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| Client: <i>Alcan Primary Metals</i> | Industry: <i>Industrial</i> |
| Scope: <i>Leaking Pipe Work</i> | Date: <i>January 2003</i> |
| Location: <i>England, UK</i> | Product: <i>Epo-chem™ RA 500 Series</i> |

Overview

Chemco were requested by the senior mechanical engineer at Alcan Primary Metals to provide a repair system, that would not require a process shut down, to a leaking section of 60" (1,500mm) diameter of their main cooling water pipe work. The pipe work carries seawater which is used for cooling on the main condensers. The problem was perforation, close to both the VJ coupling and the pipe flange adjacent to a butterfly valve. Photograph 1 shows the extent of the leakage and the pressure involved.

Challenge

Carrying out this repair whilst on load. Isolation of this section of pipe work would result in the station having to shut down one of the generation units with considerable loss of revenue. Chemco carried out an inspection to assess the safety implications, feasibility and techniques to be employed in this critical contract. The decision was taken that by utilising Chemco special wet-tolerant polymer technology and mechanical engineering, the problem can be sorted in a very quick and cost-effective manner.

Solution

The decision was taken to manufacture a split clamping ring, designed to fit between the VJ coupling and the flange. Utilising the amazing ability of Epo-chem™ RA 500 to cure and seal underwater, the area of damage was reduced by the clamp ring being secured, leakage was reduced to a few drops per minute. Further applications of specially reinforced Epo-chem™ RA 500 laminating resin, developed for application in wet conditions, stopped the leak completely. The patch repair was completely successful until the next scheduled shut-down. Photograph 2 shows the successful sealing of the leak.

Outcome

A very costly shut-down was avoided at an extremely low cost. The contract was carried out in a safe, efficient manner and within budget.



Photographs:

- No. 1 The leakage of the pipe
- No. 2 The sealed pipe



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