



CUP-BB1 pump package rapid response solution

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| Industry: | Oil + Gas - upstream oil |
| Region: | Americas |
| Territory: | Venezuela |
| Category: | Rapid response |
| API Type: | BB1 |

ClydeUnion Pumps Aftermarket Technical Services team has experience across a range of services on critical rotating and reciprocating equipment to improve operational safety, reliability and efficiency. The rapid response of the CUP-BB1 pump for the oil and gas market is one of our success stories documented in our library of case studies. These case studies highlight the requirement from the customer, how we achieved the goal and the process we followed to deliver the improvements.

Image left: Worthington 10LN pump

Situation

This project required an 11 week delivery for a completed pump package (including base plate, motor, and mechanical seals) to satisfy operating conditions of 4770 USgpm @ 308' TDH.

Due to the short lead time available to meet the customer's request, a new complete pump offering could not be considered for this application. Therefore, a refurbished Worthington 10LN pump was purchased from a surplus pump vendor (above image), along with a refurbished 500 HP 6600 volt Westinghouse motor.

Challenge

This project presented a number of difficult challenges due to the lead time and customer requirements. First, the bare shaft pump was dimensionally inspected at our service centre (Figure 2), overhauled by the service centre and sent for performance testing



Figure 2: As found surplus pump

to verify the hydraulic performance, vibration and noise levels. This was completed at our test facility in Battle Creek, Michigan.

A list of recommended spare parts were re-engineered and assigned part numbers.

Aftermarket engineering also designed an API 610 construction baseplate for the refurbished pump and motor taking into consideration the customers existing pump dimensions and limitations on available foundation.

The refurbished 500 HP motor was rebuilt with new bearings. All mechanical fits and tolerances were checked and brought back to proper specification. Performance testing of the motor was witnessed by aftermarket engineering. Mechanical seals were specified and installed.

Solution

A ClydeUnion Pumps serial number was assigned to the pump and a bill of material was created for the recommended spare parts which will allow for ClydeUnion Pumps to take ownership of the pump and provide future spare parts. The complete unit (Figure 3) was delivered on time and to customer specification.

Financial analysis

- Lead time – 11 weeks
- Alternate new equipment lead time – 36 weeks
- Project time savings – 25 weeks

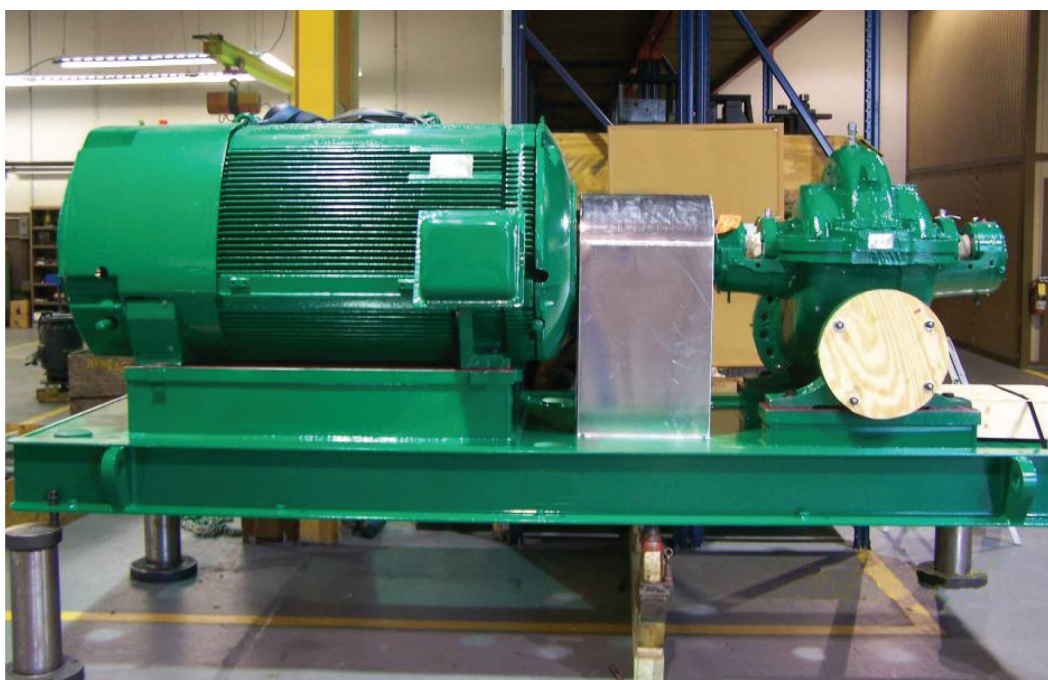


Figure 3: Completed unit



P: +44 (0)141 637 7141 F: +44 (0)141 633 2399 E: cu.sales@spx.com

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Ref no: CS-BB1-P-OG-01 Rev no: 002 UK

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