

PERFORMANCE WORK STATEMENT (PWS)

Portal Crane Wire Rope Replacement

PART 1 GENERAL INFORMATION

1. **GENERAL:** This is a non-personal services contract to conduct replacement of wire rope on seven (7) portal cranes at Puget Sound Naval Shipyard. The Government shall not exercise direct supervision or control over any contractor employees. Notwithstanding, contractor shall ensure employees comply with all requirements of this Performance Work Statement (PWS) and contract.

1.1 Description of Services/Introduction: The contractor shall provide all personnel, equipment, supplies, facilities, transportation, tools, materials, supervision, and any other items necessary to perform a non-personal service for replacement of wire rope as defined in this Performance Work Statement. The contractor shall perform to the standards in this contract.

1.2 Background: The specified cranes (referred to throughout this document as “the crane”) are travelling luffing boom portal cranes at Puget Sound Naval Shipyard (PSNS) indicated in Attachment 1. The ropes specified for replacement either have already reached rejection criteria or are anticipated to reach rejection criteria in the near future per Government inspection to NAVFAC P-307 criteria. Due to the difficulty of properly inspecting many of the other reeving components while wire rope is installed, the Government also desires to inspect these components after the removal of wire rope to evaluate them for future replacement.

1.3 Objectives: Contractor to replace all specified wire ropes with new wire rope meeting the listed requirements.

1.4 Scope: Replace all wire ropes while conforming to all listed requirements with respect to the replacement parts and conducted work.

1.5 Period of Performance: Date of award through 36 months to begin on or around June 1, 2027. The onsite dates shall be agreed upon by the Government and the contractor within the Period of Performance (POP) window.

Base Year:	1 June 2027 to 31 May 2028
Option Year 1:	1 June 2028 to 31 May 2029
Option Year 2:	1 June 2029 to 31 May 2030

1.6 Quality Assurance: The government shall evaluate the contractor’s performance under this contract in accordance with the Quality Assurance Surveillance Plan. This plan is primarily focused on what the Government must do to ensure that the contractor has performed in accordance with the performance standards. It defines how the performance standards will be applied, the frequency of surveillance, and the minimum acceptable defect rate(s).

1.7 Location:

1.7.1 Place of Performance: The work to be performed under this contract will be performed at Puget Sound Naval Shipyard, within the Controlled Industrial Area (CIA).

1.7.2 Hours of Operation: For work conducted at government facilities, the contractor is responsible for conducting business between the hours of 0720 to 1600 Monday thru Friday except Federal holidays or when the Government facility is closed due to local or national emergencies, administrative closings, or similar Government directed facility closings. Work at government facilities will be performed outside of the normal hours of operation only with Government approval. For other than firm fixed price contracts,

the contractor will not be reimbursed when the government facility is closed for the above reasons. The Contractor must at all times maintain an adequate workforce for the uninterrupted performance of all tasks defined within this PWS when the Government facility is not closed for the above reasons. When hiring personnel, the Contractor shall keep in mind that the stability and continuity of the workforce are essential.

1.7.3 Recognized Holidays: The contractor is not required to perform services on the below holidays.

New Year's Day	Labor Day
Martin Luther King Jr.'s Birthday	Columbus Day
President's Day	Veteran's Day
Memorial Day	Thanksgiving Day
Independence Day	Christmas Day
Juneteenth	

1.8 Security Requirements: Contractor personnel performing work at Puget Sound Naval Shipyard within the Controlled Industrial Area (CIA) under this contract must be able to get clearance to access the base and get the necessary badging to enter the Controlled Industrial Area (CIA). See the BASE ACCESS AND BADGING section in the contract and Attachment 2.

1.8.1 Physical Security: The Contractor shall be responsible for safeguarding all government equipment, information and property provided for contractor use. At the close of each work period, government facilities, equipment, and materials shall be secured.

1.9 Special Qualifications: The Contractor must have experience in initial installation or replacement of wire rope, including systems utilizing double reeved drums with single wire ropes and wire ropes over 1200 feet in length.

Any contractor operating a Navy crane must be qualified per the NAVFAC P-307 as directed in its section 8.1.1:

"Contractor Personnel who operate Navy-owned cranes shall be certified by the contractor, at the contractor's expense, as fully qualified. Operator qualifications shall be, at a minimum, equivalent to the requirements of this publication; this includes taking the appropriate Navy Crane Center crane safety course and refresher required in Table 7-1. To achieve licensing equivalency, all actions identified in this section shall be performed with the following exceptions: the initial application for the license process is not required and the contractor may use company unique forms for the records identified in this section; however, all information required by this section shall be included on the company forms; also, the arrangement and control of contractor test facilities on non-government property is the responsibility of the contractor. The contractor shall provide documentation of operator qualifications to the contracting officer prior to an operator engaging in any mode of crane operation. Documentation shall be retained by the contracting officer in the contract files." **(Submittal Required)**

1.10 Post Award Conference/Periodic Progress Meetings: The Contractor agrees to attend any post award conference convened by the contracting activity or contract administration office in accordance with FAR Subpart 42.5. The contracting officer, Contracting Officers Representative (COR), and other Government personnel, as appropriate, may meet periodically with the contractor to review the contractor's performance. Appropriate action shall be taken to resolve outstanding issues. These meetings shall be at no additional cost to the government.

1.11 Contracting Officer Representative (COR): The COR monitors all technical aspects of the contract and assists in contract administration. The COR is authorized to perform the following functions: assure that the Contractor performs the technical requirements of the contract; perform inspections necessary in connection with contract performance; maintain written and oral communications with the Contractor concerning technical aspects of the contract; issue written interpretations of technical requirements, including Government drawings, designs, specifications; monitor Contractor's performance and notifies both the Contracting Officer and Contractor of any deficiencies; coordinate availability of government furnished property, and provide site entry of Contractor personnel.

The COR is NOT authorized to change any of the terms and conditions of this contract. **Only the warranted Contracting Officer is authorized to make modifications/changes to the terms and conditions of this contract.** If the Contractor believes any Government personnel has effectively issued a change resulting in a change in effort and price/cost of the contract, the Contractor shall immediately notify the Contracting Officer in writing.

CORS:

PRIMARY

TBD

1.12 **Key Personnel**: The contractor shall provide a contract manager who shall be responsible for the performance of the work. The name of this person and an alternate who shall act for the contractor when the manager is absent shall be designated in writing to the contracting officer. The contract manager or alternate shall have full authority to act for the contractor on all contract matters relating to execution of this contract.

1.12.1 **Identification of Contractor Employees**: All contractor personnel working in situations where their contractor status is not obvious to third parties are required to identify themselves as such to avoid creating an impression that they are Government officials. All contractor personnel on a government installation will be required to obtain and wear badges in the performance of this contract.

PART 2
DEFINITIONS & ACRONYMS

2. **DEFINITIONS AND ACRONYMS:**

2.1 COMMON DEFINITIONS: Per Clause 52.212-4(e), clause 52.202-1 is incorporated by reference to this contract.

2.1.1 All Definitions unless defined within the Contract are as defined within FAR Part 2.

2.2 Commercial components are defined as items that are advertised for sale in current commercial literature and are being sold in substantial quantities on the open market in the course of normal business operations. Nominal quantities, as normally associated with models, samples, prototypes, or experimental units are not acceptable under this definition.

2.3. Custom components are defined as items that do not meet the above definition of commercial components.

PART 3
GOVERNMENT FURNISHED PROPERTY, EQUIPMENT, AND SERVICES

3. **GOVERNMENT FURNISHED ITEMS AND SERVICES:**

3.1 **Services**: The Government will be responsible for ensuring that limit switches are properly bypassed prior to the start of work and are re-engaged after the work has been completed.

The Government will provide qualified inspectors during the pre-installation inspection of the wire rope. The Government will provide qualified inspectors during installation of wire rope ends to drums and hook block reassembly as necessary. Following wire rope replacement, the Government will perform wire rope break-in and Load Testing.

Following contract award, the Government will support site visits to support development of Contractor work procedure plans. Crane availability will be limited; paragraph 3.4 provided crane information should be the primary source of information.

In the event of any crane breakdown, the Government is responsible for a timely repair. The Contractor shall promptly report the breakdown to the Government and be available to brief the Government's crane repair team on current condition including any hazards or impacts of ongoing work.

3.2 Facilities: The Government will provide the necessary work area and utilities required to support the work. Work area allocated to the contractor will typically include the area under the crane body and the area between the 20 foot rails for the length of the boom plus 40 feet to the north or south of the crane (along the rails). Limited intrusions to the allocated space may be required based on shipyard operations; in any such case the government will provide a reasonable work area for the work at hand.

The general ground loading maximum in the vicinity is limited. Mobile crane outriggers set within 12 inches of a portal may be loaded to 100,000 lbf when avoiding voids and protecting the rail with ¾" plywood. Exceeding that limit or general area loading will require government approval based on a specific location. Ground loading is expected to be pertinent to the Contractor developed plan to support crane 81's boom while replacing boom wire rope.

3.3 Utilities: The Government will provide utilities (electrical power, compressed air and necessary lighting). The Contractor shall instruct employees in utilities conservation practices. The Contractor shall be responsible for operating under conditions that preclude the waste of utilities.

3.4 Technical information: The Government will provide technical information on the crane in addition to that provided in Attachment 1 to support the work to be performed to the extent that it is available to the Government when requested by the contractor using the Request for Information (RFI) process. These RFIs will be addressed within 15 calendar days of receipt by the Government. If requested, the Government will provide specifications for a boom stand that is in use at other naval shipyards.

3.5 Parts: The Government has already purchased and inspected the 43mm wire rope to replace the whip wire rope of crane 81, wire rope #11. It will be provided to the contractor. This is considered incidental to the place of performance and is not considered to be GFP.

PART 4 CONTRACTOR FURNISHED ITEMS AND SERVICES

4. CONTRACTOR FURNISHED ITEMS AND RESPONSIBILITIES:

4.1 General: The Contractor shall furnish all supplies, equipment and services required to perform work under this contract that are not listed under Part 3 of this PWS. The Contractor is responsible to comply with all applicable local instructions and the requirements of Attachment 2.

4.2 Materials: The Contractor must provide specified replacement parts manufactured to specifications provided in this PWS. In the event of damage to any parts of the crane, the parts shall be repaired or replaced such that the part meets all OEM specifications provided by the Government. Upon observation of damage, the contractor shall request these OEM specifications in accordance with section 3.4 of this PWS.

Any welding materials used for the crane shall conform to AWS D1.1. Material shall be free from defects and imperfections that might affect the serviceability and appearance of the finished product. All material shall be new and unused.

4.3 Equipment: The Contractor shall furnish their own tools, test equipment, and ancillary equipment needed to complete the work described in Part 5, except for any listed under Part 3. For all Contractor equipment used or brought within the CIA:

- All wireless transmission devices, including data transmission and radio controls, must be compliant with 47 CFR 15 (Title 47, Code of Federal Regulations, Part 15-Radio Frequency Devices).
- A specification sheet shall be provided for each wireless function, which must include type of wireless transmitter, broadcast/receive capabilities, frequency, transmitting range and power **(SUBMITTAL REQUIRED)**. Submissions shall be provided a minimum of ten (10) working days prior to accessing Government property.
- All equipment **must not have any image capturing devices**.

4.3.1 Vehicles: The company name shall be displayed on each of the Contractor's vehicles on government facilities in a manner and size that is clearly visible. All vehicles shall display a valid state license plate. Vehicles shall meet all other requirements of the State Vehicle Code, such as safety standards, and shall carry proof of insurance and state registration, as applicable. See para. 1.13 of NAVAL BASE KITSAP (NBK) and/or PSNS & IMF CONTROLLED INDUSTRIAL AREA (CIA) ACCESS listed in contract.

4.4 Plans/Deliverable: The Contractor shall submit the following documents for government review and approval prior to the commencement of work. Compliance with the requirements of this specification will be determined by review of these documents by the Government and by field inspection. The period of review shall be three weeks beginning when the documents are received by the Government. The Contractor is responsible for responding to and resolving any comments made during the review period prior to resubmitting any documents that have not been approved. If the submitted documents are found to be unsatisfactory, the review period for resubmitted documents shall be two weeks.

4.4.2 Work Procedure Plans: The Contractor shall provide detailed plans for the intended method of removal and installation of wire ropes specified to be replaced in this contract including any hoist/crane specific procedures such as the specific pins to be removed and how the hook block and/or boom will be supported **(SUBMITTAL REQUIRED)**. All parts disassembled and their reinstallation shall be included in the plan. The procedures shall include commercial equipment to be used, step-by-step instructions for the work to be performed (e.g. seizing rope, the attachment of messenger lines, removal and installation of attachment points, removal and installation of rope, pins to be pulled, and equipment used) in the order that they are to be performed and include, where relevant, reference to ground load calculation, design drawings and calculations on custom components, and any other technical information relevant to the development of the procedure. The listed steps shall include the methods to be used and sufficient information to show compliance with all technical requirements of this PWS. The Contractor shall give consideration to the space allocated at the facility for the work to be performed in the development of the procedure and shall show that the work can be performed within the allocated space without exceeding the allowable ground loading for the provided space. Fasteners in need of replacement shall be replaced like-for-like in terms of fastener size and specification (i.e. SAE Grade 8 fastener for SAE Grade 8 fastener of the same size and thread pitch). In the absence of OEM guidance, mechanical fasteners shall be nominally tightened to 70% of the fastener yield strength. Fasteners must be lubricated and shall not be installed "dry". Structural fasteners shall not be re-used and shall be installed and tightened in accordance with one of the methods in the RCSC Specification for Structural Joints using High-Strength bolts. Plans shall be provided as a bookmarked portable document file (.pdf) and shall be word searchable in Adobe Acrobat. There shall be no proprietary notes on any document and the Government shall have full rights to use, reproduce, "build-from", modify, copy and release all submitted information. Any fabrication or ordering of equipment prior to submittal approval is done so at the contractor's risk. All components must be in compliance with the contract unless deviations are submitted via RFI by the contractor and approved by the government. Approval of the Work Procedure Plan does not relieve the Contractor of his responsibility to comply with contract requirements.

One procedure shall be submitted for the wire rope replacement of each crane, and the procedure shall be approved by the Government prior to beginning work on its respective crane.

4.4.2.1 Drawings: All custom components used in the procedure shall have drawings provided and submitted along with the Work Procedure Plans. Reeving arrangement drawings shall also be provided to show the path of the rope from and to the crane drum during removal and installation respectively. The reeving arrangement drawings shall show the attachment points of any equipment on the crane, such as any anti-chafing material and snatch blocks, and the location of any necessary equipment around the crane. The drawings shall be submitted as a single PDF file. (SUBMITTAL REQUIRED) Drawings submitted shall bear a complete title block with a permanent drawing number. Subsequent submittals shall bear a new revision number for each sheet that has been modified. The Contractor shall submit a complete set of drawings for all custom components or parts used in the procedure. The Contractor shall submit a separate and complete drawing index for each procedure submittal. The drawing index shall include all drawings (structural, mechanical, and electrical as needed). All fields in the drawing index and drawings shall be searchable in Adobe Acrobat. As a minimum, the following fields from each drawing title block shall be included in the drawing index: drawing number, title, revision, keyword, and specification. Each assembly, subassembly and arrangement drawing shall include an integral Bill of Materials or shall be followed by a consecutively numbered drawing with the applicable Bill of Materials. There shall be no proprietary notes on drawings, with the exception of drawings provided for purchased standard commercial components.

4.4.2.2 Calculations: Calculations shall be provided for all custom components, ground loading, and, if a boom stand or other method of supporting the boom in which some or all of the weight of the boom is not transferred to the rest of the crane structure, stability of the crane structure will be calculated and shown that with the proposed arrangement and an 80 mph wind the overturning moment does not exceed 80 percent of the stabilizing moment. All calculations for the above shall be signed and stamped by a registered Professional Engineer (PE). The PE shall either prepare or directly oversee preparation of all required calculations and shall be “practiced” in the area of the calculations.

Loading on the crane structure of any temporary equipment used for reeving will also require calculations. Loads in excess of 2 tons or attached to a tubular structural member will require PE approval as above. Any metal-on-metal anchorages will require PE approved calculations for localized deformation excepting connections to plates with existing holes loaded in line via similarly sized pins – anchor strength must still be demonstrated. Temporary equipment with loads under 2 tons attached to solid structure require calculations but not PE signoff.

Calculations submitted shall bear a descriptive title and the date. Subsequent submittals shall bear a new revision number and date. These calculations shall demonstrate compliance with all requirements of this specification. Calculations will not be approved if their evaluation/review is dependent on data or information not previously approved. Drawings/Calculations shall include complete information so that they may be approved without reference to detail (shop) drawings. All references and assumptions used in the calculations shall be clearly stated within the calculation submittals. Calculations shall be submitted as a file viewable in Adobe Acrobat as a bookmarked portable document format (.pdf). (SUBMITTAL REQUIRED).

4.4.3 Contractor Reports: The Contractor shall submit monthly status reports. (SUBMITTALS REQUIRED) The content of the report shall address the overall project status and the status of each milestone/task for each crane, for procedures in process – indicate the percent complete and estimated submission dates. It shall also describe outstanding problems and proposed resolutions indicating who has the next action, describe significant results from conferences and trips, list directives given from the Contracting Officer's representatives, list all contract modifications issued, provide a summary of work planned in the next month, and provide any necessary supporting documentation as an attached appendix. An updated milestone schedule shall be provided with every monthly status report. The Contractor shall submit a schedule which identifies key milestone events in the development of the procedures, ordering of material, and execution of work. (SUBMITTALS REQUIRED) At a minimum, the schedule shall include the following:

- a. Post Award Conference
- b. Procedure Submittals (for each crane)
- c. Government Review (for each crane)
- d. Pre-Installation Conference

- e. Ordering of materials
- f. Receive materials
- g. Install materials
- h. Field Acceptance Test
- i. Crane Acceptance

4.4.4 Material Certificates: The Contractor shall provide certification of the actual wire rope breaking strength, taken from a sample of wire rope from the same reel for each reel of wire rope used. The certification shall be traceable to the hoist, crane and reel. (SUBMITTAL REQUIRED)

The Contractor shall provide documentation that the wire rope end fittings meet the requirements of NAVFAC P-307 paragraph 6.9 including certificates of pull tests per paragraph 6.9.6 (SUBMITTAL REQUIRED) and the results of Charpy testing for socket fittings. (SUBMITTAL REQUIRED)

4.4.5 Catalog Cuts: Manufacturer's catalog data shall be provided for all replacement parts installed on the crane meeting the definition of commercial components in section 2.2 of this PWS. (SUBMITTAL REQUIRED) At a minimum, catalog cuts shall be provided for the wire rope, wire rope end fittings, and any lubricants used on the crane including wire rope lubricant. The catalog cuts shall be marked-up or supplemented with additional sheets to clearly identify the model or size, selected options, features, and/or modifications to demonstrate compliance with requirements. For wire rope lubricants other than Whitmore Wire Rope Lubricant, proof of compatibility shall be provided per paragraph 5.1.7 herein. Catalog cuts which show modifications beyond the standard options and all supplemental pages shall bear original signatures and dates of the equipment manufacturer's authorized representative. Each Catalog cut and each supplemental sheet shall clearly identify the item to which it applies. Catalog cuts shall be submitted with the work procedure plan submittal detailing the anticipated need for any standard commercial products and intended models. All catalog cuts shall be submitted in one file viewable in Adobe Acrobat and bookmarked as to the location of each catalog cut.

4.4.6 Welding Certifications: If welding on the crane structure is required, the Contractor shall provide a certificate stating that all welders, welding operators, weld inspector(s) and welding procedure (qualification) meet the requirements of AWS D 1.1 for all work performed on the structure of the crane. Structural welding is not anticipated. Welding certifications shall be provided prior to beginning any welding. (SUBMITTAL REQUIRED) Reports of any required weld non-destructive testing shall be provided to the Government. (SUBMITTAL REQUIRED)

4.4.7 Quality Control: The Contractor is responsible for all aspects of quality control. The Government will perform both scheduled and random inspections of material, workmanship, and documentation throughout the life of the contract. The Contractor shall provide, as requested, access (via man lift, aerial work platform (AWP), etc.) for Government personnel to observe and inspect all areas of the crane and work performed to this contract. If the Government finds that the Contractor is not following its quality control system, the Government will notify the Contractor of the deficiency. The Contractor shall respond in writing within five (5) working days with recommended actions to resolve the deficiency.

4.4.7.1 Quality Control System: The Contractor shall have in-place a documented quality system. The Contractor is responsible to ensure that any Subcontractors performing work on this project have an equivalent quality control system in place. The Contractor shall provide a detailed description of their quality control system and applicable certifications (e.g. ISO 9001/9002 certification) with their offer. Contractor shall provide detailed description of quality control systems for any Subcontractors involved in the work. (SUBMITTAL REQUIRED)

PART 5 SPECIFIC TASKS

5. SPECIFIC TASKS:

5.1 Basic Services: The contractor shall replace all wire ropes listed on the following page. Work will nominally be done one crane at a time to reduce the impact of availability of the cranes for production work. Each wire rope replaced will require certain actions specified in the following subparagraphs.

Wire Rope	Crane	Class	Function	Length (feet)	Diameter	Construction	Minimum Breaking Strength (pounds)	Tentative Date
1	61	Samsung	Whip	618	1.5"	35 x 7, LRL, EEIPS, IWRC, Rotation Resistant	294000	June-July 2027
2	61	Samsung	Main (port)	745	1.5"	6 x 36, LRL, EIPS, IWRC	228000	
3	61	Samsung	Main (starboard)	745	1.5"	6 x 36, RRL, EIPS, IWRC	228000	
4	61	Samsung	Boom (port)	416	1.5"	6 x 36, LRL, EIPS, IWRC	228000	
5	61	Samsung	Boom (starboard)	416	1.5"	6 x 36, RRL, EIPS, IWRC	228000	
6	62	Samsung	Boom (port)	416	1.5"	6 x 36, LRL, EIPS, IWRC	228000	May-June 2029
7	62	Samsung	Boom (starboard)	416	1.5"	6 x 36, RRL, EIPS, IWRC	228000	
8	91	Westmont	Whip	540	1.75"	35 x 7, 1960, RHLL, IWRC	396900	Oct-Nov 2028
9	92	Westmont	Boom	535	1.5"	6 x 36, RRL, EIPS, IWRC	228000	Apr-May 2028
10	93	Westmont	Boom	535	1.5"	6 x 36, RRL, EIPS, IWRC	228000	Oct-Sep 2027
11	81	Craft	Whip	565	43 mm	19 x 7, Rotation Resistant, RRL, EIPS, IWRC <i>The Government will Provide this wire rope</i>	250000	July-August 2027
12	81	Craft	Main (port)	775	1.625"	6 x 41, WS, RRL, EIPS, IWRC	264000	
13	81	Craft	Main (starboard)	775	1.625"	6 x 41, WS, LRL, EIPS, IWRC	264000	
14	81	Craft	Boom	1575	1.625"	6 x 41, WS, RRL, EIPS, IWRC	264000	
15	78	Amclyde	Whip	452	1.125"	19 x 7, Rotation Resistant, RRL, EIPS, IWRC	130000	Feb-March 2029

5.1.1 Replacement Wire Rope Requirements: Replacement wire ropes shall be of the construction and size listed in section 5.1 and the breaking strength shall be equal to or greater than that listed. The ropes shall be cut to length by the contractor. The government may approve small changes to wire rope length. Prior to cutting wire ropes, the Contractor shall seize the wire rope ends in accordance with ASME B30.30. The government will consider equivalent contractor recommended wire ropes in place of the constructions listed on a case-by-case basis; requests shall be submitted following the RFI process.

Where two different ropes are on one hoist, the ropes must match each other's diameter to the maximum extent possible to minimize equalizer bar travel and ensure smooth operation. Ropes with a diameter difference over 4% shall not be used.

Wire rope certificates in accordance with ASME B30.30 shall be provided to the Government. Additionally, certificates for Charpy V-notch testing of sockets from the same lot as those installed tested per ASTM A673 shall be provided. Those certificates shall demonstrate minimum fracture toughness at 10° Fahrenheit of 15 foot-pounds for cast steel or 30 foot-pounds for cast alloy steel.

The replacement wire rope must pass P-307 Appendix C item 52 Wire Rope Rejection Criteria. The document is available at the Navy Crane Center's website, and the criteria closely follow the Wire Rope User's Manual (Fifth Edition) recommendations and ASME B30.30 requirements.

Prior to installation to the crane, the contractor shall facilitate Government inspection of new wire rope and via reel-to-reel inspection. The inspection day shall be scheduled at least one month in advance either at PSNS or a Contractor provided facility within 50 miles. The Contractor shall facilitate the inspection by transferring the wire rope from one reel to another at an appropriate pace as the government inspector inspects the rope. If one reel will be used for multiple wire ropes, an initial inspection followed by end connection specific inspections is permissible.

The end connections shall meet NAVFAC P-307 6.9 requirements and be installed per manufacturer directions. They will also be examined by Government inspectors. This inspection may take place during the reel-to-reel inspection if the connection is available but must take place before installation.

5.1.1.1 Beckets: The Government prefers the use of welded beackets for safety. If compatible with drum attachments and installed, welded beackets shall be left for future reuse.

5.1.2 Configuration: The wire rope shall be reeved through the sheaves in accordance with the existing configuration (refer to Attachment 1). The wire rope shall be tensioned appropriately to lay in sheaves and on drums correctly. Double reeved hoists will be adjusted to keep the equalizer bar approximately even throughout the range of the hoist. Hooks blocks shall be adjusted to hang straight.

5.1.3 Incidental Government Work: Each crane will be made available to the government for three business days after all subject wire rope for that crane is removed before the new rope is installed. This is in support of Government sheave, sheave bearing, and equalizer bar inspections. Work may resume earlier with Government permission

5.1.4 Sheave Condition: The government is not aware of any deficient sheaves applicable to the work at hand. The purpose of the 5.1.3 inspections is to catch small issues early to plan later fixes. There remains the risk that a deficient sheave would need to be corrected before the new wire rope is installed. If a sheave deficiency is identified and deemed a Major Deficiency per P-307 Appendix A, it would need to be corrected before the new wire rope is installed. The government is responsible for correcting sheaves damaged prior to contractor work continuation.

Wire ropes 9, 10, and 14 have equalizer sheaves at the midpoint of the wire rope. These are historically stuck when maintenance first begins, but lubricating and rotating the sheaves by hand is expected to break them free and restore functionality necessary to rope replacement.

The Government is responsible for the initial condition of all sheaves and their bearings. Delays for sheave correction could lead to schedule changes

5.1.5 Safety Standard: All work performed shall meet all applicable OSHA standards. The contractor shall perform the work in accordance with the approved work procedure plan. On-site changes shall only be made with Government approval. The contractor shall secure the crane, while not directly in control of the work area after commencement of work. Rigging gear shall only be attached to crane components using designed attachment points. All fixtures, rigging gear, or lifting equipment utilized in the procedure shall be rated appropriately for the application and applied loads. All custom designed fixtures shall be marked with a rated capacity. Where applicable, custom designed fixtures shall be designed to ASME BTH-1 with design category C. Where ASME BTH-1 is not applicable, custom designed fixtures shall be designed to ANSI recognized design standards to the maximum extent practicable and shall be designed with a minimum design factor of 5. Tilting of lifted or suspended components when necessary shall only be performed using chain-falls, ratchet hoists or similar equipment, and only in a controlled manner following approved written documents. "Lifting" is not exclusive to crane lifts and can include the use of any mechanized lifting device.

The upper and lower limits will be defeated before passing the crane to the Contractor to support the work; the Contractor is responsible for personnel and equipment safety without the typical safety devices in place.

5.1.6 Paint: All surfaces normally painted and requiring touch-up based on the work contained in this specification shall be cleaned, primed, and finish painted. Touch up paint shall blend in and match surrounding parts (color, shade) and existing paint system. Corrosion resistant fasteners shall conform to ASTM F593 and F594. The entire length of new wire rope shall be lubricated by the Contractor during or immediately after installation to protect against corrosion.

5.1.7 Lubrication: All assembly lubrication or other lubrication of the crane excluding the lubrication of bolt threads shall use lubricants identical to or compatible with the lubricants in use by the government for the specific application. Compatibility of greases may be shown by testing in accordance with ASTM D6185. A statement of compatibility from the lubricant manufacturer is sufficient for any lubricants. Test data or the manufacturer's statement shall be included in the catalog cut submittals if non-identical lubricants are used.

The lubricant PSNS uses for ongoing portal crane wire rope lubrication is Whitmore Wire Rope Lubricant.

5.1.8 Other Components: Other components incidental to wire rope replacement, such as drum mounting hardware, are expected to be reusable. Any necessary replacements shall be promptly requested from the Government. With Government approval, the Contractor may replace with identical parts to expedite work.

All part disassembly and reinstallation procedure shall be included in the Contractor provided work plan. This is to support post-inspections required prior to recertifying the crane. In some cases, in-process inspections by Government inspectors may be necessary.

5.1.9 Government Performed Work: The Government will prepare each crane for Contractor wire rope replacement by bringing it to the prescribed area and defeating the limits on hoist function. Following the rope replacements for the crane, the Government will reestablish those limits.

Following Contractor work and limit restoration, the Government will perform wire rope break-in and a Load Test of affected functions.

5.1.10 Government Inspections: The contractor shall allow and accommodate the presence of an onsite government representative for the duration of the performance of work. The Government must inspect Load Bearing items during reassembly unless post-inspection is adequate to verify proper reassembly. The Contractor shall support these inspections by including Load Bearing part disassembly and reassembly in the paragraph 4.4.2 Work Procedure Plans and coordinating with the Government as the work schedule proceeds.

5.2 Schedule of Work: The schedule indicated in 5.1 is tentative. Upon contract award it will be updated but will still be subject to change. The Government may inform the Contractor and move an individual crane's scheduled replacement start day when more than three months in advance of both old and new dates. When within three months, any change shall be made by mutual agreement between the Contractor and Government. The Government will not schedule two cranes for the same time period without Contractor agreement.

Schedule could be impacted by several factors. The cranes will be on three different islands of usable rails when the work is performed, and each island will need enough usable cranes for the work scheduled. If one crane in that group has an unrelated breakdown, another scheduled for new wire rope may be needed for production work. Some cranes are needed for specific jobs based on capacity or reliability metrics. Those special jobs are typically more predictable. Wire rope replacements for those cranes is scheduled away from those jobs and may need to move if PSNS moves those jobs forward or backward.

5.3 Post-Award Demonstration. The contractor may observe the existing performance of the functions both loaded and unloaded. The contractor will be allowed to take basic measurements of the crane as needed to support their work.

5.4 Acceptance Test and Post-Work Inspections. After the replacement of all listed components, the Government will inspect the crane for damage and general workmanship and take appropriate baseline measurements, including wire rope diameters prior to break-in. After the inspections, the wire rope will be broken in by operating across its range 10 times with loads increasing from 5% to 20% to 50% capacity. The impacted functions will then be Test Loaded per NAVFAC P-307 requirements. The Government will provide a rework item list to the Contractor, documenting all unsatisfactory findings within 5 business days after the conclusion of the test. Upon receipt of the rework item list, the Contractor will be responsible for documenting the root cause of discovered deficiencies, documenting the corrective actions, and resolving deficiencies and workmanship issues discovered during inspections and testing.

PART 6 APPLICABLE PUBLICATIONS

6. APPLICABLE PUBLICATIONS (CURRENT EDITIONS):

6.1. The Contractor must abide by all applicable regulations, publications, manuals, and local policies and procedures.

6.2 NAVFAC P-307 Weight Handling Program Management

6.3 Wire Rope User's Manual

6.4 ASME BTH-1 Design of Below-the-Hook Lifting Devices

6.5 ASTM F593 Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs

6.6 ASTM F594 Standard Specification for Stainless Steel Nuts

6.7 ASME B30.30 Ropes

6.8 NECA-1 Standard for Good Workmanship in Electrical Construction

6.9 ASTM D6185 Standard Practice for Evaluating Compatibility of Binary Mixtures of Lubricating Greases

PART 7 ATTACHMENT/TECHNICAL EXHIBIT LISTING

7. ATTACHMENT/TECHNICAL EXHIBIT LIST:

7.1 Technical Exhibit 1 – Performance Requirements Summary:

7.2. Attachment 1 – Crane Information and Drawings:

7.3. Attachment 2 – Site Specific Requirements:

7.4 Attachment 3 – Request for Information form

TECHNICAL EXHIBIT 1

Performance Requirements Summary

The contractor service requirements are summarized into performance objectives that relate directly to mission essential items. The performance threshold briefly describes the minimum acceptable levels of service required for each requirement. These thresholds are critical to mission success.

Performance Objective	Standard	Performance Threshold
PRS # 1. Contractor submits work plans that show compliance with all technical requirements.	The contractor provides 100% compliance.	Zero deviation from standard
PRS # 2 Contractor provides documentation of operators' qualifications to the contracting officer.	The contractor provides 100% compliance.	Zero deviation from standard
PRS # 3 Contractor provided certificates and Contractor facilitated Government inspection of new wire ropes verifies procurement of satisfactory wire rope.	The contractor provides 100% compliance.	Zero deviation from standard
PRS # 4 Contractor completes wire rope replacement per specifications listed in Part 5, Specific Tasks.	The contractor provides 100% compliance.	Zero deviation from standard
PRS # 5 Contractor shall maintain close liaison and good communication with government.	Any problems or questions encountered by either party are addressed within 24 hours (1 business day)	Zero deviation from standard
PRS # 6 Contractor shall resolve deficiencies and workmanship issues found during acceptance testing and post-work inspections.	The contractor provides 100% compliance	Zero deviation from standard

TECHNICAL EXHIBIT 2

Deliverables Schedule

<u>Deliverable</u>	<u>Frequency</u>	<u># of Copies</u>	<u>Medium/Format</u>	<u>Submit To</u>
Crane specific work procedure plan (paragraph 4.4.2)	Per Crane; 6 weeks prior to planned start	1	DoD SAFE	COR
Operator qualification documentation (paragraph 1.9)	2 weeks prior to each operator's first operation	1	PDF Email submission	COR
Wireless equipment specification sheet (paragraph 4.3)	10 business days prior	1	PDF Email submission	COR
Custom Equipment Drawings (paragraph 4.4.2.1)	Alongside applicable crane specific work plan	1	PDF Email submission	COR
Calculations (paragraph 4.4.2.2)	Alongside applicable crane specific work plan	1	PDF Email submission	COR
Status Reports (paragraph 4.4.3)	Monthly	1	PDF Email submission	COR
Schedule Milestones (paragraph 4.4.3)	Within 30 days of contract award	1	PDF Email submission	COR
Wire Rope Specific Material Certificates (paragraph 4.4.4)	1 week in advance of paragraph 5.1.1 Contractor facilitated Government reel-to-reel inspection	1 per wire rope (If certificate is identical across ropes, provide one copy per).	PDF Email submission	COR
End Connection Pull Test (paragraph 4.4.4)	1 week in advance of paragraph 5.1.1 Contractor facilitated Government reel-to-reel inspection	1 per connection	PDF Email submission	COR
Socket Charpy test certificates (paragraph 4.4.4)	1 week in advance of paragraph 5.1.1 Contractor facilitated Government reel-to-reel inspection	1 per socket (If certificate is identical across sockets, provide one copy per).	PDF Email submission	COR
Catalog Cuts (paragraph 4.4.5)	1 month prior to applicable rope replacement	1	PDF Email submission	COR
Welding Certifications (paragraph 4.4.6)	2 weeks prior to welding	1	PDF Email submission	COR
Weld NDT (paragraph 4.4.6)	Within 2 weeks following crane return to Government	1 per group of welds.	PDF Email submission	COR
Quality Control System (paragraph 4.4.7.1)	1 month prior to first wire rope replacement	1	PDF Email submission	COR
Inspection Plan (paragraph 4.4.7.1)	1 month prior to first wire rope replacement	1	PDF Email submission	COR
Inspection plan reports (paragraph 4.4.8.2.2)	2 weeks following completion of each crane	1	PDF Email submission	COR

NOTE: ANY ITEM TOO LARGE FOR EMAIL TRANSFER WILL BE TRANSFERRED BY DOD SAFE INSTEAD.