

MILITARY SEA TRANSPORTATION SERVICE, PACIFIC AREA
NAVAL SUPPLY CENTER
OAKLAND, CALIFORNIA 94625

SPECIFICATION NUMBER: MSTSP 67-70

29 December 1966

S P E C I F I C A T I O N S

For

ANNUAL OVERHAUL

USNS PATRICK (T-AP 124)

The General Conditions dated 15 July 1955 and Amendment No. 1 dated 23 November 1962 to the General Conditions for work under Department of Defense, Department of the Navy, Master Contract for Repair and Alteration of Vessels are a part of these specifications and any conflict between these specifications and the Master Contract for Repair and Alteration of Vessels shall be governed by the provisions of the Master Contract.

These specifications consist of 49 pages and General Conditions, referenced above.

SUPT PORT ENGINEER:

Approved: Director, Transport-Tanker Eng. Div.

Approved: Supt. Port Engineer.

I N D E X

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INFORMATION REGARDING THE INVITATION FOR BIDS INCLUDING THESE SPECIFICATIONS

Prior to the time of bid opening and after award of job order, inquiries should be directed to one of the following:

Procurement and Contractual Matters
(Maintenance and Repair Office)

| <u>Title</u> | <u>Telephone</u> |
|---|----------------------|
| Director, Procurement & Control Division Head, Contract Branch | 466-5185 466-5185 |

Legal Matters
(Office of Counsel)

| <u>Title</u> | <u>Telephone</u> |
|------------------------------|----------------------|
| Assistant Counsel Counsel | 466-6481 466-6481 |

Engineering and Technical Matters
(Maintenance and Repair Office)

| <u>Title</u> | <u>Telephone</u> |
|----------------------|------------------|
| Deputy M & R Officer | 466-6955 |

Statement of Manufacturer's Representative

On any specification item which calls for supervision by the manufacturer's representative the following shall be strictly complied with:

Submit a statement of supervision exercised by the representative, prepared and signed by the representative. The statement shall include certification of work actually performed and certification either that work was performed to the satisfaction of the representative, or that work deficiencies, explicitly identified by the manufacturer's representative, exist. The original plus four copies of each statement shall be delivered to the MSTSP inspector.

Overtime Policy

The Contracting Officer may require of the Contractor a statement in writing regarding the need for overtime in the performance of the contract in the event of the issuance of a Change Order or a Supplemental Agreement for extra work. No overtime premium pay shall be considered in the price of equitable adjustment to be paid by the Government on account of the Change Order or a Supplemental Agreement unless authorized by the Contracting Officer.

ITEM 1 - SERVICES: (TC)

Upon arrival of the ship in the Contractor's Yard, the Contractor shall coordinate with the Chief Engineer the time required for services and provide the following:

Electric power, 400 Amps, 120/240 DC and 800 Amps, 440 Volts, 3-phase, 60 cycle AC.

| | |
|-------------------------------|---------|
| Steam - 5000 lbs. per hour at | 100 PSI |
| Fresh Water (potable) | 60 PSI |
| Flushing Water | 60 PSI |
| Firemain | 100 PSI |
| Air - 500 CFM at | 100 PSI |

Any additional services required, either in quantity or in excess of time required by the applicable items of this specification, shall be furnished only upon the issuance of a Specification Change Order. Cost of any additional services required for the Contractor's convenience will be borne by the Contractor.

ITEM 2 - TELEPHONES AND GARBAGE: (TC)Garbage and Debris Removal:

Remove daily all garbage and debris generated by the ship. (Note: Cleanliness of the ship shall be the Contractor's responsibility in accordance with the master contract for repair and alteration of vessels. Clause 5, Sub. Para (J)).

Telephones:

One (1) twenty-four hour telephone for official use only at quarter deck.

One (1) pay telephone at quarter deck providing such telephone is not available on the dock in immediate vicinity of the ship.

Three (3) telephones through switchboard during regular work day hours as follows:

One (1) in Chief Engineer's Office.

One (1) in Masters Office through Shipyard switchboard.

One (1) in MSTSPAC Representative's Office.

ITEM 3 - FIRE DETECTING SYSTEM: (TC)

Accomplish the following to the Walter Kidde Zomit fire detecting system:

Thoroughly check out, clean, service, adjust and accomplish minor repairs to place the system in design operating condition. Minor repairs shall be construed to include a total of twenty-five dollars (\$25.00) or less of miscellaneous material.

Post certification and obtain U.S. Coast Guard approval of operational test.

ITEM 4 - SMOKE DETECTING SYSTEM: (TC)

Service, adjust and make minor repairs to the Kidde Smoke detecting system. Thoroughly check the entire system including timer motor, indicator, photo unit and all components of the cabinet for proper operation.

Renew silk flickers, clean lenses, mirror and cabinet interior.

Blow out lines with compressed air or CO₂.

Test trouble buzzers, simulating all possible sources of malfunction.

Smoke test all compartments.

Replace missing label plates and label stations correctly.

Prove system satisfactory to the Chief Engineer and the MSTS Inspector.

DATA: C-O-TWO CO.

ITEM 5 - LIFEBOATS EXCHANGE OF: (TC)

Remove all food, water, equipment including the nesting chocks from all twenty (20) of the ship's lifeboats.

Remove the twenty (20) lifeboats including rudders from ship and deliver to Eureka Marine, Oakland Dock Warehouse between the hours of 0800 and 1400 of a regular work day, notifying Eureka Marine (Phone: 893-3396) not less than 24 hours prior to delivery time as to mode and time of delivery.

Receive and off-load from U.S. Government transportation the twenty (20) boats listed below to replace those removed.

135-Pers. Ten (10) Boats
77-Pers. Eight (8) Boats
43-Pers. Two (2) Boats

(CONTINUED)

ITEM 5 - LIFEBOATS EXCHANGE OF: (TC) (CONTD)

C Remove the radio and searchlight installations from the Radio House in the two (2) removed 43-person lifeboats and install in the new boats. Removals to include the portable radio battery charging cable, battery box, batteries, etc., but exclude the "Ship Charge-Engine Charge" switch and ammeter. These items have been previously installed in the new boat.

Test operate the radio equipment and searchlight installation in the presence of the MSTSP Inspector and insure proper operating condition.

Check out and insure correct connections for proper operation of the battery charging and drying lamp circuit from the ship charging lines.

Connect engine generator charging circuit for correct charging polarity.

Install gunwale and thwart brackets for anti-exposure lifeboat cover stanchions and braces on each lifeboat (total 20 boats) as outlined in manufacturer's instruction of covers furnished. Ship's force will furnish stanchion and thwart brackets including fastenings for all boat cover framing brackets. The contractor shall completely assemble Government furnished boat cover framing, bracing and cover on one (1) 135 person, one (1) 77 person and one (1) 43 person type boat to the satisfaction of USCG Inspector; upon completion of inspection, disassemble cover unit and package stow in boat.

Restow all food, water and equipment removed from the twenty (20) removed boats in the new boats. Place new boats in their respective shipboard davits, modifying the davit paddings, lifeboat falls, keel rests, gripe pads and gripes to form a neat and proper stowage.

Tighten the stern tube packing in each boat.

Stencil new boats as required by the USCG.

Lower the tow (2) new motor boats to the water. Fill gasoline tank, transmissions and crankcases and test-operate engines as required by and to the satisfaction of the USCG Inspector.

On completion of tests, refill the gasoline tanks and resecure boats aboard ship.

Secure the releasing devices, falls and davit heads with wire rope while boats are being worked on in davits.

All boats shall be handled by use of strongback spreaders simulating davit centers.

C The ship's force will replace all condemned food, water and equipment while such units are removed from boats.

The exchange of the lifeboats shall be completed prior to the time of ship's departure from the Contractor's yard.

ITEM 5 - LIFEBOATS EXCHANGE OF: (TC) (CONTD)

Test of boat davits as outlined in a separate item of the specifications shall be accomplished prior to securing of boats in davits.

The U.S. Department of Labor "Safety and Health Regulations for Ship Repairing" provides: "Before employees are permitted to work in or on a lifeboat, either stowed on or in a suspended position, the employer shall ensure that precautions have been taken to prevent the boat from falling due to accidental tripping of the releasing gear, movement of davits or capsizing of a boat in chocks". Compliance with this requirement is a prerequisite to commencing work on this item.

ITEM 6 - ANCHOR WINDLASS:

Accomplish repairs and renewals to the anchor windlass and windlass foundation as hereinafter specified.

DECK

- Disconnect and remove the anchor windlass from ship to suitable location in Contractor's yard.
- Remove the wood windlass foundation and hold down bolts to steel deck and clean steel deck and coaming free of rust, scale, dirt, grease and debris. Coat all prepared surfaces with a heavy coat of rust preventative compound "NO-OX-ID", type GGG or equal as approved.
- Install new Douglas Fir, grade "Ship Decking" as outlined in the West Coast Lumbermans, grading rules.
- Thickness and width of planking and margin pieces shall be equal to existing when new. Sides of new planking shall be planed for snug fit and shall be rabbitted on top of one edge to provide a vertical seam of $\frac{1}{4}$ inch width and a $\frac{3}{4}$ inch depth when planks are installed.
- New planking and margins shall be installed with Nelson studs, or equal and wood plugs for same, construction equal to existing when new with the exception of seams as heretofore specified.
- Clean seams and apply one (1) coat of "CHEM SEAL" primer No. 2703 as manufactured by "CHEM SEAL CORP", or equal to sides of seams. Allow thirty (30) minutes drying time and again apply another coat of the primer and allow to dry not less than four (4) hours nor more than twenty-four (24) hours. Fill the above prepared wood deck seams with "FLO-CAULK" No. 1-302, or equal.
- "FLO-CAULK" shall conform to the requirements of specification MIL-C-18255 as last amended. Caulking compound and the primer shall be from the same manufacturer.
- After curing of caulking compound, remove the excess materials and sand planking to design thickness.

(CONTINUED)

ITEM 6 - ANCHOR WINDLASS: (CONTD)

C Prior to resetting anchor windlass, area of wood foundation covered by windlass shall be given one (1) coat of white lead, one (1) layer of Irish Flex felt and one (1) finish coat of white lead.

Reinstall windlass utilizing new foundation bolts and associated securing components. Connect and perform operational test as specified herein.

Trim felt around edge of windlass and prime paint exposed surfaces of wood with one (1) coat of deck gray, MSTSP Code 34, thinned with linseed oil one (1) part to the gallon. Finish paint with two (2) coats of deck gray, MSTSP Code 34.

MECHANICAL

Disassemble both port and starboard hand brake operating linkages complete. Remove both port and starboard brake bands.

Install new cadmium plated springs to brake levers, shaft linkages, brake bands and renew supporting clips and eyebolts.

Hot dip galvanize brake bands. Replace with new, brake band lining.

Build up all worn holes in linkages and clevices and remachine to original design diameters. Renew all linkage pins, washers, nuts and cotters, using corrosion resistant steel material and upon reassembly, properly adjust same. Remove all lost motion.

Renew all portable gear and brake safety guards utilizing all new bolting and securing pads.

Heat and fair out indents on gear cases. Build up and grind to smooth the deteriorated surfaces on casings in way of flanges prior to reinstallation.

Renew loose fitting of defective oil filling and drain connections to gear case oil pans.

Reassemble removals. Replenish sump with Contractor furnished gear lubricating oil.

MOTOR

Disconnect and remove motor from winch. Disassemble, bench test and examine all components.

Thoroughly clean all components. Conduct bar to bar test of armature and line drop test of field coils. Report results to the MSTSP Inspector immediately after tests.

Undercut, build up and machine finish shaft and bearing housings in way of bearings to original dimensions when new.

(CONTINUED)
PATRICK

ITEM 6 - ANCHOR WINDLASS: (CONTD)

Replace with new, both bearings using Manufacturer's specified parts or equal in design.

Turn commutator to a true concentric within .001 inch plus or minus.

Undercut mica, remove feather edges and polish.

Replace with new, defective or deteriorated motor leads, field and brush rig jumpers. Preheat, vacuum impregnate and rebake armature, field and interpole coils with Navy approved insulating varnish. Repaint all non-current carrying parts of motor.

Repair and adjust brushrig assembly, renewing insulation, springs and component parts found defective. Renew all brushes and completely seat to commutator in proper staggered position, spaced at a maximum of 1/8 inch from commutator and adjusted to load neutral.

Remove ball check valve from bottom of motor frame, drill and tap motor frame and install brass pipe plug.

Replace with new, grease fittings, oil seals and gaskets.

Replace with new, all bolts, studs, screws, washers and nuts for motor frames, field and interpole pole pieces, end bells, inspection plates and motor wire connection box fittings, using cadmium plated material.

PAINTING MACHINERY

Apply inorganit zinc coating to all normally painted surfaces, such as exterior of motor housing, winch base, winch base sides, gear guards, etc. Coating shall be applied in strict accordance with COMSTS Instructions 9190.4A, enclosure (6).

After drying time of primer coat apply two (2) coats of haze gray as recommended by manufacturer of applied coating system.

MAGNETIC BRAKE

Completely disassemble magnetic brake assembly.

Replace with new, the brake lining.

Turn brake drum to a true diameter.

Replace with new, all worn, defective or missing bolts, studs, pins, bushings and keepers.

(CONTINUED)

ITEM 6 - ANCHOR WINDLASS: (CONTD)

Preheat, vacuum impregnate in approved insulating varnish and rebake the solenoid coil.

Replace with new, defective or annealed springs.

Replace with new, shaft seal mounting plate in housing.

Install, assemble, align and adjust all components in the magnetic brake housing.

TESTS

On completion and acceptance of all repairs, reassemble and install motor, magnetic brake equipment and all electrical components. Align and adjust all equipment and prepare for tests.

Connect and test anchor windlass electrically and mechanically for proper sequence and operation. Re-check and adjust magnetic and hand brakes.

Load test shall include raising both anchors simultaneously and separately at an average speed of 31.7 F.P.M. Test of warping heads shall include proper operation of both shift locking rings and designed speed of warping heads.

ITEM 7 - FUSIBLE LINK DAMPERS: (AS)

Open up the ship's fusible link ventilation dampers for inspection by the USCG and MSTSP Inspectors.

Renew defective screws and links, free-up and lubricate dampers.

Upon completion of inspection and repairs, close up units and leave ready-for-use.

A total of thirty-nine (39) fusible link dampers located throughout the ship's ventilation systems shall be dealt with.

CATEGORY "A" ITEMS

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ITEM 8 - AUTOMATIC TELEPHONE SYSTEM: (TC)

Thoroughly clean, checkout, service, adjust, repair and/or replace with new any worn or defective parts for the automatic telephone switchboard and its associated equipment including, ringing machines, trouble alarm signal, ringing machine panel, extension signal relays, attendants cabinet and components, battery charging motor-generator sets and such other associated equipment other than batteries and ships wiring cables.

Replacement parts shall be of manufacturer's design parts.

If repair parts are to exceed \$50, notify the MSTS Representative of parts required.

Any repair parts necessary above \$50 will be covered in a separate order.

Upon completion, test several stations and prove satisfactory to the MSTS Inspector.

DATA: Automatic Electric Co.
48 Volts DC

ITEM 9 - ELEVATORS AND DUMEWAITERS: (TC) (WR-76)

Furnish services of a qualified elevator repair and inspection facility to inspect, service and adjust the below mentioned elevators and dumbwaiters for compliance with all recommended provisions of the American Standard Safety Code for Elevators, Dumbwaiters and Escalators. Perform operational and load tests as necessary to determine conformity with or deviation from the aforementioned code.

Check guide rails for alignment, and lubricate.

Renew guide shoe gibs.

Align and adjust all brakes. Correct brake solenoid over-ride.

Lubricate hoisting mechanisms and drive assemblies.

Clean and adjust hatch and cab doors and gate hardware, door mechanisms and interlocks. Tighten all loose hardware in shafts and cages.

Inspect and lubricate wire ropes, fittings and sheaves.

Measure and record insulation resistance values of all motors, controllers, control circuits and magnetic brakes. Resurface line contactors, and adjust all contacts and relays for correct operational sequences and control.

Perform static load tests of 100% over capacity, set brakes at 50% over capacity and perform running load tests of 100% capacity.

(CONTINUED)

ITEM 9 - ELEVATORS AND DUMBWAITERS: (TC) (WR-76) (CONTD)

All work shall be accomplished to the satisfaction of and all testing witnessed by MSTSP Representative.

Three (3) copies of Load Certificates shall be submitted to MSTSP Inspector and one (1) copy shall be posted within elevator cabs and dumbwaiters.

Furnish written report in triplicate of all work accomplished, of conditions found, and megger resistance readings.

DATA: Otis Elevator Co.

| | | | | |
|--------------------|--------|---------|------------------|------|
| Passenger Elevator | - Cap. | - 4000# | - Fr. 110, 01/03 | Deck |
| Freight Elevator | - Cap. | - 2000# | - Fr. 80, 3/6 | Deck |
| Dumbwaiter | - Cap. | - 500# | - Fr. 72, 3/6 | Deck |
| Dumbwaiter (2) | - Cap. | - 200# | - Fr. 138, 3/1 | Deck |

ITEM 10 - FORCED DRAFT IMPELLERS: (JCH) (WR-67)

Disassemble and remove to shop a total of four (4) forced draft blower impellers only, one each on the #1, #2, #3 and #4, forced draft blowers.

Perform the following on each impeller:

Thoroughly clean to clean metal, fair up and rebuild damaged or deteriorated impeller blades and hub to original design when new. Apply one (1) coat primer paint and dynamically balance.

Scale interior of blower housing and apply one (1) coat primer paint.

Reinstall impeller as original and balance in place as a unit.

Conduct operational tests to approval of MSTSP Inspector.

ITEM 11 - VOLTAGE REGULATORS: (JCH) (WR-78)

Disconnect and remove to shop a total of four (4) voltage regulators and their associated equipment, including high speed relay and motor driven rheostat, two (2) on forward and two (2) on aft. switchboards.

Under the supervision of a manufacturers representative, to be provided by contractor, perform the following on each voltage regulator and its associated equipment:

Completely checkout, service, adjust and accomplish repairs required to restore the units to design operating condition.

Renew all worn or defective parts with new design replacements.

Reinstall the units aboard ship as original, achieve proper alignment and adjustments, conduct operational tests to approval of MSTSP Inspector.

DATA: Mfg. General Electric - Model 3GFA4M21
Type GFA-4M, 115 Volts, 2 Amps, Exciter 120

ITEM 12 - VENT SETS: (JCH) (WR-72-73-74)

Disconnect and remove the following three (3) vent sets, motors and impellers, to shop.

- A. 02-133-0, Electric Dynamics, 1 HP, .8/1.8 Amps, 440 VAC, 1725/1140 RPM, Frame #204, located #4 Fan Room.
- B. 3-61-2, Louis-Allis, 5 HP, 11.8/4.3 Amps, 440 VAC, 570/1150 RPM, Frame 324, located #21 Fan Room.
- C. 1-53-2, Electro-Dynamics, 3 HP, 1.9/4.5 Amps, 440 VAC, 860/1730 RPM, Frame 225, located 1st Deck, Frame 53.

Perform the following to each vent motor and impeller:

Disassemble motor and impeller, clean impeller to clean metal, fair up and rebuild damaged or deteriorated impeller blades and hub to original design when new. Apply one (1) coat primer paint.

Steam clean windings by means of a saturated steam and detergent spray under pressure not to exceed twenty five (25) lbs. PSI, place in a drying oven and bake until all trace of moisture is removed.

Oven heat windings to baking temperature, vacuum dip in approved baking insulating varnish, and rebake until varnish is cured.

Undercut, build up and machine finish shaft and bearing housings in way of bearings to design dimensions when new.

Dynamically balance rotor, and impeller separate and as a unit.

Replace both bearings with new bearings equal in design to manufacturer's original specified part numbers.

Check the associated controller for condition, dress up burned contacts and adjust relays.

Reassemble the motor, coat shaft with lead plate or equal before installing impeller, and reinstall the unit in place aboard ship as original, achieve proper alignment and adjustments, conduct operational tests to approval of MSTSP Inspector.

ITEM 13 - GALLEY RANGES: (JCH) (WR-70)

Perform the following to the #8 and #9 galley ranges located in the Main Galley.

Dismantle and thoroughly clean all grease and debris from both range top's and oven terminal compartments.

Replace the range top wiring on all units from range top's to control switches with type MS wire as recommended by Marine Division of General Electric.

(CONTINUED)

ITEM 13 - GALLEY RANGES: (JCH) (WR-70) (CONTD)

Install new "S" type seals between all range top plates.

Clean and adjust all switches and fuse clips.

Conduct operational tests to approval of MSTSP Inspector.

DATA: General Electric
Cat #103R173-20.25 KW, Plan 8731-7

ITEM 14 - VENTILATION SYSTEMS, CLEANING OF: (AS)

All interior surfaces of the below listed systems shall be thoroughly cleaned free of all dirt, grease, lime scale and other foreign debris, from their beginnings to and including their weather deck terminus. Interior surfaces to be cleaned shall include ducts, trunks, screens ventilation hoods and fan casings.

Cleaning shall be accomplished by the vacuum suction system, augmented by the use of hand tools.

Where required, additional clean-out openings may be cut in ducts to facilitate the work. Such openings shall be fitted with suitable metal covers of same thickness as ducts, neatly installed, air-tight with gaskets and securing devices.

Work in way of galley, pantries and food serving spaces shall be accomplished at such times as not to interfere with the normal operation of said areas.

All new and disturbed areas shall be primed and painted to match adjacent surfaces. All dirt, grease and debris shall be removed from ship daily. Areas worked in or traversed by workmen or equipment shall be cleaned and left ready for use.

| <u>System No.</u> | <u>Space Served</u> | <u>CFM</u> |
|-------------------|--------------------------|------------|
| E-02-139-1 | Troop Galley Exhaust | 13950 |
| E-03-133-0 | Main Galley Exhaust | 12600 |
| E-1-181-2 | Ship's Laundry Exhaust | 12000 |
| E-03-96-2 | Passenger's Laundry | 2500 |
| S-01-147-1 | Main Dining Salon Supply | 11000 |

ITEM 15 - CARGO GEAR ANNUAL INSPECTION: (AS)

DECIC

Accomplish the following work, as required by National Cargo Bureau Inc., for annual inspection of all ship's cargo gear.

Completely rig the following booms and cargo gear in such a manner to permit a thorough visual inspection and examination as required by and to the satisfaction of the National Cargo Gear Bureau Inc. Surveyor and the MSTS Inspector.

| <u>QUANTITY</u> | <u>CAPACITY</u> | <u>LOCATION</u> |
|-----------------|-----------------|---------------------------------------|
| Two (2) | 5-Ton | No. 1 Hatch TESTED 1/11/67 14,000 LBS |
| Two (2) | 10-Ton | No. 2 Hatch |
| Two (2) | 5-Ton | No. 3 Hatch TESTED 1/11/67 14,000 LBS |
| Two (2) | 10-Ton | No. 5 Hatch |
| Two (2) | 5-Ton | No. 6 Hatch |
| Two (2) | 5-Ton | No. 7 Hatch TESTED 1/11/67 14,000 LBS |
| Two (2) | 5-Ton | No. 8 Hatch |

Conduct weight test on the assemblies at No. 1,7 and ~~8~~³ cargo hatches as required by and to the satisfaction of the National Cargo Bureau Inc. Surveyor and MSTS Inspector.

Make up to their attachments and properly tension all stays, prior to proof tests.

With each boom at an angle of not more than 15-degrees to the horizontal or when this is impractical to the lowest practicable angle, apply proof load to the hook. Lift the proof load and rotate the boom as far as possible in both directions. Hoist, lower and stop proof load using winch brakes. Current for the winch operation during the test should be taken from the ship's circuits or if shore power is used it shall pass through the ship's main switchboard. Prior to tests, winch brakes shall be examined, freed and adjusted and relays properly set for overload required for testing of the booms in order to stop and hold the load efficiently in any position of boom.

After tests, all tested gear shall be completely disassembled, to permit inspection to determine actual condition of the goosenecks, heel pins, block pins, sheave pins, sheaves, shackles, shackle pins, swivels and all components. Units shall be 100 percent disassembled and thoroughly cleaned.

On completion of inspection and repairs and when notified by MSTS Inspector, thoroughly grease and lubricate all disassembled units and reassemble and reinstall as original.

The safe working load of each of the tested booms and assembled gear shall be stencilled on a 4 inch by 6 inch by 1/8 inch brass MSTSP approved data plate complete with minimum angle to horizontal at which this load may be applied and date of test. Install data plate near heel of boom on seal welded mounting pads.

(CONTINUED)
PATRICK

ITEM 15 - CARGO GEAR ANNUAL INSPECTION: (AS) (CONTD)

All tests and work shall be performed in presence of and to satisfaction of National Cargo Bureau, Inc. Surveyor and MSTSP Inspector.

Services of the National Cargo Bureau, Inc. Surveyor will be furnished by the U.S. Government.

On completion of all work specified herein, leave booms and associated rigging in a stowed or ready-for-use condition as designated by the MSTSP Inspector.

Prior to weight test renew two (2) heel pins, one (1) each for port and ~~starboard~~ ^{COMPLETED} starboard booms at No. 1 cargo hatch. Check pin hole at boom heel for oversize or elongation, repair as required by the National Cargo Bureau, Inc. Surveyor.

ITEM 16 - LIFEFLOAT INSPECTION: (AS) ~~NOT DONE~~ ^{FLOATS TAKEN TO PITTSBURG CALIF.} ~~DECK~~

Remove all lifefloats from their stowed positions on board ship to dock and range for inspection by USCG and MSTSP Inspectors (a total of twenty-seven (27) 25-person floats and twenty-eight (28) 60-person floats).

Remove all provisions, water and equipment and range in a suitable location for inspection by the U.S. Coast Guard and MSTSP Inspectors. Upon completion restow all removed or replacement provisions, water and equipment in their respective places in lifefloats. Ship's force will furnish replacement provisions and water for those condemned by the U.S. Coast Guard.

Prior to restowing provisions, lifefloats shall be detergent water washed and then rinsed with clear fresh water.

Prepare surfaces and paint all lifefloat stowages and deck area under lifefloats. All steel surfaces which show signs of rust, scale, blisters, bare spots or loosely adhearing paint shall be cleaned to bare metal by the use of hand or hand powered tools and shall be free of all rust, dirt and grease prior to application of prime and finish paint coatings as specified. Bare metal surfaces shall receive one (1) coat of wash primer, MSTSP Code 32 followed by one (1) coat of red lead primer, MSTSP Code 52. Apply two (2) overall coats of haze gray, MSTSP Code 45 to stowages and two (2) overall coats of deck gray, MSTSP Code 35 to deck areas under lifefloats.

Upon completion of inspection stencil date of inspection on each float.

Reinstall lifefloats as original, with wood spacers between each lifefloat and between decks and floats.

Reinstall stanchions and leave ready-for-use.

ITEM 17 - FIRE HOSES, ANNUAL INSPECTION: (AS)*DECK*

Accomplish the following to all fire hoses located at the various fire stations throughout ship:

a. Remove all hoses from ship, including spare hoses to a clean area within the yard.

b. Range all hoses and perform the Annual USCG test and Inspection of the hoses in accordance with Section 71.25-20 (a) (4) of CG-256 rules and regulations for passenger vessels as last amended. Inspection and test shall be accomplished only in the presence of the USCG and MSTSP Inspectors.

c. On completion of inspection and testing of hoses clean the exterior hose fabric and reinstall each length of hoses in its original shipboard location.

Approximate Data: Thirty-five (35) 50-foot lengths of $1\frac{1}{2}$ inch
Thirty (30) 50-foot lengths of $2\frac{1}{2}$ inch
Thirty-seven (37) 75-foot lengths of $1\frac{1}{2}$ inch

*NOT
DONE
HOSES STAN
BY WET.*

ITEM 18 - CO₂ SYSTEMS, ANNUAL INSPECTION: (AS)

Completely check out the below-listed systems and appliances for conformity with current USCG Rules and Regulations.

A. All fixed and portable CO₂ cylinders and associated operating components.
B. General alarm system.

The below-listed CO₂ cylinders shall be weighed.

Thirty-two (32) - 100 pound cylinders.
Twenty-four (24) - 50 pound cylinders.
One-hundred-four (104) - 15 pound cylinders.
Ten (10) - 5 pound cylinders.

Tag each cylinder with date of tests and weight.

On completion of servicing, the system and appliances shall be operated as requested and to the approval of the USCG and MSTSP Inspectors.

Provide a report of certification to USCG and MSTSP as follows:

Four (4) copies of each certificate, one (1) to USCG, one (1) to ship's Master and two (2) to MSTSP via the MSTSP Inspector.

All equipment listed in this item shall be placed in design operating condition.

(CONTINUED)

ITEM 18 - CO₂ SYSTEMS, ANNUAL INSPECTION: (AS) (CONTD)

Remove from ship the following CO₂ cylinders, discharge, hydrostatic test and recharge. Reinstall cylinders at their respective locations.

| <u>Serial No.</u> | <u>Location</u> | <u>Size</u> |
|-------------------|-----------------|-------------|
| F585349 | 2-170-0 | 50-pound |
| F585348 | 3-78-2 | 50-pound |
| 257556 | 3-132-1 | 50-pound |
| D255064 | 4-138-2 | 50-pound |

ITEM 19 - VENTILATION SWITCH AND INDICATOR: (TC)

DECK CHECK

Install a Kidde pressure cut-out switch in the existing CO₂ line for the paint locker located on the Main Deck forward at approximately frames 5 to 10.

NOT DONE Install a red indicating light on the bulkhead outside of the compartment.

Connect to the controller so as to cut off the existing ventilation system and energize the indicating light upon CO₂ discharge.

Test for proper operation.

ITEM 20- LIFEBOAT DAVITS: (AS)DECK

Remove all sheaves and pins including idlers and guide rollers from all lifeboat davits throughout the ship, including sheaves in floating blocks of lifeboat falls (a total of twelve (12) stations).

Thoroughly clean all sheaves, sheave brackets and floating blocks free of all grease, rust and debris to clean bare metal.

Renew all sheave bearings utilizing MRC 308SZZ and MRC 207SZZ or equal neoprene sealed ball bearings.

Renew all sheave bushings using bronze bushing material. Bushing design shall be same as those removed.

Flush all Trunion Rollers free of all grease and debris, thoroughly lubricate and prove free and rolling.

*NOT DONE
PRIMER USED
PRIMER PAINT
SYNTHETIC
WACQUER
RESISTANT
JAN-P-27 TYPE*

Paint out all normally painted surfaces of sheaves, brackets and floating blocks as follows. Prime all bare metal surfaces with one (1) overall coat of pretreatment primer, MSTS Code 32, followed by two (2) coats of red lead, MSTS Code 52, followed by two (2) overall coats of haze gray, MSTS Code 45.

Reinstall all removals and prove all units in good operating condition to the satisfaction of the MSTS Inspector.

Free-up, clean and lubricate all lifeboat fall turnbuckles.

Disassemble the Nos. 1 and 2 crescent type mechanical davits. Thoroughly clean the bevel gears, sheath screws, bearings, pins and davit arm lower hinge pins and bearings free of all grease, rust and debris. Properly lubricate and reassemble all components with gears and sheath screws in true alignment.

Free-up and adjust the handbrake linkage of all lifeboat davit winches. Weight and operationally test the ship's twelve (12) lifeboat station davit and handling assemblies in accordance with USCG Rules and Regulations as last amended.

Boats removed from the ship to accomplish work specified herein, shall be handled by strongbacks simulating davit centers and shall be placed on suitable chocks while in their stowed position.

Test shall be witnessed by MSTSP Inspector and Cognizant Ship's Officer.

Results of tests shall be forwarded, in triplicate, to MSTSPACAREA via MSTS Inspector.

(CONTINUED)

ITEM 20- LIFEBOAT DAVITS: (AS) (Con't)**DECK**

The U. S. Department of Labor "Safety and Health Regulations for Ship Repairing" provides, "Before employees are permitted to work in or on a lifeboat either stowed or in a suspended position, the employer shall ensure that precautions have been taken to prevent the boat from falling due to accidental tripping of the releasing gear, movement of davits or capsizing of a boat in chocks." Compliance with this requirement is a prerequisite to commencing work on this item.

Install a guard in way of the fall sheaves of no. 1 and 2 motor lifeboat davits to retain and keeping fall wire from jumping out of sheave grove.

Remove davit arms from the ten (10) gravity davits. Remove all paint, rust, scale, grease and dirt to clean bare metal equivalent to "Commercial Sandblasting".

Prime and finish paint davit arms as follows to bare metal apply one (1) overall coat of wash primer, MSTS Code 32 followed by two (2) overall coats of red lead primer, MSTS Code 52. Apply two (2) overall finish coats of haze gray, MSTS Code 45.

Reinstall davit arms at their respective locations.

same as sheaves

ITEM 21 - LIFEBOAT DAVIT WIRE FALLS - RENEWAL OF: (AS)**DECIC**

Renew the wire rope falls in their entirety for the ship's twelve (12) lifeboat stations as follows: Contractor shall furnish reels of wire rope, contractor to cut, socket and serve as required.

- a. No. 1 and 2 lifeboat stations, crescent type davits. *Completed*
- b. No. 3 through 12 lifeboat stations, gravity type davits. *Completed*

New falls shall be installed prior to weight and operational test as specified in a separate item of this specification titled "Lifeboat Davits".

ITEM 22 - ANNUAL INSPECTION; ENGINE: (LNP)

Accomplish annual inspection engine on Nos. 1-2-3 and 4 combustion engineering boilers P2-SE2-R1 design, in accordance with U.S. Coast Guard Rules and Regulations and additional work as outlined herein.

Remove all access doors from ship to shop, open access to furnace.

Preliminary Hydrostatic Test of Boilers:

Prior to commencement of any work on boilers mentioned in these specifications and when boilers are cooled sufficiently, empty and refill boilers and apply a preliminary hydrostatic test equal to that of boilers' working pressure. In the presence of both the MSTSPAC inspector and ship's chief engineer conduct a complete survey of the boilers - with particular attention being made to leaking and/or defective tubes, hand hold plates, valves, joints, etc. (Testing shall be held at full pressure during time of survey). All defects found will be plainly marked.

The preliminary hydro shall be accomplished as early as practicable to permit completion of repairs found during hydrostatic test, including known repairs and those that may develop during progress of work.

Firesides Cleaning:

Clean all fireside surfaces of the two (2) stacks.

Thoroughly clean the firesides, including the uptakes, windboxes, furnaces, superheaters, economizers, induced draft ducts, superheater header vestibules, water wall header vestibules and the economizer vestibules at both the header and loop ends in their entirety by mechanical means, steam lancing and water washing. Provide canvas covers to protect the insulation.

(Continued)

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ITEM 22 - ANNUAL INSPECTION; ENGINE: (LNP) (Cont'd)Watersides Cleaning:

Remove all manhole and handhole plates, handhole plugs and steam drum internal fittings.

Thoroughly clean to bare metal all internal surfaces of steam drums, water-drums, waterwall and superheater headers and the steam drum internal fittings, using power wirebrush methods.

Upon completion of cleaning all drums and headers, thoroughly wash down all waterside surfaces of boiler including tubes.

Dry out, using compressed air, all drums, tubes and headers immediately after boilers are washed down. After the boilers have dried, each cleaned section shall be thoroughly examined internally to determine that all trace of scale or other foreign matter has been removed. If evidence of scale or other foreign matter is present on examination of cleaned surfaces of water-sides, the work outlined above shall be repeated.

Renew gaskets on internal desuperheater lines, reface flanges and separately hydrostatically test at not to exceed 300 P.S.I.

Reinstall all steam drum internal fittings.

Thoroughly clean all manhole and handhole plates except economizer clean out plugs, together with all header seating surfaces. Renew all gaskets and install all removals.

Gasket material shall be in accordance with Standard Plan Application of packing and Gaskets, BuShips B-153-Alt., 8.

Power tools shall not be used in the installation of handhole plates.

Accomplish all removal and reinstallation of boiler insulation and brick-work required for inspection.

Valves, Safety:

The steam drum and superheater safety valves (two (2) steam drum and one (1) superheater safety valve on each boiler) shall be removed from their respective boilers or locations. Completely disassemble and make ready for internal examination by representative of U.S. Coast Guard and MSTS inspectors.

(Continued)

ITEM 22 - ANNUAL INSPECTION; ENGINE: (LNP) (Cont'd)

Upon completion of examination, valves are to be overhauled, reassembled, shop-tested, utilizing steam at the boilers design pressure and temperature and reinstalled, using all new gaskets and heat-treated studs, bolts and nuts.

Boiler Mountings and Miscellaneous Valves:

Open-up, clean, grind into a good seating surface, polish stems and chase threads on stems and nuts.

Repack and reassemble, prove valves tight to the satisfaction of the U.S. Coast Guard and MSTSP inspector.

Renew all disturbed lagging and insulating pads.

The MSTSP inspector will designate the exact location of the following list of valves to be dealt with:

DATA:

VALVES

| | |
|--|-------------------|
| Four (4) Main steam stop valves | 5" |
| Four (4) Auxiliary steam stop valves | 3" |
| Four (4) Auxiliary steam stop check valves | 3" |
| Four (4) Main feed stop valves | 2 $\frac{1}{2}$ " |
| Four (4) Main feed check valves | 2 $\frac{1}{2}$ " |
| Four (4) Auxiliary feed stop valves | 2 $\frac{1}{2}$ " |
| Four (4) Auxiliary feed check valves | 2 $\frac{1}{2}$ " |
| Four (4) Horizontal economizer check valves | 2 $\frac{1}{2}$ " |
| Four (4) Surface blow valves | 1" |
| Four (4) Bottom Blow stop valves | 1 $\frac{1}{2}$ " |
| Four (4) Bottom blow check valves | 1 $\frac{1}{2}$ " |
| Four (4) Auxiliary generator turbine steam stop valves | 3" |
| Four (4) Soot blower root valves | 1 $\frac{1}{2}$ " |
| Eight (8) Water wall drain valves | 3/4" |

Remove and upon completion of inspection and repairs, reinstall the center rear superheater access door spacing panels and the soot blower heads. Blank off soot blower piping so no foreign matter will enter lines.

Thoroughly clean to bare metal and thoroughly dry the internal header area both top and bottom of the inlet and outlet headers in way of the diaphragms and the internal header area of the inserts at the bottom of both inlets, outlet and the intermediate headers for U.S. Coast Guard and MSTSP inspectors.

(Continued)

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ITEM 22 - ANNUAL INSPECTION; ENGINE: (LNP) (Cont'd)

Close up the watersides. Install necessary steel blind flanges for protection of main and auxiliary equipment and machinery, pressure vessels other than boilers and reducing valves, and apply hydrostatic test in accordance with U.S. Coast Guard Regulations as applicable, in the presence of the USCG inspector. Tests shall include all main and auxiliary steam piping.

Upon completion of all examinations, tests, cleaning and repairs, remove flanges installed for purpose of tests and remake all joints so disturbed, using new gaskets and heat-treated bolts, studs and nuts.

Fair-up all access doors, renew all gaskets and reinstall, using 1/8 inch asbestos wire inserted gasket material (beaded or flat as applicable) riveted in place using straight, flat-head copper rivets.

Split Type Rivets Shall Not Be Used:

Renew fifteen (15) access door studs, nuts and clamps on each boilers, (A total of sixty (60) required).

Upon initial warming up of boilers, follow-up on all gaskets and joints disturbed during performance of work and make same tight.

When steam is raised to operating pressure, safety valves shall be set to conform to U.S. Coast Guard Regulations as last Amended.

ITEM 23 - BOILER CASING REPAIRS: (LNP)

Accomplish boiler casing repairs as follows:

On Number 1 Boiler

Renew the front casing between the superheater access door framing and the economizer access door framing, the full height of boiler in its entirety.

New casing shall be 1/4" mild steel plate and shall be installed by welding.

Renew and prove in proper alignment the soot blower element removal spool pieces and cover plates for the generating tube soot blowers, two (2) spool pieces.

(Continued)

ITEM 23 - BOILER CASING REPAIRS: (LNP) (Cont'd)

Install 1/4" thick M.S. pads on casing in way of pipe supports and other attachments.

Renew all fire tile, refractories and insulation in way of casing renewals, including necessary insulation and tile support clips, anchor studs or bolts, channels, tees, angles or plates. Insulation blocking shall be installed in at least two (2) staggered courses

Prior to casing installation the fireside surfaces of all new casing plates shall be painted with one (1) coat of "THRU-MA-LOX No. 7" or equal.

On Number 2 Boiler

Renew the rear boiler casings between the superheater header vestibule and the outboard corner in way of rear water wall tubes, and from base to top of boiler, including all access door framing in its entirety, and including structural framing, fire tile, insulation, tile support bars, channels, tees, angles or plates and the entire length of marginal sole plate under rear waterwall header.

Renew in its entirety the furnace side waterwall casing from base of boiler to top of vertical casing, including the lower header access door framing and securing studs, new sidewall header access doors and the entire length of marginal sole plate under side wall header.

Renew all fire tile and insulation and all defective structural steel and foundation pads in way of renewals.

ITEM 24 - BOILER REPAIRS: (LNP)

Accomplish the following repairs on Nos. 1, 2, 3 and 4 combustion engineering boilers, P-2 design.

Vee out and weld approximately fifty (50) lineal feet of scattered broken seams and cracks on boilers in locations designated by MSTSPAC inspe ctor.

Machine to a true seating surface a total of twenty (20) scattered hand hole plate header scats, in locations designated by Chief Engineer.

(Continued)