

## Lamb Wave Crawler

### Background

The Nuclear Energy Institute (NEI) guideline, NEI 09-14, Guideline for the Management of Underground Piping and Tank Integrity, specifies that inspections must be performed on buried pipe at nuclear power plants. Based on the number of materials, systems and geometries that are involved in buried pipe applications, a variety of inspection techniques are applicable.

Westinghouse, through its subsidiary WesDyne International, has developed the Lamb Wave Crawler to facilitate this inspection process from the inside of the pipe. With no excavation needed and only a clean, narrow path required for direct contact, the Lamb Wave Crawler can map the condition of almost any pipe.

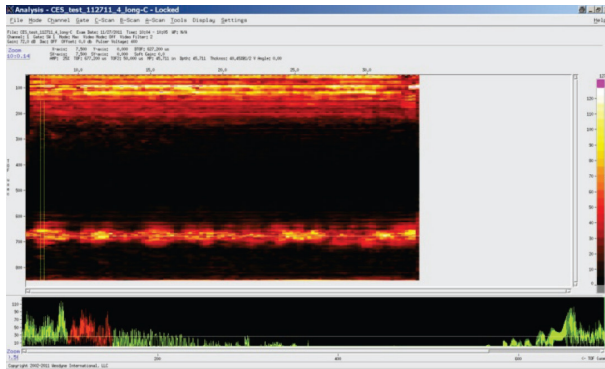
### Description

The Lamb Wave Crawler technique is the latest in WesDyne's innovative technology. This automated scanning system uses lamb waves to map the pipe condition and/or weld from the inside of the pipe. With its onboard ultrasonic testing system and innovative probe deployment system, this crawler can access pipes with inside diameters ranging from 22 to 36 inches (55.9 to 91.44 cm).



Lamb Wave Crawler

In preparation for the different types of pipe materials, a unique signal processing software was developed to enhance the resolution for the Lamb Wave Crawler. This enhanced resolution displays reliable results that allow users to easily view indications of pipe corrosion.



Software displaying a two-dimensional representation of a pipe weld

## Experience

WesDyne International has used this technology on many different types of inspections, including:

- Pressure heater sleeves
- Steam generator tubing
- Satellite fuel tanks

## Benefits

- Minimal pipe cleaning required for direct contact
- No excavation needed with pipes that have a 22- to 36-inch (55.9- to 91.44-cm) entryway
- Multiple software settings for mapping different types of pipe material
- High resolution for easy-to-read data

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