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Corrosion monitoring trials to understand the effect of changing water sources on existing water transport infrastructure.

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Abstract

Internal corrosion will inevitably occur on metallic water transport infrastructure throughout their service life. Development of surface films may limit the progress of corrosion but these films can be disrupted if alternative water sources are introduced to transportation pipeline infrastructure.

To obtain data on the effect of changing the supply water source, a specialist, multi-channel corrosion monitoring test facility has been developed to allow corrosion trials to be undertaken to monitor for changes in corrosivity using methods of Linear Polarisation resistance (LPR) and Electro-Chemical Noise (ECN), in conjunction with measurement of pH, temperature and flow rate.

Corrosion trials have been undertaken with a water industry partner, and this paper will describe the monitoring system and outlines the initial results from the trial.