CATEGORY "A" ITEMS

ITEM 318 - MEGGER READINGS: (JCH)

Take and record megger readings of the following:

(a) All generators and leads to switchboard.
(b) All leads from switchboards to distribution panels and controllers.
(c) All controllers and leads to motors and distribution panels.
(d) All motors.
(e) All lighting circuits from distribution panels.

Prepare and provide the MSTS Port Engineer with five (5) copies of completed megger readings.

All readings shall be taken with a 500 volt megger.

CATEGORY "A" ITEMS

ITEM 319 - GALLEY ELECTRICAL: (JCH)

Perform the following on all ranges, griddles and bake ovens.

Range and Griddles:

Thoroughly clean and vacuum all grease, dirt and debris from top and bottom of heating plates, void under heating plates, interior and exterior of oven, oven control panel and overhead range control panel.

Bake Oven:

Remove and dispose of all bricks in trays.

Thoroughly clean and vacuum all dirt and debris from interior and exterior of ovens, oven control panels, and overhead oven control panels.

CATEGORY "A" ITEMS

ITEM 320 - RESISTOR BANKS: (JCH)

Thoroughly clean with air and vacuum all cargo winch, capstan, and anchor windlass resistor banks.

CATEGORY "A" ITEMS

ITEM 321 - ARMATURES, SPARES: (JCH)

Remove from stowage approximately one hundred and forty (140) spare armatures. Seal each armature in a polyethylene bag Federal Spec. L-P-378 or equal and heat seal each bag. Restow armatures in locations designated by the MSTS Inspector.

CATEGORY "A" ITEMS

ITEM 401 - INACTIVATION OF ELECTRONIC EQUIPMENT: (CL)

Inactivate the following electronic equipment with associated components installed:

N2A-30 Radar	1 each
LR-8803 Loran	1 each
MR-560-12 Power Supply	2 each
CRM-8010 Transmitter	1 each
CRM-8019E Transmitter	1 each
CRM-8053 Transmitter	1 each
CFT-2002 Transmitter	1 each
Bludworth 1024 Radio Direction Finder	1 each
Sub-Sig 741B Fathometer	1 each
CFT-214D Radiotelephone	1 each
Radio Receivers	6 each
Entertainment amplifiers	16 each
General Announcing System	1 each
Emergency Announcing System	1 each

Inactivation work accomplishment shall consist of the following:

(a) Open all equipment cabinets and enclosures.

(b) Remove dust from chassis, terminal strips, etc. Use a soft brush and vacuum cleaner.

(c) Apply a thin coat of lubriplate to all switch and relay contacts.

(d) Apply SAE-10 oil to equipment cabinet hinges and securing hardware.

CATEGORY "A" ITEMS

ITEM 401 - INACTIVATION OF ELECTRONIC EQUIPMENT: (CL) (CONTINUED)

(e) Open power feed switches serving electronic equipment.

Remove protective fuses, place in cloth bags, tag, identify and attach to applicable circuit panels , apply a thin coat of cosmoline to cover fuse clip surfaces.

(f) Close equipment cabinets and enclosures.

(g) Apply a heavy coat of grease to the twelve (12) cable terminals left vacant by removed storage batteries from two (2) fixed lifeboat radios, one emergency transmitter and one emergency receiver.

(h) Remove three units of test equipment and two units of entertainment equipment to designated non-pilferable locker aboard ship. Remove batteries from test equipment.

(i) Install a 2" x 1/4" M.S. bar across spare parts bins and lockers (6) in Radio Room. Bars to extend length of cabinets and lockers and tack welded at each end.

(j) Stow AN/SRN-9 Radio sets from Radio Room (disconnected and removed) aboard ship in space designated by MSTS Electronics Representative.

(k) Disconnect and remove 58 exterior loudspeakers. Pull back below deck all cables, which do not have false overhead interference. Remove kickpipes and seal weld openings.

Cable penetrations over false overheads shall be left in place with leads insulated and encapsulated in approved heat shrinkable tubing to and covering 2-inches of cable armor. Identify each cable and speaker with embossed brass tag denoting system and location. Stow loudspeakers aboard ship in space designated by MSTS Electronics Representative.

CATEGORY "A" ITEMS

ITEM 402 - ANTENNA REMOVALS: (CL)

Prepare a reproducible plan showing complete existing antenna installation and rigging detail. Submit a reproducible plan to MSTS Electronics Representative for approval prior to antenna removal.

Coil and secure each wire antenna. Tag each end with an embossed aluminum tag indicating connection and/or terminating location. Stow antennas in location designated by the MSTS Inspector.

Install an embossed brass tag at each exterior antenna connection and/or terminating location indicating specific antenna end to be connected. Secure brass tags with No. 16 solid brass wire.

Wire antennas to be removed are as follows:

Main Transmitting

Emergency Transmitting

Radiotelephone

Radio Direction Finding

Loran

Receiver #1

Receiver #2

Receiver #3

Receiver #4

Entertainment Receiver

Cover external feed-through insulators and terminals with a smooth heavy coating of RTV-731 Dow compound.

Disconnect, remove, clean and stow the N2A-30 Radar antenna pedestal in space designated by the MSTS Inspector.

CATEGORY "A" ITEMS

ITEM 402 - ANTENNA REMOVALS: (CL) (CONTINUED)

Identify the antenna with an embossed aluminum tag indicating use and installed location.

Install embossed brass tags at antenna exterior locations indicating type of antenna and terminus. Insulate topside cable individual conductor leads and encapsulate cable ends in approved heat shrinkable tubing to and covering 2-inches of cable armor.

Remove and stow the first accessible section of waveguide outside the dehumidified space. Insure that the remaining sections are sufficiently supported. Blank and seal the 3 external waveguide openings.

CATEGORY "A" ITEMS

ITEM 501 - SHIP'S SERVICE GENERATOR TURBINES: (BK)

Drain and prove completely dry the vertical risers of the steam lines to each ship's service generator turbine throttle valve.

Remove drain plugs on nozzle steam chests. Disconnect casing drains, packing and gland seal drains as required to prove steam chests and interiors of turbines completely dry.

All turbine operating valves shall be backed off of their seats. Bar open and block all nozzle control valves off of their seats.

Remove all carbon packing, wrap to prevent breakage, tag with non-ferrous metal tags denoting location from which removed, provide suitable wooden boxes for storage and store in ship's machine shop.

Clean oil sumps and strainers.

Transfer all lubricating oil from sumps to a reserve lube oil tank as directed by the MSTS Inspector. Clean oil sumps and strainers.

Replenish sumps with sufficient clean, ship-furnished lubricating oil.

Drain and flush the pedestal bearing of each generator with the clean oil.

Circulate the clean oil through the lubricating oil systems of each turbine, including reduction gears and pedestal bearings. Rotate each unit a minimum of five (5) revolutions to assure of oil coverage to all parts.

Remove all oil from sumps to ship's clean oil storage tanks.

Dry all sumps and close up.

Removed insulution and lagging, if any, made incidental to drainage of turbines shall be neatly secured adjacent to their normal locations. Reinstall all removals. Wire removed drain plugs adjacent to their normal locations.

The exposed portions of the carbon journals or any other exposed machined areas shall be preserved with grade 2 thin film preservative compound, specification MIL-C-16173.

After completion of cleaning of machinery spaces and inactivation of all equipment located within the engine rooms, install 15 mesh 22 gauge non-ferrous wire screens securely fastened over reduction gear casing vents, and designated inspection covers left open to allow circulation of dehumidification air, to prevent the entry of foreign matter into turbine and gear casing interiors.

DATA: Four (4) DeLaval, 400 K.W. Turbines.

CATEGORY "A" ITEMS

ITEM 502 - EMERGENCY GENERATOR AND FIRE PUMP DIESEL ENGINES: (BK) (INACT.)

Drain and completely dry all water jackets, attached circulating water pumps, coolers and associated piping of the fresh and salt water systems of the emergency lighting and power generator diesel engine and the two (2) emergency fire pump diesel engines.

With one (1) end of the section of diesel fuel oil piping connected to the suction side of the diesel fuel booster pump emerged in a can of 2190T lubricating oil and the engine relief valves open, jack the engines over until the lube oil is circulated thru the engine fuel system and cylinder walls.

Drain all lubricating oil from each engine sump and dispose of same. Dispose of all used filters.

Thoroughly clean all sumps, crankcases, filters, and strainers and close up as before. Fill each sump tank with sufficient clean oil and circulate throught the system under pressure. While the oil is being circulated, the engines shall be jacked over five (5) complete revolutions. At the conclusion of this operation the clean oil left in the sump shall be drained and disposed of.

Upon completion, drain and dry all sumps and close up.

Open all engine exhaust manifolds, silencers and exhaust stacks as required to clean interiors of all soot and carbon deposits. Dispose of soot, carbon and debris.

Remove all vee belts and wrap with grade "C" paper Specification MIL-B-121 and secure same adjacent to unit.

Provide new replacement filter elements, wrap with grade "C" paper Specification MIL-B-121 and secure same adjacent to unit.

Upon completion of work and acceptance of condition by the MSTS Inspector, reinstall all removals, including removed drain plugs, leaving each unit intact with the exception of vee belts.

DATA: Emergency Fire Pump Diesel Engines Two (2) Each
Mfr.: The Buda Co.
Mfr. I.D.: 6 LD-468
Location: 5-16-2
5-190-2

Emergency Lighting and Power Generator Diesel Engine One (1) Each
Mfr.: Buda Co.
Mfr. I.D.: Model 6-DHG-1611

CATEGORY "A" ITEMS

ITEM 503 - AIR COMPRESSORS AND PIPING SYSTEM: (BK) (INACT.)

Drain and clean the crankcases of the three (3) air compressors and dispose of all oil.

Replenish sumps with sufficient clean, ship-furnished lubricating oil.

Circulate the clean oil through the lubricating oil systems of each compressors. Rotate each unit a minimum of five (5) revolutions to assure of oil coverage to all parts.

Remove all oil from sumps to ship's clean oil storage tanks.

Dry all sumps and close up.

Open and disconnect all air service piping at low points and loops throughout the entire system and prove interiors dry.

Close all openings in the lines terminating on weather decks.

Open-up drains and thoroughly drain the inter and after coolers.

Open-up, thoroughly clean and dry all air storage and pressure tanks removing all loose rust.

On completion of draining and drying; all removals for this purpose shall be left disassembled, and tagged with non-ferrous metal tags denoting location from which removed, and plugs and valve bonnets secured adjacent to their respective units, except valves, fittings and piping that will affect proper circulation and distribution of dehumidification air which shall be reassembled.

Remove vee belts and secure adjacent to compressors.

DATA: Two (2) Main Air Compressors, One (1) Each Engine Room.
Mfr.: Worthington
Mfr. Dwg.: HL 465
Mfr. I.D.: Model V3A2
Power Rating: 25 HP
Cyl. Dia.: 6", 6", and 5"

One (1) Emergency Air Compressor
Mfr.: Worthington
Mfr. Dwg.: HL 6037
Mfr. I.D.: Model VA2
Cyl. Dia: 4-1/2" and 2-1/2".

CATEGORY "A" ITEMS

ITEM 504 - MAIN FEED PUMPS: (BK) (INACT.)

Open up and completely drain in their entirety the four (4) Triplex variable stroke main feed pumps and associated components including but not limited to the following.

Lift one (1) suction valve in each cylinder and prepare for circulation of dehumidified air during the inactivation.

Drain cooling coils to the lubricating oil sumps in each pump and all attached piping thereto.

Remove and dispose of all lubricating oil in sumps. Clean all sumps, oil strainers and filters. Remove all oil from stroke control cylinders.

Replenish sumps with sufficient ship furnished clean lubricating oil and flush the entire lubricating oil system sufficiently to assure circulation to gear trains, bearings and all other parts. Rotate units five (5) revolutions during the flushing period. Upon completion, remove and dispose of all oil. Dry sumps and stroke control cylinders. Back off the stroke control valves reach rods.

Remove all packing and clean exposed surfaces of pump plungers, side rods, and pinion drive shafts and apply protective coating of thin film rust preventive compound, Grade 2 Specification MIL-C-16173.

Dry the drip pans, drain piping and the drain tanks from the packing gland leak offs on all pumps.

Provide and secure new replacement packing properly wrapped and tagged adjacent to pumps.

DATA: Four (4) Worthington Triplex Main Boiler Feed Pumps
Size 2-3/4 x 5 Variable Stroke

CATEGORY "A" ITEMS

ITEM 505 - MAIN STEAM THROTTLE VALVES: (BK) (INACT.)

Drain and blow thoroughly dry the interiors of the two (2) Atwood Morrell main steam ahead and astern throttle valves and guarding valve assemblies.

Clean all valve stems, extension rods and gear boxes and apply protective coating of thin film rust preventive compound - Grade 2 specification MIL-C-16173.

Upon completion of work, back all valves off their seats.

Release the throttle valves spring tension. The spring loaded throttle valves shall be left in a blocked open position.

CATEGORY "A" ITEMS

ITEM 506 - BOILER FEED AND CONDENSATE SYSTEMS: (LOC)

Drain and completely dry the main and auxiliary boiler feed piping systems and main and auxiliary condensate piping systems serving the forward and after machinery spaces in their entirety, including all associated feed heaters, boiler compound mixing tanks, boiler water sampling coolers, heat exchangers, deaerating feed heaters and valves, by blowing out with air, removal of insulation, drain plugs, valve bonnets, piping or other suitable means.

Penetrate piping in approved locations and install ½-inch I.P.S., threaded bosses, seal welded, complete with drain plugs to faciliate draining of low points, and loops that cannot be thoroughly drained and dried by other means.

Detach, remove and reinstall approximately ten (10) designated sections of piping in various I.P.S. sizes, for inspection by the MSTS Inspector and prove dry.

Disassemble and remove internal components from all check valves of the piping systems to facilitate circulations of dehumidification air, store removed components in cloth bags, tagged with non-ferrous metal tags denoting location from which removed and secured adjacent to their respective units.

Upon completion of the aforesaid work all removals for this purpose shall be reassembled, except valves and piping sections required to be left disassembled for the circulation and distribution of dehumidified air in conjunction with other items of these specifications.

All fittings, valve bonnets and flanges left disassembled, and all disturbed insulation blankets on valves and flanges shall be tagged with non-ferrous metal tags noting location from which removed and secured adjacent to their respective units.

CATEGORY "A" ITEMS

ITEM 507 - CONDENSERS, COOLERS AND CIRCULATING WATER LINES: (BK)

Drain and completely dry the salt water sides and condensate sides of the main and auxiliary condensers and air-ejector condensers.

Drain and completely dry the salt water sides of all lubricating oil coolers.

Drain and completely dry all associated salt water piping to and from the condensers and coolers from their source to their terminations, removing drain plugs and valve bonnets and disconnecting flanges as required for accomplishment.

Drain oil sides of the lubricating oil coolers and heaters and associated piping.

Remove all inspection covers and leave secured adjacent to parent units.

Penetrate piping in approved locations and install 1/2-inch I.P.S., threaded bosses, seal welded, complete with drain plugs to facilitate draining of low points and loops that cannot be thoroughly drained and dried by other means.

Disconnect the salt water service lines to all line shaft bearings and to the stern tubes. Drain and completely dry the lines. Blow dry the water passages in all line shaft bearings.

On completion of draining and drying all removals for this purpose shall be left disassembled, and tagged with non-ferrous metal tags denoting location from which removed, and plugs and valve bonnets secured adjacent to their respective units, except as noted below.

Upon completion of the aforesaid work all removals for this purpose shall be reassembled, except valves and piping sections required to be left disassembled for the circulation and distribution of dehumidified air in conjunction with other items of these specifications.

DATA: Two (2) Main Condensers
Four (4) Auxiliary Condensers
Two (2) Main Lube Oil Coolers
Four (4) Ship Service Generator L.O. Coolers
Two (2) L.O. Heaters
Two (2) Air-ejector condensers
Two (2) Auxiliary Air-ejector Condensers
One (1) Air Conditioning Condenser
One (1) Air Conditioning Lube Oil Cooler

CATEGORY "A" ITEMS

ITEM 508 - STEAM SUPPLY, EXHAUST AND DRAIN SYSTEMS: (BK) (INACT)

Disconnect, and make all removals required to completely drain and dry all steam supply and exhaust systems throughout the ship in their entirety.

Panelling covers some sections of piping system in scattered locations throughout the ship.

All drains, traps, reducing valves, regulating valves and manifolds associated with the systems are included and their interiors shall be preven dry by removal of insulation, drain plugs or disassembly as required.

Open the drain collecting tanks and the contaminated return inspection tanks. Thoroughly clean interior and close up.

Penetrate piping in approved locations and install ½-inch I.P.S., threaded bosses, seal welded, complete with drain plugs to facilitate draining of low points and loops that cannot be thoroughly drained and dried by other means.

Detach, remove and reinstall approximately ten (10) designated sections of piping in various I.P.S. sizes, for inspection by the MSTS Inspector and preve dry.

Disassemble and remove internal components from all check valves of the piping systems ot facilitate circulation of dehumidification air. Store removed components in cloth bags, tagged with non-ferrous metal tags denoting location from which removed and secured adjacent to their respective units.

Upon completion of the aforesaid work. all removals for this purpose shall be reassembled, except valves and piping sections required to be left disassembled for the circulation and distribution of dehumidified air in conjunction with other items of these specifications.

All fittings, valve bonnets and flanges left disassembled and all disturbed insulation blankets on vlaves and flanges shall be tagged with non-ferrous metal tags denoting location from which removed and secured adjacent to their respective units.

CATEGORY "A" ITEMS

ITEM 509 - FRESH WATER AND POTABLE WATER SYSTEMS: (BK) (INACT)

Make all temporary removals and disconnections to piping sections, insulation, valve bonnets, flanges, unions and drain plugs as required to completely empty and dry the hot and cold fresh water systems and potable water systems in their entirety. Panelling covers some sections of piping system in scattered locations throughout the ship.

Open pressure tanks and hot water storage tanks and heaters. Remove all residual rust and deposits from interiors and thoroughly dry.

Penetrate piping as required and isntall ½-inch I.P.S. threaded bosses, seal welded, complete with drain plugs to facilitate draining of all low points and loops that cannot thoroughly drained and dried by other means.

Detach, remove and reinstall appreximately ten (10) designated sections of piping in various I.P.S. sizes, for inspection by the MSTS Inspector and preve dry.

Disassemble and remove internal components from all check valves of the piping systems to facilitate circulation of dehumidification air. Store removed components in cloth bags, tagged with non-ferrous metal tags denoting location from which removed and secured adjacent to their respective units.

Upon completion of the aforesaid work all removals for this purpose shall be reassembled, except valves and piping sections required to be left disassembled for the circulation and distribution of dehumidified air in conjunction with other items of these specifications.

All fittings, valve bonnets and flanges left disassembled, and all disturbed insulation blankets on valves and flanges shall be tagged with non-ferrous metal tags denoting location from which removed and secured adjacent to their respective units.

CATEGORY "A" ITEMS

ITEM 510 - BILGE AND CLEAN BALLAST SYSTEMS: (BK) (INACT)

Completely drain, remove all water and dry out the bilge and clean ballast piping system in their entirety throughout the ship, making all necessary disassembly of flanges, valve bonnets, drain plugs, manifold bonnets, eductors, strainers, insulation, etc.

Penetrate piping as required and install ½-inch I.P.S., threaded bosses, seal welded, complete with drain plugs to facilitate draining of all low points and loops that cannot be thoroughly drained and dried by other means.

Detach, remove and reinstall approximately ten (10) designated sections of piping in various I.P.S. sizes, for inspection by the MSTS Inspector and prove dry.

Disassembly and remove internal components from all check valves of the piping systems to facilitate circulation of dehumidification air. Store removed components in cloth bags, tagged with non-ferrous metal tags denoting location from which removed and secured adjacent to their respective units.

Upon completion of the aforesaid work all removals for this purpose shall be reassembled, except valves and piping sections required to be left disassembled for the circulation and distribution of dehumidified air in conjunction with other items of these specifications.

All valve bonnets, fittings and flanges left disassembled, and all disturbed insulation blankets on valves and flanges shall be tagged with non-ferrous metal tags denoting location from which removed and secured adjacent to their respective units.

ITEM 511 - SANITARY, SOIL AND DRAIN PIPING SYSTEMS: (BK) (INACT)

Remove drain plugs, valve bonnets, insulation, traps and piping sections as required to completely drain and blow dry the entire sanitary piping systems throughout the ship, including all soil drains and piping to their overboard discharge connections, all water closets, sinks, wash basins, showers and water heaters. Panelling covers some sections of piping system in scattered locations throughout ship.

Penetrate piping as required and install $\frac{1}{2}$-inch I.P.S., threaded bosses, seal welded, complete with drain plugs to facilitate draining of low points and loops that cannot be thoroughly drained and dried by other means.

Detach, remove and reinstall approximately ten (10), designated sections of piping in various I.P.S. sizes, for inspection by the MSTS Inspector and prove dry.

Disassemble and remove internal components from all check valves of the piping systems to facilitate circulation of dehumidification air. Store removed components in cloth bags, tagged with non-ferrous metal tags denoting location from which removed and secured adjacent to their respective units.

All fittings, valve bonnets and flanges left disassembled, and all disturbed insulation blankets on valves and flanges shall be tagged with non-ferrous metal tags denoting location from which removed and secured adjacent to their respective units.

Upon completion of the aforesaid work all removals for this purpose shall be reassembled, except valves and piping sections required to be left disassembled for the circulation and distribution of dehumidified air in conjunction with other items of these specifications.

On completion and acceptance of work specified above by the MSTS Inspector lock all heads and washrooms and deliver all keys properly tagged to the MSTS Inspector.

ITEM 512 - FIREMAIN: (BK) (INACT)

Empty and completely dry the firemain system and all cross connections in its entirety throughout the ship, by blowing with hot air and removal of installation, drain plugs, valve bonnets and other suitable means.

Panelling covers some sections of piping system in scattered locations throughout ship.

Penetrate piping as required and install $\frac{1}{2}$-inch I.P.S., threaded bosses, seal welded, complete with drain plugs to facilitate draining of all low points and loops that cannot be thoroughly drained and dried by other means.

Detach, remove and reinstall approximately ten (10) designated sections of piping in various I.P.S. sizes, for inspection by the MSTS Inspector and prove dry.

Upon completion of the aforesaid work all removals for this purpose shall be reassembled, except valves and piping sections required to be left disassembled for the circulation and distribution of dehumidified air in conjunction with other items of these specifications.

All fittings, valve bonnets and flanges left disassembled, and all distrubed insulation blankets on valves and flanges shall be tagged with non-ferrous metal tags denoting location from which removed and secured adjacent to their respective units.

ITEM 513 - STEERING GEAR AND TELEMOTOR SYSTEM: (BK) (INACT.)

Clean all surfaces of power rams, telemotor rams and all other ferrous machined surfaces of the steering gear and telemotor system and their associated controls and apply protective coating of thin film rust preventive compound, Grade 2 specification MIL-C-16173.

Pressure lubricate steering engine and all controls using grease in conformance with manufacturer's lubrication chart.

Position the rudder amidships and set up on rudder post brake band to prevent movement.

Secure all hydraulic suction and discharge valves maintaining a fully charged system.

Fill sumps and storage tanks to full capacity with manufacturer's recommended hydraulic oil.

Upon completion of work, leave steering engine flat in a clean orderly condition.

DATA: Lidgewood - Double Ram Type

CATEGORY "A" ITEMS

ITEM 514 - SHAFT LOCKING DEVICES: (BK)

Coordinate the work in this item with work specified in Item 517 found elsewhere in these specifications.

Remove the sheetmetal guards from the first inboard lineshaft coupling of the main propulsion shaft port and starboard at frame 186. Secure sheetmetal guards in a suitable location adjacent to couplings.

Install the ship's furnished port and starboard shaft locking devices.

Locks are located in the shaft alley mounted on the bulkhead.

The jacking gear shall be disengaged, fuses removed and tagged that the locking devices have been installed.

NOTE: Prior to securing the shaft locking devices, leave the propellers in the docking position.

CATEGORY "A" ITEMS

ITEM 515 - LOW PRESSURE EVAPORATORS: (BK)

Completely drain and dry interiors of the steam, salt water, fresh water and vapor sides of the two (2) triple effect evaporators, associated heat exchangers, piping, valves, regulators, meters and traps.

Clean and dry the interiors of mixing and testing tanks.

Wire all plugs and valve bonnets to openings where removed. All disturbed flanges shall be plainly marked.

Leave clean out ports open to allow circulation of air to interiors.

DATA: Foster Wheeler Corp., two (2) units triple effect, 40,000 GPD. each

CATEGORY "A" ITEMS

ITEM 516 - PURIFIERS: (BK) (INACT.)

Open up the two (2) DeLaval lubricating oil purifiers.

Thoroughly clean and dry interiors.

Apply protective coating of thin film rust preventive compound, Grade 2 specification MIL-C-16173 to interior surfaces including the lower drive assembly and reassemble.

LOCATION: Forward and Aft. Engine Rooms, Lower Level

CATEGORY "A" ITEMS

ITEM 517 - MAIN PROPULSION TURBINES AND REDUCTION GEARS: (BK) (INACT)

Disconnect at their lowest extremity all casing drains, packing box and gland seal drains, and steam extraction lines. Drain and prove thoroughly dry the interiors of the two (2) H.P. and L.P. main propulsion turbines and all connecting lines thereto. Drain and completely dry the nozzle steam chests. Back off nozzle valves from their seats.

All disconnections to drain lines and removals of valve bonnets, etc., made for drainage of condensate shall be reassembled. Removed drain plugs shall not be reinstalled but wired adjacent to their normal location.

Remove the carbon packing, wrap, tag as to location, provide suitable boxes for storage and store in adjacent to removed location.

Open, remove any remaining oil or foreign material and thoroughly clean sumps and gravity tanks.

Open and thoroughly clean sumps, using lint free rags, and close up. Drop down sufficient ship-furnished, clean displacement oil to sumps for flushing of the lubricating oil systems of main propulsion turbines. Circulate clean displacement oil through all bearings of turbines and reduction gears. Rotate units during circulation for a minimum of one (1) revolution of bull gear. On completion of displacement oil circulation transfer oil from sumps to ship's storage tanks as directed by the MSTS Inspector. Open sumps, gravity tanks and respective piping and remove residual oil and upon approval by the MSTS Inspector, close sumps, using new gaskets.

Removals of insulation and lagging, if any, made incidental to drainage of turbines shall be neatly secured adjacent to their normal locations.

The exposed portions of the carbon journals or any other machined areas shall be preserved with Grade 2 thin film rust preventative Specification MIL-C-16173 compound.

After completion of cleaning of machinery spaces and inactivation of all equipment located within the engine rooms, install 15 mesh, 22 gauge non-ferrous wire screens, securely fastened over reduction gear casings vents, gravity tanks and desingated inspection covers left open to allow circulation of dehumidification air, to prevent the entry of foreign material into reduction gear case interiors.

The gears cases shall be opened and closed in the presence of the ship's Chief Engineer.

DATA: Two (2) DeLaval Steam Propulsion Units, consisting of one (1) high pressure element and one (1) low pressure element with DeLaval double helical reduction gears - Shaft H.P. 8500 each.
Gravity Tank (each) 630 gallons
Main Engine Sump (each) 500 gallons

CATEGORY "A" ITEMS

ITEM 518 - CENTRIFUGAL PUMPS, FRESH AND S.W. SERVICE: (BK) (INACT.)

Drain and completely dry the interiors of all centrifugal type pumps for fresh and salt water service including, but not limited to the below listed pumps. Acoomplish all disassembling, disconnections and removal of drain plugs as required for accomplishment of work. Slack stuffing box packing glands.

The following pumps to be dealt with:

Two (2) Main Condenser Circulating Pumps
Two (2) Aux. Condenser Circulating Pumps
Four (4) Main Condensate Pumps
Two (2) Aux. Consensate Pumps
Three (3) Fire and Flushing Pumps
Two (2) Fire Pumps (Emerg. Diesel)
Two (2) Bilge and Ballast Pumps
One (1) Submersible Bilge Pump

Two (2) Vacuum Priming Pumps
Three (3) Hot Water Circ. Pumps
Two (2) Distiller Circulating Water Pumps
Two (2) Distiller Condensate Pumps
Two (2) Evaporator Feed Pumps
Two (2) Evaporator Feed Brine Overboard Pumps
Two (2) Evaporator Tube Nest Drain Pumps
One (1) Refrigeration Condenser Circulating Water Pump
One (1) Air Conditioning Chilled Water Circulating Pump
One (1) Air Conditioning S.W. Circulating Pump
Seven (7) Dishwashing Machine Water Pumps

Upon completion and acceptance of work, reassemble all disturbed parts. Secure drain plugs adjacent to their normal locations.

CATEGORY "A" ITEMS

ITEM 519 - RECIPROCATING PUMPS: (BK) (INACT.)

Open up, completely drain and dry the interiors of all reciprocating pumps including, but not limited to the below listed pumps.

Steam Ends:

Remove all steam cylinder and steam chest pistons, coat with thin film rust preventive compound Grade 2 specification MIL-C-16173 tag with non-ferrous metal tags denoting location from which removed and secure pistons adjacent to their respective units.

Remove all packing from stuffing boxes.

Provide and secure to each stuffing box new replacement stuffing box packing properly wrapped.

Disconnect steam and exhaust flanges at valve chests. Drain and completely dry the vertical risers including associated valves and spool pieces.

Remove steam cylinder and valve chest drain plugs. Lance all drain holes with wire to prove same clear.

Blow dry all cylinders and valve chests.

Liquid Ends: Fresh and Salt Water Service.

Remove bottom drain plugs and drain all water. Sufficiently disassemble the valve manifolds and liquid cylinders and blow interiors completely dry.

Remove all liquid cylinder plungers, liquid plunger packing and stuffing box packing.

Tag all liquid cylinder plungers with non-ferrous metal tags denoting location from which removed and secure same adjacent to their respective units.

Provide and secure to each unit new replacement stuffing box and liquid plunger packing properly wrapped with Grade "C" paper specification MIL-B-121.

(Continued)

ITEM 519 - RECIPROCATING PUMPS: (BK) (INACT.) (CONT'D)

Clean all exposed surfaces of steam and liquid piston rods, valve stems, linkages and cylinder columns. Apply one (1) protective coat of thin film rust preventive compound, Grade 2 specification MIL-C-16173.

Wire all removed drain plugs adjacent to their normal location. All other parts removed for accomplishement of the aforesaid work shall be reass assembled.

The following pumps to be dealt with:

Two (2) L.O. Service Standby Pumps	Simplex
Two (2) Aux. Feed Pumps	Simplex
Two (2) Fuel Oil Standby Pumps	Duplex
Two (2) Fresh Water Pumps	Duplex
Two (2) Contaminated Evaporator Pumps	Duplex
One (1) Diesel Oil Service Pumps	Duplex
Two (2) Diesel Oil Transfer Pump	Duplex
Two (2) F.O. Transfer and Dirty Ballast	Duplex
Two (2) Sanitary System Pumps (Power Driven)	Duplex
Two (2) Drinking and Wash Water Pumps (Power Driven)	Duplex
Two (2) Fresh Water Pump (Power Driven)	Duplex
One (1) Hageovap Pump	Duplex

CATEGORY "A" ITEMS

ITEM 520 - REFRIGERATION SYSTEM: (BK) (INACT.)

Drain, flush with fresh water and completely dry out the circulating water sides of all refrigeration system condensers, associated piping and valves.

Secure with wire all removed salt water system drain plugs adjacent to their respective locations.

Reinstall all other removals. Add to the existing reefer compressor oil in compressor crank case to raise level above crankshaft oil seals.

Remove vee belts and secure adjacent to compressors.

DATA: Five (5) York compressors and condensers.

CATEGORY "A" ITEMS

ITEM 521 - GALLEY AND LAUNDRY EQUIPMENT: (BK) (INACT.)

"Sufficiently disassemble, drain and dry all laundry and galley equipment including but not limited to the following - all dishwashing machines, laundry machines and six (6) steam chef vegetable cookers including their auxiliary steam boilers.

Apply protection coating to all corrodible ferrous surfaces using thin film rust preventive compound Grade 2, Specification MIL-C-16173.

Inactivation of pumps, motors, steam, water and exhaust lines is covered in other items of these specifications."

CATEGORY "A" ITEMS

ITEM 522 - DECK DRAINS: (BK) (INACT)

Remove all strainers from all weather main deck drains throughout the ship which drain into the interior drainage system, including, but not limited to an approximately total of fifty (50) deck drains.

Tag all strainers with non-ferrous metal tags denoting location from which removed. Provide a suitable containers and store strainers in same in below decks area designated by the MSTS Inspector.

On completion of the above install 1/4-inch thick mild steel watertight blanking plates, seal welded over each deck drain opening.

Install as follows two (2) each, new overboard deck drains through the main deck plating, located one (1) each, port and one (1) each, starboard and immediately forward of frame 64 and inboard of the bulwarks.

Remove the deckhead and hull sheathing in the way of the new drain installations and install two (2) each, "Tate" Model No. 60-100A or equal recessed deck penetrating drains, in locations noted above and each fitted with a vertical section of 2-inch I.P.S., extra heavy drain piping approximately 48-inches long. Carry the deck drain outboard penetrating outer shell plating by installing a 90-degree long radius "tube turn" 2-inch I.P.S. extra heavy weld elbow at the bottom end of the new vertical drain piping and welded to the shell plating on the inboard and outboard sides with a 2-3/8-inch I.D. by 4-3/4-inch O.D. doubler plate, equal to the thickness of the shell plating and fillet welded all around.

Deck drains shall be fitted with removable slotted brass, strainer plates secured with brass screws.

Clean up and seal off exposed edges of disturbed insulation and sheathing with galvanized No. 16 USSG sheetmetal.

CATEGORY "A" ITEMS

ITEM 523 - BLANKING OF WATER TANK GOOSENECK VENTS: (BK) (INACT.)

Install watertight and airtight blanking devices over all water tank gooseneck vent openings, located on weather decks throughout the ship including, but not limited to an approximate total of twenty (20) in 2 and 3 inch IPS sizes.

All removals for this purpose shall have non-ferrous metal tags attached denoting locations from which removed and stored below decks in locations designated by the MSTS Inspector.

Crop out and replace with new the 2 inch IPS vents at the reinforcing sleeve on the 03 deck frame 140, port and starboard side. A total of four (4) feet of 2 inch IPS schedule 80 galvanized pipe and two (2) 2 inch IPS schedule 80 elbows shall be involved.

Upon completion of piping repairs blank the gooseneck vent openings in accordance with the first paragraph.

CATEGORY "A" ITEMS

ITEM 524 - SHIP'S WHISTLE REMOVAL: (BK) (INACT.)

Disconnect and remove the whistle assembly from the forward stack.

All openings in way of removals and in the forward stack shall be properly gasketed and blanked off and made air and water tight.

DATA: Mfr.: Leslie Co.
Mfr. Plan: T-709
Mfr. Ident.: 300 DVE
Type: Commercial Marine Diaphragm
3 leaves

CATEGORY "A" ITEMS

ITEM 525 - AIR CONDITIONING TURBINE: (BK)(INACT.)

All turbine operating valves shall be backed off of their seats. Bar open and block hydraulic pump governor valves off their seats.

Remove all carbon packing from the air conditioning turbine, wrap to prevent breakage, tag with non-ferrous metal tags denoting location from which removed, provide suitable wooden boxes for storage and store adjacent to removed location.

Prior to circulating oil through the turbine, the coupling between turbine and compressor shall be disconnected.

Clean oil sumps and strainers.

Replenish sumps with sufficient,clean, ship furnished lubricating oil.

Circulate the clean oil through the lubricating oil systems of turbine.

Rotate turbine a minimum of five (5) revolutions to assure oil coverage to all parts.

Remove all oil from sumps to ship's clean oil storage tanks.

Dry all sumps and close up.

Removals of insulation and lagging, if any, incidental to work accomplished shall be neatly secured adjacent to the normal location.

The exposed portions of the carbon packing journals or any other exposed machined areas shall be preserved with grade 2 thin film rust preventive, compound specification MIL-D-16173.

DATA: Mfr.: Westinghouse
Mfr. I.D.: C-225
Power Rating: 591 H.P.
Speed: 4030
No. Stages: 2
Operating Pressure: 440 PSIG
Operating Temp: 740° F
Exhaust Pressure: 15 PSIG

CATEGORY "A" ITEMS

ITEM 526 - DYNAMIC DEHUMIDIFICATION OF THE STEAM PROPULSION PLANTS: (LJF) (INACT.)

Reference (a) MSTSPAC Plan No. T-AP 110-502-1173134; titled "Dehumidification Dagramatic Arrangement".

Reference (b) Plan No. S3805-1507266; titled "D/H Preservation Of Steam Propulsion Plant Installation".

In conjunction with another item in these specifications titled, "Installation of D/H Systems" and other Items of these specifications, using Reference (b) for guidance accomplish installation of dynamic dehumidification to serve the main steam propulsion steam plants located, within zones 3 and 5 as shown on Reference (a), including but not limited to the following.

Install and connect to the boiler lower steam drums and fire sides the dehumidified air supply ducting leading from the D/H machines serving zones 3 and 5 as shown on reference (a).

Remove the disc from each of the main and auxiliary steam stops and boiler feed check valves. Remove the packing from the soot blower swivel tubes and block the soot blowers in the open position. Install new packing in the swivel tubes and leave the packing glands slacked off.

Remove all non return check valve discs from the steam piping, feed water piping, condensate piping, exhaust piping and piping systems shown on Reference (b) and serving the main propulsion and auxiliary steam systems, tag all removals with non-ferrous metal tags denoting location from which they were removed, preserve with grade "2" rust preventative compound and secure to equipment from which they were removed.

In conjunction with other Items in these specifications make all removals, reassembly and connections required to establish dehumidification of the systems shown on reference (b).

Adjust for flow and modulation the dehumidified air thru the systems by adjusting valves, tag each valve denoting the amount of opening and the service intended.

Adjust air supply to the boiler fire sides by adjusting the amount of soot blower opening and adjust each unit as required to insure correct modulation of D/H air.

All work in this Item shall be accomplished in strict compliance with Naval Ships Technical Manual 0901-030-0003, Chapter 9030.

CATEGORY "A" ITEMS

ITEM 527 - AIR CONDITIONING SYSTEM: (BK) (INACT)

Drain and completely dry out the entire chilled water system including but not limited to the following units, chilled water cooler, purge unit, surge tank, all associated piping, fan coil cooling units and valves forming the system.

Panelling covers some sections of piping system in scattered locations throughout the ship.

The aforesaid air conditioning system serves the following compartments, all troop berthing areas, troop mess halls, main dining salon, troop officers lounge, crews lounge and ship's officers lounge.

Penetrate piping as required and install ½-inch I.P.S., threaded bosses seal welded, complete with drain plugs to facilitate draining of all low points and loops that cannot be thoroughly drained and dried by other means.

Upon completion of the aforesaid work, all removals for this purpose shall be reassembled except valves and piping sections required to be left disassembled for the circulation and distribution of dehumidified air in conjunction with other items of these specifications.

DATA: One (1) Worthington model 66-C air conditioning unit complete with one (1) 200 gallon surge tank located fan room, 03 deck centerline, one (1) chilled water cooler located in engine room and forty (40) fan coil units located throughout the ship.