

## Drive System Upgrade on 33T Woodyard Crane

### FOR IMMEDIATE RELEASE

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Grapple



Trolley/Control Rooms

### Background:

The original variable frequency drives were standard PWM drives, utilizing Darlington type transistors. Drive failures were becoming more numerous and severe, and the availability of parts was becoming less, with increasing cost. Also, the customer was interested in improving the controllability and general operation of the crane.

### Project Scope:

Jo-Kell Inc. was contracted to provide the project management, engineering, drawings, documentation, equipment, and commissioning of the system. ABB Direct Torque Control (DTC) AC Drives were utilized. The hoist drive included crane firmware and encoder feedback. Standard open loop DTC drives were used on the travel motions. Both the trolley and gantry motions included multiple motors being powered from a single drive.

### Comments:

The new drive system has allowed for greatly increased "up-time" of the crane. The deceleration of each motion of the crane is done electrically, incorporating dynamic braking. This allows for the mechanical shoe brakes to be used for holding only, therefore, greatly reducing the "wear-and-tear" on the brakes, extended their life and lowering their maintenance requirements. Features such as S-Curve shaping allow for very smooth operation of each motion. The hoist drive allows for holding the load stationary with the motor only, no requirement to set the brake each time the hoist stops.

### Jo-Kell Engineered Solutions Group

Jo-Kell has over 10 years experience in Systems and Services. We take pride in supplying reliable, high quality products, systems and services to all of our customers.

### Credentials and Approvals

UL508 A Listed Facility - Industrial, Crane, Marine  
Certified Crane Integrator for ABB & Cutler-Hammer Drives  
Panels built to NEC Requirements, NFPA-79, IEEE, USCG and ABS Standards

### Systems Capabilities

#### Include:

- AC & DC Adjustable Speed Drive Systems
- Navy & Marine Control Systems
- Crane Drive Systems
- Motion Control Systems
- PLC and PC-based Control, Operator Interface & HMI / SCADA Packages
- Power Distribution Panels and Portable Carts
- Instrumentation Panels

### Service Capabilities

#### Include:

- Certified AC & DC Drive Start-Ups
- Drive Preventative Maintenance Programs
- Control System Troubleshooting and Repair
- PLC, HMI, and VFD Programming Services
- Training Seminars
- 24-Hour Service & Repair