



## AUTOMATION INQUIRY PREPARATION QUESTIONS

1. Is the crane fully automated, or semi-automated? A semi-automated crane requires manual intervention during the automated sequence.

- Semi-Automated  
 Fully Automated

2. Is this a bucket/grapple crane? What type? Special sensing requirements?

Bucket/Grapple crane  Yes  No

Type of bucket/grapple  Dual Hoist (hold & close)  
 Electro-Hydraulic clamshell  
 All Electric clamshell  
 Other \_\_\_\_\_

Load Sensing Requirements  Slack cable  
 Top of pile  
 Weight  
 Other \_\_\_\_\_

3. Can the crane be used in manual mode as well as in auto mode? If so, what manual operator interface is used (i.e., radio, pushbutton pendant, cab master switches, etc.)?

Manual  Yes  No

Radio  Cab Master Switches  Pushbutton Pendant  
 Enclosure Mounted Pushbuttons  Other \_\_\_\_\_

4. Is there a specific brand of PLC required by the customer? Our standard is Allen-Bradley products.

Allen-Bradley  GE  Siemens  Modicon  
 Other \_\_\_\_\_

5. What is the general sequence of operation of the crane? (Attach info as required.)



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6. Are the hoist, bridge and trolley automated? Are any other motions automated?

Hoist  Yes  No  
Bridge  Yes  No  
Trolley  Yes  No  
Other \_\_\_\_\_  Yes  No

7. What positioning tolerances are required for all automated motions?

Hoist +/- \_\_\_\_\_ inches  
Bridge +/- \_\_\_\_\_ inches  
Trolley +/- \_\_\_\_\_ inches  
Other +/- \_\_\_\_\_ inches

8. Is there a preferred method for handling hoist, bridge and trolley positioning (such as lasers, encoders, resolvers, proximity sensors, etc)?

9. Which motions require encoders?

Hoist  Bridge  Trolley  Other \_\_\_\_\_

10. Are controls to be mounted on-board or off-board the crane?

On-Board  Off-Board

11. Does the crane interface with off-board equipment, such as a host computer, PLC, or other HMI operator interface devices? If so, how will communication be established between the on-board and off-board equipment (via radio, hardwired festoon, etc.)?

Interface Required  Yes  No

Method \_\_\_\_\_

12. Is anti-collision with another crane, personnel, etc., required?

Anti-Collision  Yes  No

Define \_\_\_\_\_



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13. How many motors for each motion? What are the horsepower and full load amp ratings of each motor? Do the motors contain klixons?

	Qty	HP	Full Load Amps	Speed (Ft/Min)	RPM	Klixons
<b>Hoist</b>						
<b>Bridge</b>						
<b>Trolley</b>						
<b>Other</b>						

14. What type of brakes are used? Does the hoist have a load brake? What are the brake voltages and amps?

<b>Brakes?</b>	<b>Yes</b>	<b>No</b>	<b>Voltage</b>	<b>Amps</b>
<b>Hoist</b>				
<b>Bridge</b>				
<b>Trolley</b>				
<b>Other</b>				

Hoist load brake?  Yes  No

15. What is the system power provided to the crane?

- 230 VAC 60 hertz 3-phase
- 460 VAC 60 hertz 3-phase
- 575 VAC 60 hertz 3-phase
- DC - Voltage \_\_\_\_\_

16. In what type of environment will the crane operate?

Indoor  Outdoor

Explosive?  Yes  No Class \_\_\_\_\_ Division \_\_\_\_\_ Group \_\_\_\_\_

Caustic Environment?  Yes  No

Ambient Temperature Range Min \_\_\_\_\_ °F Max \_\_\_\_\_ °F

17. What is the crane service class?

CMAA Class \_\_\_\_\_



18. What type of electrification is used for the crane – mainline festoon, conductor bar, etc.?

- Mainline Festoon     Conductor Bar     Other

19. Is the crane top-running or under-hung?

- Top-Running     Under-Hung

20. What is the travel distance for hoist, bridge and trolley?

Feet

Hoist \_\_\_\_\_

Bridge \_\_\_\_\_

Trolley \_\_\_\_\_

21. Are any specific beacons, lights, horns and alarms required?

22. Any special ratings of devices – NEMA, UL, etc.?

- UL  
 CUL  
 CE  
 NEMA  
 Other \_\_\_\_\_

23. What is the required enclosure rating?

NEMA \_\_\_\_\_

24. Is the project funded?

25. What is the schedule for placing an order & installation?

26. What is the driving factor behind the project (safety, health, environmental, productivity, etc.)?

27. How can we help determine ROI?