Overhaul Specification for R.S. Corcoran Pump 3000DH 2X1-1/2 F.F.FL Used on WLB-225 Class USCG Cutters

1.0 SCOPE

1.1. This document sets forth the requirements for the receipt, disassembly, inspections, condition/test reports, overhaul/repair, reassembly, testing, preservation, packaging, packing, and marking of R.S. Corcoran Pump 3000DH 2X1-1/2 F. F. FL used on WLB-225 Class U.S. Coast Guard Cutters.

1.2. Government Furnished Property (GFP)

1.2.1. R.S Corcoran Pumps

NSN	P/N	Application
4320-01-458-1204	3000DH 2X2-1/2 F.F.FL	Centrifugal Pump

1.2.2. The Contractor shall immediately notify the Coast Guard Contracting Officer if the make, model or part number delivered for overhaul does not conform to the pump cited above.

2.0 APPLICABLE DOCUMENTS

2.1. General – The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

2.2. Government Documents – The following specifications and standards form a part of this specification to the extent specified herein. Unless otherwise specified, the documents listed here by number and date shall be those in the current Department of Defense Single Stock Point of Specification and Standards (DODSSP) and supplements thereto.

2.2.1. ISO/IEC-16388-2007, Code 39 Symbology

2.2.2. MIL-D-3464E dated 04/1987, Desiccants, Activated, Bagged, Packaging Use and Static Dehumidification.

2.2.3. SAE AMS-STD-595, Rev A dated 02/2017, Colors Used in Government Procurement

2.2.4. MIL-PRF-81309F, dated 05/16/2005, type 2, class 1 or 2, Corrosion preventive compounds, water displacing, ultra-thin film.

2.2.5. MIL-STD-2073-1E Standard Practice for Military Packaging, dated 01/07/2011

2.2.6. MIL-STD-129R Standard Practice for Military Marking for Shipment and Storage, dated 09/19/2007

2.3. Commercial Documents – The following documents form a part of this specification to the extent specified herein. The documents shall be the version listed by number and date from the referenced industry organization.

2.3.1. National Conference of Standards Laboratories (NCSL) Z540-3-2006, dated 2006, Requirement for the Calibration of Measuring and Test Equipment.

2.3.2. American Society for Quality (ASQ) Q9001-2008, dated 2008, Quality Management Systems-Requirements

2.3.3. American National Standards Institute (ANSI)/HI 1.6 Centrifugal Pump Tests, dated 1/2000

2.3.4. Steel Structure Painting Council, SSPC-SP 3, Power Tool Cleaning

2.4. Specification Order of Precedence – In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence. Nothing in this specification, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3.0 REQUIREMENTS

3.1. General – Inspections, repair/overhaul and testing of each pump shall be accomplished in accordance with the Original Equipment Manufacturer (OEM) procedures, specifications, references and standard practices.

3.1.1. The overhaul requirements described herein are considered the minimum necessary and are not intended to replace any procedures, controls, examinations, or tests normally employed by the Contractor to assure the quality of the product. The overhaul of the pump is intended to return the pump's performance and appearance to a like new condition.

3.2. Overhaul - The Contractor shall provide all labor and materials to perform the overhaul services as described below for each pump.

3.2.1. Preliminary disassembly and inspection of the pump shall be conducted in accordance with document 2.3.3 and OEM procedures, specifications, references and standard practices to determine the total estimated cost to repair including

material, labor, testing, Preservation, Packaging, Packing and Marking (PPP&M) costs.

3.2.2. A detailed cost estimate shall be submitted to the Coast Guard Contracting Officer for review and approval prior to the start of any repair or order of material. The Contractor shall also provide the replacement cost of an identical new pump for comparison to the overhaul cost. At a minimum, mandatory replacement parts shall include all bearings, bushings, seals and gaskets. All parts that are worn, have an improper fit and or damaged beyond the OEM tolerances, shall be repaired or replaced as determined by the Contractor.

a. The detailed cost estimate shall contain the following as a minimum:

1. The part number, NSN and serial number of the pump
2. The contract number for each pump
3. A listing of individual parts by part number, cost and quantity
4. A listing of labor hours and labor rate to perform the overhaul, testing, and PPP&M
5. The cost to convert to a mechanical seal if required (see section 3.2.7. of this specification)
6. The cost of an identical new pump.

b. Upon acceptance of the cost estimate and authorization to proceed by the Contracting Officer, the Contractor shall overhaul the pump in accordance with the OEM procedures, specifications, references, standard practices and the references cited in section 2.0 of this specification.

3.2.3. The Coast Guard Contracting Officer will determine the disposition of any pump delivered for overhaul that is Beyond Economical Repair (BER).

3.2.4. All replacement parts used in the overhaul shall be new OEM parts. Reclaimed, recycled or aftermarket parts are **<u>not acceptable</u>** and **<u>shall not</u>** be used. Commercial parts such as seals and ball/roller type bearings and couplings which are not manufactured by the pump manufacturer shall be identified by their marking or through the use of the technical manual for identification purposes. Commercially available items such as these are generally interchangeable between different manufacturers and may be substituted as long as they are equal in all respects. Only in the case where the part cannot be identified shall it be ordered directly through the pump manufacturer and by their part number.

3.2.5. Where any carbon steel zerk fittings or pipe plugs exist, all items shall be replaced with a non-magnetic grade of stainless steel. Pipe plugs shall be installed with a thread sealer and protective plastic caps shall be installed on each zerk fitting.

a. A decal or permanent type label shall be affixed to the side of the pump informing the user of the manufacturer's recommended amount and type of grease to be used.

3.2.6. Remove any label plates and replace at the conclusion of the painting. New label plates shall be used if the original plate is missing, not legible or in poor condition. The label plate shall contain pump make, model and serial number and pertinent characteristic information as a minimum requirement. A separate label plate made of similar material, as the original label plate, shall be attached stating the Contractor's name, contract number and date of overhaul.

3.2.7. Any pump delivered for overhaul having packing glands shall be converted to a mechanical seal assembly as part of the overhaul. The Contractor shall include the conversion work and parts in the overhaul estimate if found necessary. The mechanical seal shall be of 316 stainless steel trim and sealing components that are compatible with the fluid medium which intended.

3.2.8. Any existing paint shall be removed in accordance with section 2.3.4. of this specification where practicable. An equal method of paint removal is acceptable where power tool cleaning may pose a risk of damage to internal components.

3.2.9. The entire pump shall be painted with primer and finish coats of paint. The primer coat shall be any rust preventive metal primer suitable for use with the finish coat. The finish coat shall be Silicone Alkyd Enamel Type III Class I. The color shall be Machinery Gray, color number 16376, in accordance with section 2.2.3. of this specification. Total paint thickness shall be a minimum of 3-6 mil dry film thickness.

3.3. Pump Tests

3.3.1. To ensure the pump turns freely, the pump shaft shall be rotated a minimum of five revolutions by the use of a strap wrench or other non-damaging tool. The QAR shall inspect for smoothness of rotation and check for signs of binding, dragging, or unusual noises using a Mechanics' Stethoscope. The Contractor shall investigate any questionable test results and correct as necessary.

3.3.2. The Contractor shall conduct a hydrostatic test of the overhauled pump using the OEM specified test fluid. The test shall be conducted to certify the integrity of the pump and seal area. The test shall be conducted at 125 percent of the maximum working pressure or mechanical seal rating whichever is less. The test shall be conducted for a period of ten (10) minutes and discontinued at any sign of leakage. The Contractor shall investigate and correct any leakage and retest the pump.

3.3.3. The pump shall be operationally tested by the use of a test tank of compatible OEM recommended test fluid. The pump shall be able to meet the original performance shown on the OEM pump data sheet. Each operational pump test shall

be conducted, recorded and reported in accordance with Type III, level B of section 2.3.4. of this specification.

3.3.4. The test results shall be documented on a report and provided to the Contracting Officer. A copy of the test report shall be packed with each pump and a copy shall be provided to the QAR. The report shall contain the following information as a minimum:

a. Contractor's name
b. Contract number and delivery order number
c. Pump model number, part number and serial number
d. Date of test
e. Description of each test conducted and the results of each test
f. Name of the person conducting the testing

3.4. Pump Configuration - The overhauled pump shall be delivered to the Coast Guard completely assembled and in a ready to operate condition and configuration.

3.5. Installation Instructions - A copy of the OEM installation/alignment, parts and service manual shall be placed inside each pump shipping container.

3.6. Photo Documentation - The Contractor shall provide digital photo documentation to the Contracting Officer as follows:

a. During initial opening of the pump after receipt.

b. When significant findings that will affect cost of repair/overhaul or time are discovered.

c. When other significant or unusual findings such as failed parts or damages are discovered.

d. When the pump is tested to document configuration.

e. When the pump is prepared for shipment to document "as shipped" configuration to include images of the PPP&M.

f. The photo documentation shall be color digital and shall be sent to the Contracting Officer and the Contracting Officer's Technical Representative via email.

3.7. Notifications & Inspections – The Contractor shall be responsible for notifying the Contracting Officer at least ten (10) calendar days prior to said Contractor being ready for any inspections or testing.

4.0 QUALITY ASSURANCE

4.1. General – The Contractor shall maintain an inspection system which shall insure that each item offered to the Coast Guard for acceptance or approval conforms to the contract requirements. The inspection system shall be documented and available for review by the Coast Guard.

4.2. Records – The Contractor shall maintain records of all inspections and tests. The records, at a minimum, shall indicate the nature and number of observations made, the number and type of deficiencies found, and the corrective action taken.

4.3. Calibration System – The Contractor, as well as any subcontractors, shall be required to maintain a test equipment calibration program in compliance with section 2.3.1. of this specification. The program shall be documented and traceable to the National Institute of Standards (NIST).

4.4. Responsibility for Inspection – The Contractor shall be responsible for the performance of all inspection requirements specified herein. The Contractor shall provide space, personnel, and test equipment to conduct all required inspections. All inspection and testing shall be performed at the Contractor's plant or at other facilities acceptable to the Coast Guard. The Coast Guard reserves the right to verify or have performed any of the inspections or tests that are deemed necessary to assure that supplies and services conform to the prescribed requirements. <u>It is the Coast Guard's intention for the QAR to witness the testing of all pumps overhauled by the Contractor.</u>

4.5. Responsibility for Compliance – All items shall meet the provisions of sections 3 & 5 of this specification. The inspections set forth in this specification shall become part of the Contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the Contractor of the responsibility of assuring that all products or supplies submitted to the government for acceptance comply with all requirements of the contract. Sampling for quality conformance does not authorize submission of known defective material (either indicated or actual) nor does it commit the government to acceptance of defective material.

4.6. Quality System – The Contractor shall maintain an inspection system which shall insure that each item offered to the Coast Guard for acceptance or approval conforms to the contract requirements in accordance with section 2.3.2. of this specification. The inspection system shall be documented and available for review by the Coast Guard.

4.7. Tests & Inspections – The inspections/tests required here and in the appropriate subsection in section 3.0. of this specification, are the minimum required and are not intended to supplant any controls, examination, inspections or tests normally employed by the Contractor to assure the quality of the item in question.

4.7.1. The following inspections are required and will be witnessed by the QAR.

a. Verify paint requirement and paint thickness (section 3.2.9. of this specification)
b. Pump rotation check (section 3.3.1. of this specification)
c. Hydrostatic pump test (section 3.3.2 of this specification)
d. Operational pump test (section 3.3.3 of this specification)
e. Verify OEM installation/alignment, parts and service manual (section 3.5 of this specification)
f. Verify PPP&M requirements (section 5.0 of this specification)

4.8. Packing Inspection – The Contracting Officer shall be notified prior to the packaging and marking of the completed units in accordance with section 3.7 of this specification.

5.0 PRESERVATION, PACKING, & MARKING

5.1. Preservation – An overhauled pump is typically intended for long term warehouse storage and not for immediate installation. Therefore, it is critical that the Contractor ensure that the overhauled pump undergo the following preservation requirements.

5.1.1. The pump shall be drained and completely dried of all test fluid.

5.1.2. Intake and discharge ports shall have plastic caps installed. Where the port size allows, one 8 ounce desiccant pouch shall be securely attached to the inside of each removable plastic cap. Where the port size does not allow placement of a desiccant pouch, 80 ounces of desiccant shall be placed in the shipping bag. Pumps that have desiccant inside the housing shall have an additional 64 units of desiccant placed inside the sealed bag.

5.1.3. The pump shaft, flanges and all unpainted surfaces shall be sprayed with a thin film of rust inhibitor (section 2.2.4. of this specification). Any exposed threads shall be protected by a cardboard sleeve.

5.1.4. Each pump shall be placed into an 8 mil minimum thickness translucent polyethylene bag. The bag opening shall be secured with an appropriate sized doubled nylon tie wrap. The areas where the skid mount bolts penetrate the polyethylene bag, a 1/8" thick rubber gasket and RTV shall be used to seal the bag from the entrance of moisture.

5.2. Packing - Each pump shall be individually packed in its own enclosed wooden container. The pump shall be securely bolted to a skid base and the lid or cover shall be attached using stainless steel Phillips head screws. The container shall be framed (either on the inside or outside) using solid wood as framing material. Wood screws directly into plywood will not be acceptable. The container shall be capable of protecting the pump from damage during multiple shipments by commercial carrier and the container must meet the standard military packaging specification listed in section 2.2.5. of this document.

5.3. Marking – Each preserved and packed pump shall be stenciled in the upper left-hand side of the two longest sides (two opposite sides if square) of each box. The stenciling shall be ¾ inches minimum height black characters on a white painted background. All markings must meet the standard military specification found in section 2.2.6 of this document. **NOTE: ALL PREVIOUS MARKINGS AND QUALITY ASSURANCE DECALS SHALL BE REMOVED FROM A REUSABLE SHIPPING CONTAINER PRIOR TO THE APPLICATION OF ANY NEW MARKINGS**.

5.3.1. This marking shall consist of the STOCK NUMBER, ITEM NAME, PART NUMBER, CONTRACT NUMBER, DELIVERY ORDER NUMBER, GROSS WEIGHT (in lbs.), condition code CONDITION "A", unit of issue with quantity (i.e. 1-EA), and the words COAST GUARD SFLC MATERIAL.

STOCK NUMBER	4320-01-458-1204
ITEM NAME	PUMP, CENTRIFUGAL
PART NUMBER	3000DH 2X1-1/2 F.F.FL
CONTRACT NUMBER	SEE CONTRACT
SHIPPING WEIGHT	AS DETERMINED BY CONTRACTOR
CONDITION CODE	CONDITION "A"
QUANTITY & UNIT OF ISSUE	1 - EACH
	COAST GUARD SFLC MATERIAL

5.4. Bar Coding – The Contractor shall supply bar code labels. All bar code labels shall be in accordance with ISO/IEC-16388-2007, Code 39 Symbology.

6.0 NOTES – None.