CASE STUDY

Deep pitting and corrosion damage (.025"deep) caused major refuelling problems.

Brush Plating repair done during an outage in 3hours of work at the reactor face.

Repair tested positive and equal to original sealing pressure limits.

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End Fittings with Seal Face Damage

Canadian Metal-ad Corporation is proud to announce the development of a now proven repair procedure for End Fitting leak problems. Recent work completed at Romania's Cernavoda NPP marks the 10th successful in-situ End Fitting repair using the CMC Brush Plating process.

IN-SITU REPAIR PERFORMED ON END FITTING AT BRUCE "B" NPS – ONTARIO CANADA - 2005

REPAIR OF THE E FACE SURFACE PRIOR TO THE START UP OF WOLSONG 2 - SOUTH KOREA - 2002

Selective Electrochemical Deposition Metallizing (SEDM) is the term given to describe the Metal-ad process of small area plating without the use of immersion. The process is also referred to as Brush Plating or Electrochemical Metallizing (ECM). Similar in technology to tank electroplating, Metal-ad SEDM electrolytically deposits a wide range of engineering metals out of specially prepared solutions. Due to its pinpoint accuracy in area and thickness, Metal-ad SEDM often requires no post surface finishing of the deposit. Being a mobile process, it is the preferred method of metal build-up on parts too large or difficult to disassemble or remove.

During an outage severe impact damage was discovered on the seal face of an End Fitting and it was determined that there was a high potential for leakage during the refueling process. Many possible repair methods were considered. Brush Plating was chosen for its reliable bond strength and hard porosity free deposit, additionally, very little heat is generated throughout deposition process.

Canadian Metal-ad Corporation was contacted about this problem on a Monday, had a technician on-site in South Korea by Thursday, and completing the job by Saturday. Actual repair time was less than 4 hours, minimizing the operator's exposure to the high fields associated working on the reactor face.

This is the second time Korea Hydro has encountered damage of this type and in both instances CMC was contracted for the repair.