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Kevin DuPont, Eaton Product Sales Manager, Fleet Maintenance Division.

Eaton Awarded Contract for Emsworth Locks and Dams Overhaul

Location:

United States

Segment:

Civil construction

Problem:

Customer unaware of Eaton's civil engineering capabilities, expertise and support

Solution:

Going after the business with a multi-functional team endorsed by Eaton management, being proactive in presenting Eaton strengths during the bidding process, and submitting a proposal with a clear value proposition

Results:

Eaton selected as key supplier for hydraulic systems and related installation services

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Background

Eaton products will play a vital role in ensuring reliable navigation on the upper Ohio River.

Eaton will be a key supplier in the rehabilitation of the Main Channel Dam at the Emsworth Locks and Dams, built in 1938 on the Ohio River near Pittsburgh, Pennsylvania.

The milestone contract marks the second opportunity for Eaton's Hydraulics Group to support a major North American civil construction project funded by the U.S. Army Corps of Engineers.

The Corps of Engineers Pittsburgh District has selected Joseph B. Fay Company of Tarentum, Pennsylvania, as the prime contractor for the three-year rehabilitation project. Fay Company's Heavy Civil Division has subcontracted Eaton to supply hydraulic systems, including cylinders, hydraulic power units, valve manifolds, and other components, and related installation services that will be used in

the replacement of gate operating machinery for the Main Channel Dam's eight lift gates.

Challenges

Eaton's pursuit of the Main Channel Dam business followed its unsuccessful bid for hydraulics work on the Emsworth Back Channel Dam that was upgraded in 2006. The unsuccessful attempt, however, helped Eaton become familiar with requirements of the Army Corps of Engineers and better position itself for business on the Main Channel Dam that came up for bid in 2008.

Still, the challenges ahead were many, says Eaton's Kevin DuPont, product sales manager.

"We knew full well going into the project that the Corps of Engineers selected competitive hydraulic products for the Back Channel Dam upgrade," DuPont says, "and that the competitor would be the only other bidder on the Main Channel Dam project.

"The Corps of Engineers, however, wasn't the only sector unfamiliar with our products and capabilities. We had never done business with the folks at Fay Company, so they were unfamiliar with us as well.

"The bottom line was that none of the parties involved knew each other, Eaton was relatively new to the market, and Eaton was not the incumbent hydraulics source for the Emsworth Locks and Dams."

Solution

Eaton upper-management personnel gave the project a full-throttle endorsement by appointing a multi-functional team headed by DuPont and Keith Kingsbury, engineer on Eaton's Application and Commercial Engineering (ACE) team.

The team sat down and examined the bid parameters that specified the competitive products "or equal products." While formulating their formal proposal, the team members met with Fay Company



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representatives several times to reinforce the fact that Eaton offers virtually all the hydraulic system components used in the industry. The discussions documented several examples of Eaton products at work in global civil construction projects, such as Lock 19 on the Upper Mississippi River, Eaton's first civil construction project with the Army Corps of Engineers; the Panama Canal; and the South Korea Saemangeum Dam.

In addition to educating Fay Company on Eaton's strengths, the meetings helped the Eaton team identify areas in its proposal that would provide clear value to the customer. The proposal stressed that the specified products would be produced primarily by Eaton facilities in the U.S., resulting in a pricing advantage for the customer.

Another primary selling point in the proposal was the fact that Eaton would be able to meet Fay Company's extremely tight delivery schedule that called for the delivery of at least four main cylinders to the jobsite in 2009.

"Lift gates have to be completely shut down in order to be changed out with new operating machinery," DuPont says. "Since the gates can't be shut down during periods of high water, which generally occur during the winter months, much of the work would need to be completed this summer and fall. We identified the lead-time for each cylinder and other components involved and a proposed delivery date for each,

all of which were well within the delivery window."

Yet another critical element in the proposal was the fact that Eaton could provide hydraulic cylinders with two important requirements: anti-corrosion protection and position sensing. Extensive documentation was provided on Eaton's Hypos position sensor, which is a precise measurement system integrated into the cylinder, and its robust Application-Based Coatings (ABC) that provide an added layer of anti-corrosion and anti-wear protection in harsh environments.

As the Eaton team was busy polishing its proposal, Fay Company asked Eaton to address other areas, such as installation services, tax issues, and bond issues—all of which Eaton responded to by expanding the team to include additional cross-functional members.

Results

After closely examining both bids for hydraulics work on the Main Channel Dam, Fay Company recommended that Eaton be awarded the contract, and the Corps of Engineers agreed.

"Being proactive in presenting our strengths well before submitting a bid was a key factor in Fay Company's decision," DuPont says. "Once they had our contract in hand, the folks at Fay Company were well aware that Eaton could provide critical project management and on-time product delivery."

DuPont also gives credit to

Eaton's upper management for the business win.

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The Controls and Power Products Divisions of Eaton's Hydraulics Group will provide the following products for the Emsworth project:

- Controls
 - **Custom Hydrowa® cylinders**—Provide the force necessary to raise and lower the vertical lift gates. The cylinders' double trunnion design enables the cylinders to operate beyond their fixed stroke via a staging process.
 - **Cardan rings**—Provide mounting framework for the main cylinders
 - **Suspension hook cylinders**—Move suspension hooks into place, thereby supporting the gates when in the fully raised position
 - **Dogging pin cylinders**—Secure dogging pins in the Cardan rings to the main cylinders
 - **Dogging beam cylinders**—Move dogging beams into position to support the lift gates, as cylinders are moved from the upper trunnion to the lower trunnion

- **Custom brush systems**—Prevent wildlife from entering machinery houses
- **Bellows and bellows covers**—Provide main cylinders with protection from the elements during movement to the lower trunnion
- Power
 - **Custom hydraulic power units**—Replace antiquated chain and sprocket operating machinery
 - **Custom valve manifolds**—Empower gate raise/lower, staging, dogging, isolation, maintenance, and safety functions
 - **Electrical controls**—Provide programming and precision necessary for all hydraulic components to work together

Eaton will begin supplying components for the Emsworth Main Channel Dam upgrade in the third quarter of 2009, with anticipated completion of the project in 2011.



Eaton's supply for the Emsworth Main Channel Dam upgrade will include custom double trunnion cylinders equipped with the Hypos position measurement system

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Printed in USA
Document No. E-HYGN-MS007-E
April 2009