

Pipeline Integrity and
Monitoring Technology
in the State of California:
**Catalogue of Technology
Assessments**

January 2012

Section 2.1: Internal and External Assessment and Inspection Methods

Alternating Current Voltage Gradient

Method

External Inspection Method

Description

Alternating Current Voltage Gradient (ACVG) A-Frame

Strengths

Connects to pipeline mappers (PCM) for pipe locating and depth, does not require drilling in asphalt, precise defect location

Weaknesses

May not find disbonded areas. Relatively inexpensive

Manufacturers

Radiodetection



Utilities Using Technology

Multiple

References

NACE SP0502-2010

Broadband Electromagnetic Technology

Method

External Inspection Method

Description

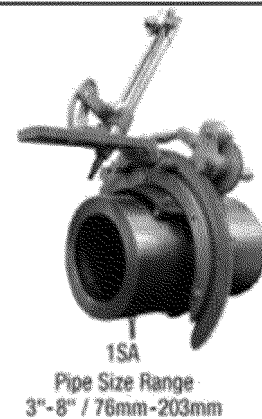
Technology induces eddy currents to flow in close proximity to a transmitter/ receiver in a ferrous pipe. These currents migrate time, allowing a complete profile of the ferrous pipe to be obtained. The technique scans through the full wall of the pipe registering corrosion or flaws within the full wall thickness

Strengths

Scanning is not limited by the diameter of the pipe. Equipment has the ability to survey through thick coatings (>2") of materials such as paint, tar, plastic, and concrete commonly found on many buried and exposed pipelines. The pipeline does not have to be taken off-line, as readings are taken from the outside of the pipe. Through-hole technology.

Weaknesses

Unit might miss small detailed clusters of cracks. Rather it will indicate a wide/shallow depression of wall loss. Cannot differentiate from ID/OD ferrous loss. Reading based on % wall loss relative to "good" wall.



Manufacturers

RockSolid Group/GTI

Utilities Using Technology

Australia

References

<http://www.rocksolidgroup.com.au/admin/file/content103/c3/bem%20brochure%20a4.pdf>