PearlStreet

WATER INDUSTRY CASE STUDY

SPECIALISED MAGNETIC FLUX LEAKAGE TO ASSESS TANK CORROSION

SERVICES: NDT, Shutdown Planning & Execution

THE PROBLEM

The water shortage across Australia means that maintaining water storage assets is a critical environmental engineering activity. A water infrastructure owner became aware of potential problems associated with the integrity of tank floors in a large number of their storage reservoirs. Over a prolonged period of time a serious corrosion problem was evident. The potential failure of a large number of assets within a short period of time was a concern.

THE CHALLENGE

To assess the extent of the corrosion problem for each individual asset and prioritise maintenance work to avoid asset failure without enduring significant outage periods.

OUR SOLUTION

Co-develop, with the customer, specialised testing procedures involving scanning tank floor plates using state of the art magnetic flux leakage (MFL) equipment and analysis tools to determine location of top and bottom side metal loss. The results highlighted corroded areas for ultrasonic follow up to verify the remaining thickness.

FEATURES

- Automatic generation of CAD drawings of the tank floor highlighting location, severity and profile of corroded areas
- Automatic generation of 'designs' for metal plates to be welded over damaged areas thus providing a detailed patch plate repair list

BENEFITS

- Very significant time savings achieved when compared with traditional MFL tank scanning
- Automated prioritisation of maintenance work based on severity of corrosion
- Improved customer capability for maintenance expenditure forecasting and scheduling for outages