph and two remote Indictors on each wing
- 26- Sperry Rudder Angle Indicators (3 each)
- 27- Sperry Digital Heading Repeater
- 28- Sperry Compass repeaters (3 each, centerline and on each wing)
- 29- Pilot Door position indicator light
- 30- Shaft Alley Remote Water Tight Door closing/indicating system
- 31- Moeller Instrument Co, Inc Ship Clinometer Type II Heel
- 32- Cargocaire Honey Combe Dehumidifier
- 33- Newport Electronics, Inc Omega Temperature/Humidity sensors and recorders
- 34- Rank Pullin Controls ALDIS Long Range Signalling Lamp MK10
- 35- ALDEN SART's (2 each)
- 36- ACR Electronics GMDSS portable Lifeboat Radios (3 each)
- 37- Lokata 406 EPIRB and Hydrostatic Release
- 38- Standard Model HX2305 VHF/FM Handheld Marine radio
- 39- Cargo Hold Indicator Lighting Panel
- 40- McCarron Battery charger and DC Supply
- 41- Acme Transforemer for GMDSS (step down 220 to 120)
- 42- Balley Bell Logger

SS Cape Intrepid -- Bridge Electronics

406 MHz EPIRB -- Lo-Kata Model # 4062A543

Bow Thruster Pitch Control Unit -- Bird Johnson Co. (No Model #)

Bridge Power & Steering Gear Alarm Panel -- SeaMar Electronics (No Model #)

Bridge Throttle Controls -- Technical Marine Services (No Model #)

Cargo Hold Fire Alarm System -- Kidde

Course Recorder Unit -- Appears to be Sperry Marine (No Model #) Serial # 3208

Doppler Speed Log -- Raytheon Model DSL-250

Emergency Lifeboat VHF Radios -- ACR Electronics GMDSS 16/6 Survival Radio (Product #2726A)

Engine Order Telegraph (EOT) -- Henschel Corp (No Model #)

Engineer's Assistance Call Alarm -- Hose McCann (No Model #)

Fathometer

Raytheon Model DE-795IMO Digital Fathometer w/HP Desk Jet 842C Printer
Raytheon Model DE-740 Digital Depth Recorder

GMDSS

Raytheon STR 2000 MF/HF Transceiver
Raytheon CC 2000 Sat-C Transceiver
2 - Standard Radio STR 8400 DSC VHF
Trimble Galaxy Inmarsat-C/GPS Marine Transceiver, Model TNL 7001
2 - OKI Microline 280 9 Pin Printers
2 - Keyboards Chicony Model KB-5916

GPS Receivers

Trimble Navigation
Model #: NT200 GPS Serial # 8321001363 & 4270000236
and 1 Trimble Navigation Echo XL Remote Readout Unit

Gyro Compass -- Sperry Marine Model Mark 37 Mod 0

Helm Steering Unit w/Built-In Gyro Pilot -- Sperry Marine Model # 03956-1805700-615

Internal Dial Telephone System -- SeaMar Electronics (No Model #)

Lifeboat SARTS -- Two (2) Plessey Tellumat SA Ltd. Model Aldensart Mk I Carry-off 1

Loran C -- Apelco DXL 6000

Navigation Light Panel -- Sea Marine Ltd. (No Model #)

Naytex Receiver -- Raytheon Model NCR-300A Serial # GD18522

RADAR/APRA Units

Raytheon M34 ARPA in both 3cm and 10cm -- both units appear to have APRA software
Model #: NCD-1116R Serial # HO7407 & HO7412

Vessel Public Address System -- Dynalec Corp (No Model #)

VHF Radios -- Non-GMDSS

Motorola Triton II VHF
Standard Horizon Titan+ VHF

Weather Fax -- Furuno Model Fax-208A Serial # 80514153-9212

Whistle Control System -- Airchime Manufacturing Model # 15601

11. ACTIVATION SPECIFICATION PART "F"

SALINITY INDICATING SYSTEMS

A - FEED & CONDENSATE SYSTEMS

<u>CELL NO.</u>	<u>SERVICE</u>	<u>DK.</u>	<u>FRAME</u>
1	Main Cond. Pump Disch. Line	"E"	188
2	Aux. Cond. Pupp Disch. Line	"E"	197
3	Drain Inspection Tank Outlet	"E"	185
4	Make Up Feed Line From Rsv.Fd. Tks	"E"	201
5	Cargo Tank Cleaning Water Drn Cooler	"E"	182
6	Cont. Air Compr. Cooling Fresh Water	"D"	172

B - DISTILLING PLANT NO. 2

<u>CELL NO.</u>	<u>SERVICE</u>	<u>DK.</u>	<u>FRAME</u>
*1	Cond. To Ship's Tanks	"D"	177
2	Cond. Drain to 2nd Stage	"D"	178
3	Ejector Cond. Drain	"D"	180
4	S.W. Htr. Drain	"D"	179

C - DISTILLING PLANT NO. 1

<u>CELL NO.</u>	<u>SERVICE</u>	<u>DK.</u>	<u>FRAME</u>
*1	Cond. To Ship's Tanks	"D"	176
2	Cond. Drain to 2nd Stage	"D"	174
3	Ejector Cond. Drain	"D"	172
4	S.W. Htr. Drain	"D"	173

***Dumping Valve**

These systems operate on 115 volts A.C. with power from the Engine Room I.C. Panel, EP-107, as follows

CIRCUIT	SERVICE
1EP-107	Salinity Ind. System - Feed & Condensate
2EP-107	Salinity Ind. System - Distilling Unit No. 1
3EP-107	Salinity ind. System - Oistilling Jnit No. 2

For further details refer to McNab, Inc., Technical Manual for Salinity Indicating Systems, Marad Book No, 279-S65-5-300.

12. ACTIVATION SPECIFICATION PART "F"

DIAL TELEPHONE SYSTEM SYSTEMS

GENERAL DESCRIPTION

Mitel Corporation 5x-50, Digital Private Automatic Branch Exchange (DPABX) telephone system.

The switchboard for this system is located in the INC. Room at approximately frame 188 on the Boat Deck. The system operates from a 120 volt, 60 cycle AC source from Circuit I2EP-107 in power panel EP-107 (Engine Room INC. Panel). The Switchboard Power Supply (internal) unit provides all the necessary voltages needed to operate the system, i.e., ringing, switching, talking.

There are 62 stations assigned with extension telephones as listed in the Dial Telephone Directory provided with each telephone.

Certain phones have special features, described below.

Extension signals are provided where telephones are located in noisy locations. See list on following page.

DETAILED DESCRIPTION

The automatic telephone switchboard is the switching Center of the shipboard dial system. Switching mechanisms are provided to automatically perform the following functions:

- (a) Locate a station desiring to make a call.
- (b) Respond to dial impulses and extend the calling station to the called station.
- (c) Ring the called station.
- (d) Supply various tones, such as dial tone, busy tone, and ring-back tone as required.
- (e) Provide "hunt-the-not-busy-line" service.
- (f) Provide "Executive-Right-Of-Way" service. (ERW) Telephones equipped with this feature permit the subscriber to intervene on any existing conversation in the system. A subscriber of an ERW telephone dials a number and it is busy. The call can either be placed again later or if the nature of the call is such that it cannot wait, the subscriber can "cut-in" on the busy called number by depressing the ERW button. An automatic signal will be heard by the called party indicating that an ERW telephone is going to interrupt the existing conversation.

NOTE: The following stations have Executive Right of Way feature

Master's Office
Ch. Eng. Office
Wheelhouse
Eng. Rm. Console

12. ACTIVATION SPECIFICATION PART "F"

DIAL TELEPHONE SYSTEM SYSTEMS

LIST OF EXTENSION SIGNALS

<u>TEL. NO</u>	<u>SPACE</u>	<u>DK.</u>	<u>FRAME</u>	<u>DEVICE</u>
120	Engine Room Console (Acoustic Booth)	U/L, M/S U/L, M/S	184/P 198/S	Ext. Bell Rotating Light
126	Electric Workshop & Stores	C	200/P	Ext. Bell
128	Fuel oil station lwr Eng Rm	LLMS	202/S	Ext. Bell
131	Officers Din. Rm.	A	190/P	Ext. Bell
157	Offrs Rec Rm.	02	174S	
132	Eng. Crew's Mess Crew's Lounge	A 01	199/P 195	Ext. Bell Ext. Bell
134	Emerg. Gen. Rm. (Acoustic Booth)	03	190/P	Ext. Bell
104	Steering Gear Rm.	B	240/P	Ext. Bell
136	Stern ramp Rm.	B	240/P	Ext. Bell
138	Bow Thruster Machy. Rm.	D	20	Ext. Bell
139	Deck Machy. Sp.	C	20	Ext. Bell
141	Eng. Rm. F.O. Sta. Generator Rm. F.O, Filling Sta./P	LLMS C O	172 230/S 170/P	Ext. Bell Ext. Bell Ext. Bell
147	Galley	A	198/P	Ext. Bell

12. ACTIVATION SPECIFICATION PART "F"

DIAL TELEPHONE SYSTEM SYSTEMS

DETAILED DESCRIPTION (cont.)

Other significant features of this telephone system are described below:

- 1 - Extension signals in the form of a 6" external bell are provided at the following stations:

<u>STA. NO.</u>	<u>STA. NAME</u>	<u>LOCATION</u>
34	Emergency Generator Room	Upper Deck, Fr 190(Pi)
32	Eng./crew Mess	
31	Passenger & Officers Lounge/ Dining Room	
38	Bow Thruster Machy Room	"D" Deck., Fr. 20
39	Fwd, Deck Machy Room	"C" Deck., Fr. 20
41	Fuel Oil Filling Stations	"C" Deck., Fr. 230(S)
41	Eng. Rm. Fuel Oil Sta.	ULMS Fr. 172
28	Lowr eng rm-watchman's Station(S)	"A" Deck., Fr. 193(S5)
36	Stern Ramp & Deck Machy Room	"B" Deck., Fr. 240(P)

- 2 - Extension signal in the form of a relay-operated "ROTA-BEAM" is provided for the Engine Room Acoustic Hood, Station No. 20

- 3 - Extension signals in the form of an external light signal is provided for the following :

a - Wheelhouse Console	-	Sta. No. 29
b - Eng. Rm. Console	-	Sta. No. 20
c - Diesel Generator Room	-	Sta. No. 34

- 4 - Ship-To-Shore telephone facilities are provided, permitting incoming and outgoing calls, using ships telephones connected to public telephone facilities for the following stations:

- a - Master's Office
- b - Ch. Eng. Office
- c - Officers Lounge
- d - Cargo Office

12. ACTIVATION SPECIFICATION PART "F"

DIAL TELEPHONE SYSTEM SYSTEMS

5 - Extension line facilities, with common ringing, permitting common talking, are installed at::

<u>STA. NO.</u>	<u>STATION. NAME</u>	<u>EXTENTION</u>
111	Master's Office	Master's Stateroom
112	Ch. Eng. Office/Day Room	Ch. Eng. Stateroom
113	Ch. Mates Office	Ch. Mate's Stateroom
117	Spare	
119	1st Asst. Eng. Office	1st Asst. Eng Stateroom
120	Eng. Rm. Console	Eng. Rm. Acoustic Hood
126	Electrical Workshop & Stores	Electrician's Stateroom
131	Officer's Lounge	Pass. & Officer's Dining Rm.
132	Crew's Lounge	Engineer's Mess
141	Eng. Rm. F.O. Sta.	F.O. Sta. (P)/F.O. Sta.(S)

Each phone has an indicator light to show when the other phone is in use (for purpose of maintaining "private" conversation).

- 6 - All telephones are equipped with adjustable twin-tone bell ringers.
- 7 - A latching device is provided to keep the handsets in the telephone cradle during heavy seas or sudden shocks.
- 8 - Lightning arrestors are provided in the shore line connection circuits.
- 9 - A dial telephone directory is furnished at each station.

For details of maintenance or repair to any part of this system, refer to the following:
Mitel Corporation 5x-50, Digital Private Automatic Branch Exchange (DPABX) instruction book (Bk # 146A).

12. ACTIVATION SPECIFICATION PART "F"

SOUND POWERED TELEPHONE SYSTEMS

THERE ARE SIX INDEPENDENT SOUND POWERED TELEPHONE SYSTEMS INSTALLED IN THESE VESSEL.

DESCRIPTION BY CIRCUITS

A - SYSTEM 1JV - NAVIGATION & MANUEVERiNG

THE FOLLOWING STATIONS COMPRISE THE 1JV SYSTEM:

LOCATION	TYPE
WHEELHOUSE PROPULSION CONTROL CONSOLE)	SPECIAL HANDSET
ENGINE ROOM CONTROL CONSOLE (W/KLAXON HORN MTD. OUTSIDE ROOM)	SPECIAL HANDSET
INC, GYRO & RADAR ROOM	HANDSET, BLKH'D MTD.
MASTER'S OFFICE W/EXT. TO STATEROOM	HANDSET, DESK MTD.
CHIEF ENGINEER'S OFFICE W/EXT. TO STATEROOM	HANDSET, DESK MTD.
STEERING GEAR ROOM	HANDSET, BLKH'D MTD.
BO (W/DISCONNECT SWITCH IN WHEELHOUSE)	HANDSET, BLKD'D MTD.
SMOKE DETECTOR ROOM	HANDSET, BLKH'D MTO.
EMERGNCY GENERATOR ROOM (IN BOOTH)	HANDSET, BLKH'D MTD.

ALL ABOVE STATIONS, EXCEPT BOW, ARE INTERCOMMUNICATING WITH SELECTIVE RINGING AND COMMON TALKING BETWEEN ALL STATIONS.

12. ACTIVATION SPECIFICATION PART "F"

SOUND POWERED TELEPHONE SYSTEMS

(Continued)

B - SYSTEM 2JV - PROPULSION CONTROL

THE FOLLOWING STATIONS COMPRISE THE 2JV SYSTEM:

LOCATION	TYPE
WHEELHOUSE PROPULSION CONTROL CONSOLE	CONSOLE
ENGINE ROOM CONTROL CONSOLE	CONSOLE

C - SYSTEM 3JV - RADIO ROOM

THE FOLLOWING STATIONS COMPRISE THE 3JV SYSTEM:

LOCATION	TYPE
WHEELHOUSE	HANDSET, BLKH'D MTD.
RADIO ROOM	HANDSET, BLKH'D MTD.

D - SYSTEM 4JV - BUNKERING

THE FOLLOWING STATIONS COMPRISE THE 4JV SYSTEM:

LOCATION	TYPE
ENGINE CONTROL ROOM	HANDSET
PORT F.O. STATION, "C" DECK	HANDSET
STBD. F.O. STATION, "C" DECK	HANDSET

TWO HEADSETS, EACH W/15' COILED CORD AND PLUG, ARE STOWED IN A BOX IN THE ENGINE CONTROL ROOM. A COMMON PUSHBUTTON OPERATED CALL SIGNAL IS PROVIDED FROM THE ENGINE CONTROL ROOM TO EACH FUELING STATION AND FROM EACH STATION TO THE CONTROL ROOM.

12. ACTIVATION SPECIFICATION PART "F"

SOUND POWERED TELEPHONE SYSTEMS

(Continued)

E - SYSTEM SJV - CARGO CONTROL

THE FOLLOWING STATIONS COMPRISE THE 5JV SYSTEM:

LOCATION SPACE	DECK	FRAME	TYPE
HOLD NO. 2	E	60(S)	HANDSET
HOLD NO. 3	E	163(S)	HANDSET
HOLD NO. 2	D	60(S)	HANDSET
HOLD NO. 3	D	165(S)	HANDSET
HOLD NO. 2	C	60(S)	HANDSET
HOLD NO. 3	C	165(S)	HANDSET
HOLD NO. 4	C	205(S)	HANDSET
STERN RAMP	C	244(P)	HANDSET
HOLD NO. 2	B	60(S)	HANDSET
HOLD NO. 3	B	165(S)	HANDSET
HOLD NO. 4	B	190(S)	HANDSET
MID-SHIP	A	112(P)	HANDSET
FWD. HOUSE	A	160(SS)	HANDSET

ALL OF THE ABOVE STATIONS HAVE SELECTIVE RINGING ANO COMMON TALKING BETWEEN STATIONS.

F - SYSTEM 6JV - CARGO OIL CONTROL

THE FOLLOWING STATIONS COMPRISE THE 6JV SYSTEM:

LOCATION SPACE	DECK	FRAME	TYPE
ENG. CONT. RM	D		HEADSET
STBD. CARGO OIL FILL STA.	C	183(S)	HEADSET
PORT CARGO OIL FILL STA.	C	170(P)	HEADSET

13. ACTIVATION SPECIFICATION PART "F"

TANK LEVEL INDICATORS

GAUGE #	TANK #	LONG BEACH	TACOMA
WTI-IL-12	#4 DB	MUD	BALLAST
WTI-IL-12	#5 DB	FUEL OIL	BALLAST
WTI-IL-12	#6 DB	FUEL OIL	FUEL OIL
WTI-IL-12	#7 DB	BALLAST	BALLAST
WTI-IL-36	PORT HEELING	BALLAST	BALLAST
WTI-IL-36	STBD HEELING	BALLAST	BALLAST
WTI-IL-12	RESERVE FEED	Ballast (water)	Ballast (water)
WTI-IL-30	AFT PEAK	BALLAST	BALLAST
WTI-IL-54	FORE PEAK	BALLAST	BALLAST
WTI-IL-36	#1 DEEP	BALLAST	BALLAST
WTI-IL-36	#2 DEEP	BALLAST	BALLAST
WTI-IL-24	#3 DEEP UPPER	BALLAST	BALLAST
WTI-IL-24	#3 DEEP LOWER	MUD	Ballast (water)
WTI-2L-12	#5 PORT DB	FUEL OIL	FUEL OIL
WTI-2L-12	#5 STBD DB	FUEL OIL	FUEL OIL
WTI-2L-36	#6 PORT WING	BALLAST	BALLAST
WTI-2L-36	#6 STBD WING	BALLAST	BALLAST
WTI-2L-36	#7 PORT WING	FUEL OIL	FUEL OIL
WTI-2L-36	#7 STBD WING	FUEL OIL	FUEL OIL
WTI-2L-12	#8 PORT DB	FUEL OIL	DIESEL OIL
WTI-2L-12	#8 STBD DB	FUEL OIL	DIESEL OIL
WTI-2L-30	PORT SETTLER	FUEL OIL	FUEL OIL
WTI-2L-30	STBD SETTLER	FUEL OIL	FUEL OIL
WTI-1L-12	EMERGENCY DIESEL	DIESEL OIL	DIESEL OIL
WTI-IL-12	ROS DIESEL	DIESEL OIL	DIESEL OIL
WTI-IL-12	#9 DB	DIESEL OIL	DIESEL OIL
WTI-IL-18	POTABLE WATER	WATER	WATER
WTI-IL-18	DISTILL TANK	WATER	WATER
WTI-IL-12	#10 RES FD TANK	WATER	WATER
WTI-2L-1A30	VII PORT CARGO	FUEL OIL	FUEL OIL
WTI-IL-1A30	VII C/L CARGO	FUEL OIL	FUEL OIL
WTI-IL-1A30	VII STBD CARGO	FUEL OIL	FUEL OIL