

**Section A: GENERAL REQUIREMENTS:**

**1.1 Scope of Work:**

Work includes, but is not limited to, providing all labor and materials to repair all known damage to Georgia Ports Authority RTG 66 AND 141. In general, the work shall consist of:

**1.1.1 Joint of Bogie Axle Pin Replacement: Reference Drawings RTG1-OP20, KM3050-B, KM3050-J, KM3050-JA, RTG-CE1**

- 1.1.1.1 Furnish a repair plan and procedure for review by a GPA Manager of RTG Maintenance.
- 1.1.1.2 Secure RTG for axle pin removal.
- 1.1.1.3 Remove axle pins from joints of bogies on all four (4) corners.
- 1.1.1.4 Measure and record axle pin and joint of bogie hole dimensions.
- 1.1.1.5 Weld bore as necessary for line boring. Welding procedure for new structural members shall be performed in accordance with OEM and American Welding Society code D1.1 specifications.
- 1.1.1.6 Line bore joint of bogie to specifications and tolerances on drawing KM3050-B.
- 1.1.1.7 Furnish and install new axle pins (4) on all joints of bogies in accordance with specifications and tolerances on drawing KM3050-JA.
- 1.1.1.8 Install retaining keeper and grease nipples (M10x1).
- 1.1.1.9 Clean work area.

**1.1.2 Leg Structure Axle Pin Replacement: Reference Drawings RTG1-OP20, G641-CA, RTG2-CB, RTG1-CE2, RTG1-C3, RTG1-C3-OP2, RTG1-C4B, RTG1-C4B-OP2**

- 1.1.2.1 Furnish a repair plan and procedure for review by a GPA Manager of RTG Maintenance.
- 1.1.2.2 Secure RTG for leg structure axle pin removal.
- 1.1.2.3 Remove axle pins from leg structures on both diesel and access side.
- 1.1.2.4 Measure and record axle pin, diagonal and horizontal beam holes, and eye piece holes dimensions.
- 1.1.2.5 Weld bore as necessary for line boring. Welding procedure for new structural members shall be performed in accordance with OEM and American Welding Society code D1.1 specifications.

- 1.1.2.6 Line bore eye plate holes to specifications and tolerances on drawing RTG1-CE2.
- 1.1.2.7 Furnish and install new axle pins from leg structures on both diesel and access side in accordance with specifications and tolerances on drawings RTG1-C4B-OP2 and RTG1-C3-OP2.
- 1.1.2.8 Install retaining keeper.
- 1.1.2.9 Clean work area.

## **1.2 Codes and Standards**

The contractor shall be responsible for complying with regulations of all local, state, and federal agencies having jurisdiction over any portion of the work to be performed under this contract.

The contractor, as a minimum, shall meet or exceed the applicable requirements of the latest revision of the following codes and specifications published by the following organizations:

- ASCE - American Society of Civil Engineers
- AISC - American Institute of Steel Construction
- ANSI - American National Standards Institute
- ASME - American Society of Mechanical Engineers
- ASTM - American Society of Testing Materials
- AWS - American Welding Society
- EPA - Environmental Protection Agency
- IEEE - Institute of Electrical and Electronics Engineers
- OSHA - Occupational Safety and Health Act
- SSPC - Steel Structures and Painting Council

All work shall be performed in accordance with all federal, state, county, or municipal codes, laws, or ordinances as applicable.

It is not the intent of this specification to restrict the Contractor's work. The Contractor shall be totally responsible for the work. These specifications are the minimal requirements acceptable to GPA.

## **1.3 Scheduling**

Contractor shall be responsible for coordinating all work to be performed under this project with the Manager of RTG Maintenance.

Scheduling shall be coordinated through the Manager of RTG Maintenance.

**1.4 Contractor Qualifications**

Contractor shall have a minimum of five (5) years' experience with either the design, installation, commissioning or repair of rubber tire gantry container cranes. In addition, Contractor shall be thoroughly familiar with the installation, maintenance or repair of rubber tire gantry container crane control systems.

**1.5 Contractor's supervision and employees:**

Contractor shall provide a competent supervisor satisfactory to the Maintenance and Repair Manager, Rubber Tire Gantry Cranes or his designated representative (Maintenance Representative) that is authorized to act on the behalf of the Contractor.

Contractor's supervisor or a competent assistant supervisor shall be on the Port's premises at all times during the work and in responsible charge of the work on behalf of the Contractor.

Contractor shall promptly remove from the work area and the Port's premises any supervisor or employee of the Contractor whose work or conduct is not satisfactory to the Maintenance representative.

**1.6 Contractor work hours:**

The GPA operates seven days per week twenty-four hours per day. Contractor's bid shall be predicated upon the work being completed around the GPA's operations at any time of day or night suitable to the contractor.

**1.7 Additional Work**

Georgia Ports Authority reserves the right to have the Contractor perform additional work as required to complete the project. Any additional work will be performed on a Time & Material basis per the Contractor's T & M rate sheet included with their bid. All additional work shall be pre-approved by and shall have daily timesheets for aforementioned work submitted to the Manager of RTG Maintenance.

**1.8 Contractor Care, Custody, and Control**

Upon commencement of work, Contractor shall be fully responsible for the care, custody, and control of crane until the work has been completed.

Contractor shall continuously protect his work from damage, protect all persons from injury, and protect all other property from damage, injury, or loss arising in connection with the work regardless of who the Owner of said property might be.

The Contractor alone shall be responsible for the safety, efficiency, and adequacy of his equipment, tools, and materials.

The Contractor shall be responsible for proper lock-out tag-out of the equipment.

The Contractor shall be responsible for any damages that may result from Contractor's improper work or operation of the equipment.

During the period of Contractor's work, the Contractor shall protect and secure the equipment from all environmental conditions (i.e., rain, wind, storm, etc.).

## **1.9 Safety**

Contractor shall provide safety barriers, as required, to clearly identify the working area and to prevent others from accessing the work area. This safety zone shall be sufficiently sized to prevent damage to others in case an installation failure (i.e., cable breaks, etc.) or if tools or other items fall from the crane.

Upon completion of the work, Contractor shall remove the safety barriers from the work area.

## **1.10 Notifications:**

Any accidents, injuries, fires or other incidents of a serious nature or incidents requiring emergency response must be reported immediately to GPA's Security Operations Center at (912) 963-5585.

In the case of an environmental spill or release of any sort, Contractor shall immediately notify GPA's Security Operations Center at (912) 963-5585 and the Maintenance Representative.

## **1.11 Site Access:**

Contractor may enter and exit through Gate 1 or Gate 5 (24-hour 7 day per week gate).

Contractor shall obtain gate passes for all personnel entering GPA premises. GPA identification passes are available at the GPA Credentialing Center.

Contractor shall arrange for GPA gate passes for all material and equipment entering and exiting the Port.

## **1.12 Employee Identification**

All Contractor employees are to be credentialed by the GPA Credentialing Center. GPA Credentialing badges are to be worn by Contractor employees at all times. Any Contractor employee arriving to work on GPA premises that is not in possession of a GPA Credentialing badge will be denied access to the GPA property. Any Contractor employee performing work on GPA premises that does not have their picture identification badge displayed in plain view will be advised to attach the badge in a visible spot. The incident will be noted.

Credentialing badges of Contractor personnel that have been terminated or assigned outside of GPA shall be collected by the Contractor and turned into the GPA Police immediately following termination or reassignment.

Only authorized Contractor employees are allowed on the premises of GPA facilities. Contractor employees are not to be accompanied in the work area by acquaintances, family members (including children), assistants or any other person unless said person is an authorized Contractor employee. Access to designated restricted areas is forbidden by Contractor's employees.

## **Section B: GENERAL**

### **2.1 Materials**

2.1.1 All materials and components shall be new.

2.1.2 Material shall be suitable for exposure to the marine environment and suitable for an ambient temperature range of 0°F (low) to 113°F (high).

2.1.3 All materials shall meet or exceed OEM's specifications.

2.1.3.1 For the leg structures axle pin, material code S355J0G2, the suitable material equivalent AISI 1024 can be used.

## **2.2 Installation and Testing**

- 2.2.1 Contractors shall inspect all retaining axle pin keepers and keeper bolts for suitability of re-use. Contractor shall notify the Manager of RTG Maintenance if material is deemed unsuitable for use. (At this time GPA assumes all axle pin keepers and keeper bolts are suitable for re-use.)
- 2.2.2 Contractor shall perform any and all work as required to complete the installation.
- 2.2.3 Contractor shall supply the Manager of RTG Maintenance with axle pin supplier information, material certificates, and NDT testing results prior to installation.
- 2.2.4 Contractor shall notify the Manager of RTG Maintenance when repair and installation has been completed.
- 2.2.5 Contractor shall certify the crane per OSHA requirements. GPA shall supply test weights as needed for contractor's use.
- 2.2.6 Contractor shall correct any warranty items or deficiencies identified during the final inspection that impact the operation of the crane.

## **Section C: WELDING**

All welding shall be in accordance with the requirements of American Welding Society code D1.1, latest edition.

No welding shall be performed on the structure without approval from the OEM.

No welding or burning shall be performed on Port premises without a GPA issued "Hot Work" permit that is available at the GPA Port Police Office at Annex II.

Note: Contractor's hot work is subject to GPA Port Police and U.S. Coast Guard inspection. All applicable regulations concerning NFPA standards and Coast Guard inspection must be met. All provisions described on the permit and/or safe regulation sheet shall be followed.

## **Section D: PAINT**

Contractor shall perform the necessary surface preparation/cleaning as required for all painted metallic surfaces.

Contractor shall conform to manufacturers' specifications, directions, and recommendations for best results in the use of each of their products for each condition. If results are at variance with these specifications, report the discrepancy to the Owner for direction.

## **2.3 Exterior Paint System - Exterior Surfaces**

The following products are approved for use. Paint for prime coat, intermediate coat and topcoat shall be procured from a single manufacturer.

### **2.3.1 Prime Coat - Inorganic zinc rich primer**

- |    |           |                   |
|----|-----------|-------------------|
| 1. | Carboline | Carbozinc 12      |
| 2. | DuPont    | Ganicin 347-Y-912 |
| 3. | Tnemec    | 90E-92 Tneme-Zinc |
| 4. | Teknos    | Winter Rea-Galvex |

### **2.3.2 Intermediate Coat - Epoxy polyamide, except where noted.**

- |    |           |                                       |
|----|-----------|---------------------------------------|
| 1. | Carboline | Carboline 133HB (Polyurethane enamel) |
| 2. | DuPont    | Corlar 823                            |
| 3. | Tnemec    | 161-1211 Tneme-Fascure                |
| 4. | Teknos    | Winter Inerta-Primer 5                |

### **2.3.3 Finish Coat Aliphatic- Polyurethane enamel**

- |    |           |                      |
|----|-----------|----------------------|
| 1. | Carboline | Carboline 133HB      |
| 2. | DuPont    | Imron 333            |
| 3. | Tnemec    | 73 Endura Shield III |
| 4. | Teknos    | Winter Teknodur 90   |

### **2.3.4 Colors**

Per OEM's specification.

## **2.4 General**

2.4.1 Paints shall be applied in accordance with the manufacturer's recommendations as to the application, weather, temperature conditions and coating thickness.

- 2.4.2 Paints shall be applied using clean equipment and brushes. Paint materials shall be spread evenly, without runs, sags, laps, or brush marks, without variations in color, texture, or sheen, and without "holidays."
- 2.4.3 Colors or sheens shall be varied between coats and all coats shall be applied to a uniform thickness.
- 2.4.4 Any paint work judged defective by the Owner shall be corrected at no additional cost.
- 2.4.5 Finished surfaces shall be clean, completely covered, uniform in appearance, and satisfactory to the Owner.

## **2.5 Surface Preparation**

- 2.5.1 Dirt, oil, grease and chemical contamination shall be removed by solvent washing or other suitable means before cleaning of exposed or sealed surfaces.
- 2.5.2 Exposed surfaces shall be cleaned by power tool cleaning per Steel Structures Painting Council Surface Preparation Specification No. SSPC SP-3.
- 2.5.3 The resulting surface shall have no indications of rust bloom.
- 2.5.4 Prior to cleaning, welds shall be given special attention for removal of welding flux in crevices. Welding spatter, slivers, scabs and underlying mill scale not removed during fabrication and exposed before and during the cleaning operation shall be removed by the best mechanical means. Exposed edges shall be rounded to assure proper adhesion and buildup of paint.
- 2.5.5 The cleaned surface shall be rendered dust free prior to the application of the prime coat.
- 2.5.6 No acid washes or other cleaning solutions or solvents shall be used on the surfaces after cleaning. This includes any inhibitive washes intended to prevent rusting.
- 2.5.7 Cleaning and painting operations shall be scheduled so that they will not be in progress at the same time or so that cleaning is not in progress while there is wet paint within the range of contamination. The cleaned surface shall be painted with one coat of the specified primer during the same day as cleaned, prior to sunset and before any visible rusting occurs. Unprimed cleaned surfaces which are wet due to either rain or moisture build-up shall be re-blasted when dry.

## 2.6 Application

### 2.6.1 Paint Application

- 2.6.1.1 Paint shall be furnished in the paint manufacturer's original unopened and clearly identifiable containers. No mixing of different paints shall be done without the express permission of the Owner.
- 2.6.1.2 Paint shall be applied in accordance with the paint manufacturer's recommendations and in accordance with the applicable portions of Steel Structures Painting Council Specification SSPC-PA 1-64 "Field and Maintenance Painting."
- 2.6.1.3 Paint shall be thinned only as recommended by the paint manufacturer.
- 2.6.1.4 Surfaces shall be cleaned, free from dust and dry before and during the paint application.
- 2.6.1.5 Primer shall be applied from a continuously agitated pot to prevent settling of zinc component.
- 2.6.1.6 No paint shall be applied if the surface temperature is less than 3°C above the dew point or the ambient temperature is less than 5°C.
- 2.6.1.7 Paint shall be allowed to dry thoroughly and/or the minimum time specified by the paint manufacturer shall pass prior to the application of a succeeding coat.
- 2.6.1.8 Paint shall not be applied within 150 mm of uncleaned surfaces.
- 2.6.1.9 Exterior surfaces shall receive a minimum of 3 coats. Total thickness of all coats shall be a minimum of 8 mils DFT.
- 2.6.1.10 Interior surfaces of unsealed members shall receive a minimum of 1 coat. Minimum thickness of all coats shall be 5 mils DFT. If the surface was cleaned and prime coated with the exterior paint system during fabrication, the interior paint system need only be applied to surfaces that were masked off for welding or not otherwise cleaned and prime coated with the exterior paint system, or to meet color requirements.
- 2.6.1.11 Manufacturer's paint film thickness recommendations shall be strictly adhered to. The film thickness shall be checked with a micro test or other

approved calibrated film thickness gauge. Damage to previous coats shall be corrected prior to the application of a succeeding coat.

2.6.1.12 The Owner may make destructive tests of the paint on reasonably small areas to insure adherence. The Contractor shall repair these areas at his expense.

2.6.1.13 The sequence to be followed in painting shall minimize damage to the finish coat. The intermediate and finish coats shall be applied after welding has been completed. Surfaces shall be cleaned to remove surface contaminants and moisture not more than 72 hours prior to the application of the next coat. Damage to the previous coat shall be repaired before the next coat is applied.

2.6.1.14 Each coat is to be applied uniformly and completely over the entire surface.

2.6.1.15 Faying surfaces of bolted connections shall be masked to prevent application of all but the prime coat.

## 2.6.2 Brush Application

2.6.2.1 Contractor shall take extra care not to exceed the manufacturer's recommended maximum dry film thickness and avoid "mud cracking."

2.6.2.2 Brushes shall be of a style and quality that will enable the proper application. Brush width shall not exceed 125 mm.

2.6.2.3 Paint shall be worked into crevices and corners; runs and sags shall be brushed out in order to avoid air pockets, solvent bubbles, "mud cracks" and voids.