MEPNN Supplier Scouting Opportunity Synopsis

Section 1: General Information

Scouting Number	2024-266
Item to be Scouted	Rubber Tired Gantry Cranes
Days to be scouted	30
Response Due By	10/04/2024
Description	The work consists of providing bonds, labor, materials, equipment, and supervision necessary for the design, manufacture, delivery, assembly, installation, commissioning, testing and training for the supply of two complete hybrid diesel/electric powered rubber-tired gantry cranes with a lifting capacity of 40 tons, a span of 96 feet and a lift height of 48.8 feet.
Notify Requester Immediately	
State item to be used in	Alabama

Section 2: Technical Information

Type of supplier being sought	Manufacturer
Reason	BABA
Describe the manufacturing processes (elaborate to provide as much detail as possible)	Design, manufacture, delivery, assembly, installation, commissioning, testing and training for the supply of two complete hybrid diesel/electric powered rubber-tired gantry cranes.
Provide dimensions / size / tolerances / performance specifications for the item	Rubber-tired gantry cranes with a lifting capacity of 40 tons, a span of 96 feet and a lift height of 48.8 feet. Rubber Tired Gantry crane (RTG) will be used for the handling of suspended payload under lifting spreader in Montgomery, Alabama. The crane shall be designed to handle full loaded ISO 20', 40', 45' 48' and 53' ISO containers with a stacking height of 1 over 4 x 9'-6" by means of a telescopic spreader. The spreader shall be capable of handling 102" wide containers (domestic and ISO corner casting) as well as side picks (such as J.B. Hunt boxes). The RTG will span over two tracks, 4 container stacks and a truck lane as illustrated in the cross section in this Appendix.
List required materials needed to make the product, including materials of product components	steel, diesel/electric engine/motor, electrical control circuits/breakers, lights, wheel bogies/tires
Are there applicable certification requirements?	No
Are there applicable regulations?	No
Are there any other stndards, requirements, etc.?	Yes
Details	General Safety: FEM, EN or OSHA Structure: FEM, EN Mechanisms: FEM, ISO, DIN, EN Electrical: IEC or NEC and NEMA
NAICS 1	333923 Overhead traveling crane, hoist, and monorail system manufacturing
NAICS 2	

Additional Technical Comments	The crane shall be classified as follows: • Class of Utilization: U7 • State of Loading: Q2 • Group Classification: A7

Section 4: Business Information

Estimated potential business volume	Two units
Estimated target price / unit cost information (if unavailable explain)	$3,000,000.00 to $3,500,000.00 per unit
When is it needed by?	July 31, 2026
Describe packaging requirements	Per manufacturer's specifications
Where will this item be shipped?	Montgomery Alabama

Additional Comments

Is there other information you would like to include?	

Appendix 1 Crane Specification

1.0 GENERAL DESCRIPTION

These specifications describe a Rubber Tired Gantry crane (RTG), which will be used for the handling of suspended payload under lifting spreader in Montgomery, Alabama. The crane shall be designed to handle full loaded ISO 20', 40', 45' 48' and 53' ISO containers with a stacking height of 1 over 4 x 9'-6" by means of a telescopic spreader. The spreader shall be capable of handling 102" wide containers (domestic and ISO corner casting) as well as side picks (such as J.B. Hunt boxes).

The RTG will span over two tracks, 4 container stacks and a truck lane as illustrated in the cross section in this Appendix.

If not otherwise noted in the contract the crane manufacturer (supplier) shall design, manufacture, deliver, assemble, install, commission and test the equipment, a total of two (2) RTG's as well as provide training and assistance after provisional hand-over as set out in this specification.

2.0 GENERAL CRANE FEATURES

A. Design Features

The design features, all material and equipment to be supplied and protective treatment of steel work must be suitable for use under the environmental conditions prevailing in Montgomery, Alabama. Mechanical and electrical components shall be provided by well-known and reputable sub-suppliers with ample experience in crane applications.

The crane must be designed to operate under the following ambient conditions.

- Temperature Range -4^{o}F to 122^{o}F (-20^{o}C to 50^{o}C)
- Max. Operating Wind Speed 44.7 mph (72 km/hr)
- Max. Stowed Speed 99.4 mph (160 km/hr)
- Humidity, condensing 100%

The crane must be designed to operate with minimum maintenance under the defined conditions. It must be ensured that the electrical and mechanical equipment does not overheat where exposed to direct sunlight or freezes or is hampered due to heavy blizzards, excessive snow and ice.

3.0 DESIGN CRITERIA

Unless otherwise mentioned, the design shall be based on the latest edition of the application design standards as stipulated hereinafter.

General Safety:	FEM, EN or OSHA
Structure:	FEM, EN
Mechanisms:	FEM, ISO, DIN, EN
Electrical:	IEC or NEC and NEMA

A. Seismic Conditions

The stability of the crane shall suffice the applicable local rules and regulations for Montgomery, Alabama.

B. Crane Structure

The structure design conforms in general to the requirements of FEM Section 1 (1987)

Main girders, legs and sill beams are box girders sealed airtight except for the pressure balancing plugs located at the lower end of the legs.

All welds in the main structure shall be continuous seal welds. Intermittent welds are used only in some interior parts of the structures.

The crane structure shall be constructed so that no water pockets are formed within the structure and there shall be no unsealed areas where paint cannot be applied. Drainage holes shall be provided where water tends to collect.

The crane shall be classified as follows:

- Class of Utilization: U7
- State of Loading: Q2
- Group Classification: A7

C. Drive Mechanisms

The drive mechanisms shall be designed and selected in accordance with FEM and shall be classified as follows:

Table 1 - Classification of Drive Mechanisms

	Hoist	Trolley	Gantry
Class of Utilization	T7	T7	T5
State of Loading	L2	L2	L2
Group of Classification	**M7**	**M7**	**M5**

D. Remote Operation

Crane shall be designed and furnished with all required infrastructure and technology to allow future conversion to remote operation with only minor modifications not requiring the crane to be taken out of service for an extended period. Details of the system shall be provided to the purchaser with the proposal.

4.0 OPERATING CHARACTERISTICS

A. General Operations

Crane shall be capable of turning its wheels through 90^{o} for the purpose of traveling to other stack lanes or operating areas without a load at reduced speed.

Crane shall be able to set its wheels to perform a 180^{o} spin about its own vertical axis at a reduced speed.

Wheel chocks shall be provided for when the crane is in the stowed position. The wheel chocks, in conjunction with the RTG's brake system shall be cable of holding the crane against movement in the maximum wind speed specified.

Jacking points shall be provided for supporting the crane safely so that the wheels or other components within the wheel bogies can be removed and easily replaced.

B. Lifting Capacity Requirements

The maximum lifting capacity below the telescopic spreader shall be 40 LT.

C. Physical Dimensions

Gantry Span: 96'+/- (29.3m)

Lift Height: 48.8' (15.2m) *(minimum)*

No. of Travel Wheels: 16

Maximum Yard Slope (Lateral): 1%

Maximum Yard Slope (Longitudinal): 0.3%

Table 2 - Speed Rates

	Speed	Acceleration
Hoisting/lowering with rated load	82 ft/min (25.0m/min)	2s
Hoisting/lowering with empty spreader	164 ft/min (50.0m/min)	4s
Slewing	1.5 rpm	1.5s
Trolley Drive	230 ft/min (70m/min)	6s
Gantry Travel without Load	427 ft/min (130 m/min.)	12s
Gantry Travel without rated Load	**230 ft/min (70m/min)**	**4s**

D. Spreader Motions

Spreader shall telescope from 20’ to 40’ in less than 30 seconds.

The spreader shall also telescope from ISO twistlock position to width to TWP twist lock position (102”) in less than five seconds.

Twist lock or side pin operation time shall be less than one second.

E. Safety

Fire extinguishers of CO2 type colored and installed in accordance with the local rules and regulations shall be provided, at a minimum, at the following locations:

- Operators Cab
- Electric House
- Ground Level
- Other location recommended by the manufacturer (Type and location)

All platforms and walkways shall comply with all requirements of OSHA.

Ladders, walkways, stairs and/or platforms shall be provided to access locations on the crane that require frequent maintenance or inspection.

Emergency egress from the operator cab shall be possible with the trolley in all positions.

Devices shall be provided at each corner of the crane to detect obstacles and stop the crane when an obstacle is detected.

5.0 POWER SUPPLY

Power to operate the crane shall be provided by diesel powered engine. The main power for crane functions shall be supplied by a diesel alternator set. The output of the diesel alternator set shall be sufficient to simultaneous hoist and trolley, gantry, and trolley, at the maximum rated load and supply adequate power for other crane functions (heating, air conditioning, lighting, etc.). Diesel engine shall operate with standard diesel fuel oil.

The diesel engine shall be housed in a weatherproof enclosure.

An Option for a hybrid version is requested.

6.0 ELECTRICAL EQUIPMENT AND DESIGN

A. General Requirements

Electrical components, equipment and installation shall comply with the latest revisions of IEC or NEC and NEMA standards. The electrical equipment and installation shall be designed to provide reliable power for continuous, precise, and rapid crane operations at the maximum specified ambient conditions at maximum rated loads and speeds with a minimum of down time.

Wherever possible, electrical components such as master switches, controllers, circuit breakers, limit switches and similar gear shall be of the same manufacturer, type and rating to facilitate maintenance and to keep required spare parts to a minimum.

The electrical installation shall comprise all the necessary drive control systems, transformers and appropriate power distribution as well as necessary motors, signals, indicators, instruments, alarms, protective devices, wiring, software and other features.

All enclosures of electrical equipment shall be arranged to minimize entry of dust and moisture.

Crane shall have the option for auxiliary shore power.

B. Space Heaters

Space heaters shall be provided for all control panels, drive cubicles, switchboards, brakes, alternators and motors. Space heaters shall operate from an auxiliary power supply that is energized when the main diesel alternator is not running.

C. Weighing System

The supplier shall propose an appropriate and reliable weighing system. The numeric load weight shall be provided to the operator. If the maximum load is exceeded, an audible signal shall be provided to warn the operator. The hoist shall stop and trolley and gantry motions shall be prevented when the maximum load is exceeded.

D. Lighting

LED lighting shall be provided throughout the crane to illuminate the operating area of the crane as well as along walkways and access points.

E. Emergency Stop Push Button

In the case operating personnel are required to stop the crane push buttons (mushroom headed) shall be provided, at a minimum, at the following locations:

- Operator's control console
- Trolley Frame
- Electric House
- Diesel Alternator House
- Ground Level
- At any other location deemed necessary by the manufacturer

F. Warning Devices

At each wheel bogie (4 corners), warning devices that sound and flash shall be provided whenever the crane is moving. The sound shall be a minimum of 105 dB(A). The warning device shall also activate when the crane is turning the gantry wheels.

G. Communication systems

i. Loudspeaker System

The RTG shall be equipped with a loudspeaker system allowing the operator to communicate to personnel within the vicinity of the crane.

ii. Warning Horn

Under the operator's cabin, an electrically operated signal horn shall be installed to warn personnel at ground level. The horn must be accessible to the operator.

iii. Additional Communication Devices

Adequate space shall be provided in the operator cab for communication devices provided by others.

7.0 CRANE CONTROL SYSTEMS

A. Anti-Sway System

Alternatively, to an efficient mechanical anti-sway system, the bidder may offer an electronic system to prevent spreader and/or container sway during operation. The system and the hardware shall operate under all weather conditions.

Sway control, regardless of being mechanical or electrical, shall restrict the pendulum to 50+/-mm at any lifting height within two swings, measured at the bottom corners of a 40' container or at the bottom of the empty container.

8.0 OPERATOR'S CABIN

A. General Requirements

The operator's cabin shall be mounted below the trolley to provide full visibility of all operations the crane is specified for. The cabin shall be weatherproof under all weather conditions and fire resistant.

The cabin shall be totally enclosed and weather tight. The cabin shall not be hit by a swinging spreader at maximum lighting height. The size of the cabin shall be as recommended by the manufacturer to provide the function outlined in the specifications.

Safe exit and entry to the cabin shall be provided.

Operator seat shall be provided to allow operator to safely operate the crane as intended by the manufacturer.

Windows shall be provided to give the operator full visibility of the container handling operations. Windows on the floor shall be clear 12mm safety glass and all other windows shall be tinted safety glass. Sun blinds shall be provided as recommended by the manufacturer.

Windshield wipers shall be provided as recommended by the manufacturer to provide visibility in adverse weather conditions.

Operator's cab shall be fully air conditioned to enable a temperature of 68^{o}F to 77^{o}F (20^{o}C to 25^{o}C) to be maintained at the specified temperatures and humidity. Control of the unit shall be accessible to the operator.

9.0 CRANE DELIVERY AND COMMISSIONING

A. Field Assembly and Testing

The operators shall include all necessary items to deliver, assemble, test and commission the cranes such that they are fully operational prior to the cranes being fully handed over to the purchaser. The cranes may be constructed on site or within the factory and delivered to the site. The purchaser will coordinate delivery, construction, and testing areas with the supplier.

B. Training

The supplier shall carry out the operators' training of the purchaser's staff during the on-site commissioning. The training shall include but not be limited to the following:

- Instructions and hands on training on the cranes start up procedure.
- Instruction on lighting control and communication.
- Instructions and hands-on training on normal container handling operation in the cab.
- Instruction on additional features of the crane that are utilized by the operator.
- Instructions and hands on training on the shutdown procedure.
- Instruction on use of equipment for emergency features, such as emergency stop buttons, escape routes, fire-fighting equipment, etc.
- The required time for training shall be specified in the contract as recommended by the manufacturer for a person with a basic practical working knowledge of their trade to adequately operate the equipment in a safe manner.

10.0 MAINTENANCE

A. General Requirements

All parts of the mechanical equipment that require adjustment, lubrication, inspection shall be accessible for routine maintenance and repair.

B. Operation And Maintenance Manuals

The operation and maintenance manuals as well as the spare parts manual shall cover all components installed on the crane including those of third-party suppliers. All manuals must be prepared and arranged in a user-friendly manner complete with detailed indexes, section dividers, cross-references, etc. Manuals shall be printed in English.

A minimum of two copies of Operating and Maintenance manuals shall be provided.

11.0 TECHNOLOGY

A. DGPS Auto-steering

Crane shall be equipped with an Auto-steering system to allow the RTG to travel on pre-programmed paths without driver steering actions. Details of the system shall be provided with the bid.

B. Container Handling

Manufacturer shall provide a system to optimize operations and increase performance through semi-automatic operation of the trolley, hoist and gantry. System shall work with the Terminal Operating System (TOS) to optimize movements throughout the facility for movement of the cranes and containers. TOS will be coordinated by the purchaser with the supplier. Details of the system shall be provided to the purchaser with the bid.

C. Truck Guidance

The manufacturer shall provide a system to help the truck driver stop at the correct position to allow for efficient loading of the trailer with limit gantry movements. The system shall be integrated with the TOS to provide information on the container location to properly position the truck in relation to the crane. The system shall provide a visual indication to the truck driver of the desired position. Details of the system shall be provided to the purchaser with the bid.

D. Container Tracking

The manufacturer shall include necessary equipment and software to coordinate with the TOS to provide position for containers within the facility. The system shall provide real-time container locations as they move within the operating area.

E. Automatic Positioning

Provide a system to assist the operator and stop the crane gantry and trolley at the pick location when instructions are received from the TOS. Details of the system shall be provided to the purchaser with the bid.

F. Stack Collision Prevention

Crane shall be equipped with technology to reduce the risk of collision with container while the RTG is operating. Details of the system shall be provided to the purchaser with the bid.

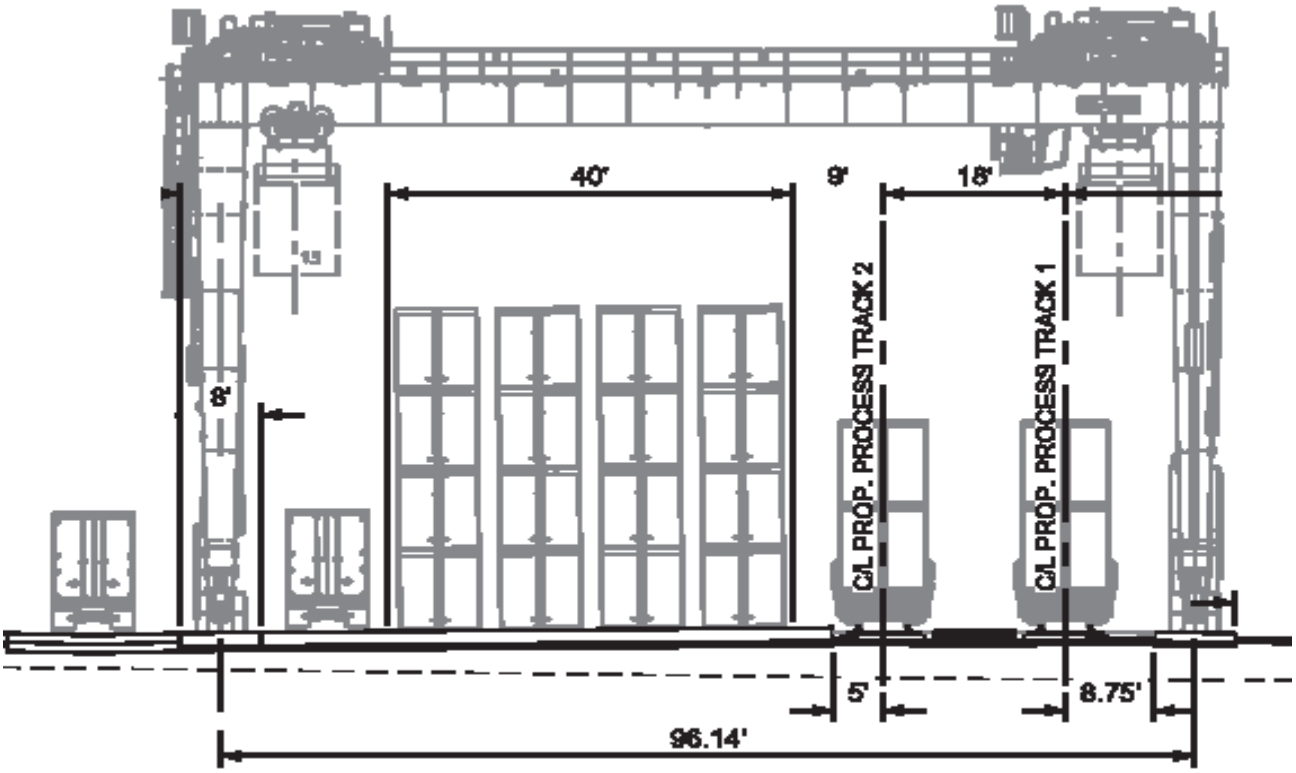
G. Remote Operation

Crane shall be designed and furnished with all required infrastructure and technology to allow future conversion to remote operation with only minor modifications not requiring the crane to be taken out of service for an extended period. Details of the system shall be provided to the purchaser with the proposal.

12.0 ADDITIONAL REQUIREMENTS

A. List Of Supplied and Operating RTG's

The manufacturer shall provide a list of RTG's with similar size and options in operation within the United States.



RTG CRANE TYPICAL SECTION