



# Ultrasonic Inspection Dead Leg Pipe Supports Corrosion Inspection

## BACKGROUND:

Dead Leg Pipe supports are prone to corrosion on the inside of the bend, which is usually where the support is attached. In addition; in certain service conditions, the outside of the bend may corrode through condensation being trapped at the support. A technique has been developed which can detect and qualitatively evaluate the presence of corrosion at the bend (Figure 1).

## TECHNIQUE:

This technique requires the application of two Ultrasonic Shear Wave probes, which integrate within the area behind the welded pipe. One probe transmits the sound while the other receives in a “pitch-catch” mode (Figures 2 - 4). The dimensional relationship of one transducer to another is critical to ensure that the potential area of corrosion is thoroughly examined.

## CONCLUSION:

This technique provides a method for allowing a non-intrusive inspection of the dead leg pipe support, which can prevent unexpected leaks between routine inspections and/or reduce the requirement to radiograph in units where radiation may upset the process.

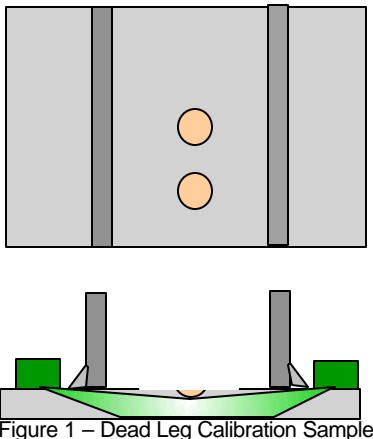


Figure 1 – Dead Leg Calibration Sample

Clear plate, on weld.

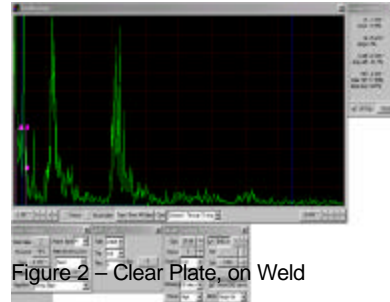


Figure 2 – Clear Plate, on Weld

Smallest defect on cal plate.

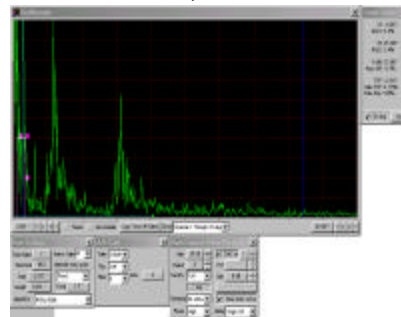


Figure 3 – Smallest Defect on Cal Plate

Largest Defect on cal plate.

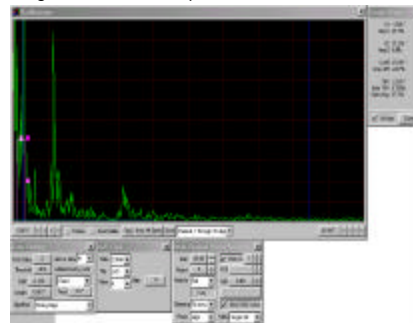


Figure 4– Largest Defect on Cal Plate