High-Energy Piping Creep Inspection

UTILIZING PROPRIETARY MATRIX FOCUSED PHASED ARRAY (MPA) ULTRASONIC TECHNOLOGY

TEAM®

The earliest detection method
for creep damage inspection

High-energy piping presents particular challenges for risk management because of its structural complexity, combined with the difficulty of inspection. TEAM Industrial Service's proprietary matrix focused phased array (MPA) is a new non-destructive ultrasonic field inspection system designed specifically for analyzing the integrity of high-energy piping and identifying high temperature creep, fatigue, creep-fatigue, thermal shock, ratcheting and flow accelerated corrosion.

The TEAM system provides 100% coverage of the expected creep initiation zone as the scan is performed along the entire weld axis versus a typical APA coverage of less than 8%. Additionally, the system:

- Combines the best aspects of both Linear and Annular Phased Array (LPA & APA)
- Achieves 2D focusing with a 128 element matrix probe
- Detects down as low as 40% to 70% expended life, almost twice as early as other methods – Linear Phased Array & TOFD only detects creep damage at ~85% expended life
- Detects aligned cavitation and heavily clustered isolated cavitations

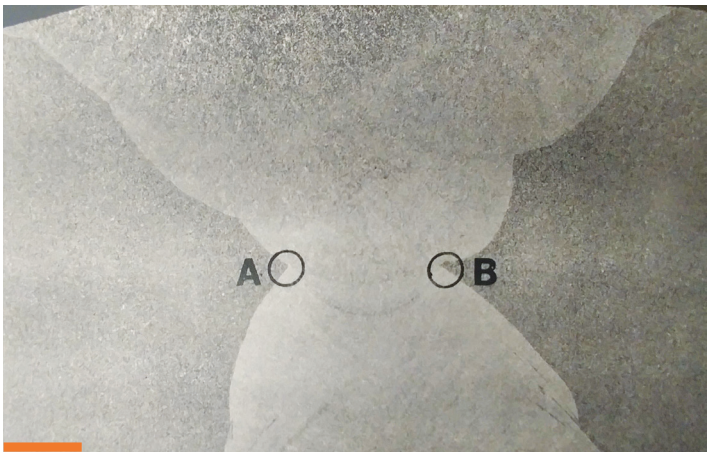
TEAM Industrial Services 13131 Dairy Ashford Road, Sugar Land, Texas 77478
Toll Free 800.662.8326 | contact@TeamInc.com | **www.TeamInc.com**

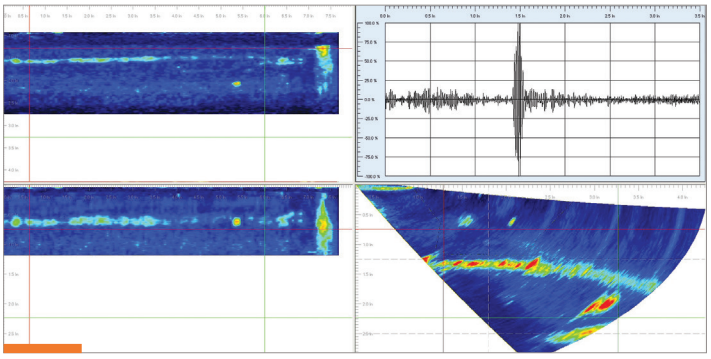
Features

- Equipment is portable and sets up quickly
- Applicable on high-energy piping welds from 6” OD and larger on both girths and long seams
- Custom designed, ruggedized phased array hardware
- Custom phased array software allows for multi-zoned focused ultrasonic inspection and Dynamic Depth Focus (DDF)
- Proprietary 128 element segmented annular phased array probes

Benefits

- Increases the confidence and accuracy of HEP remaining life assessment
- Allows for data collection and evaluation via rapid scanning at speeds of conventional LPA with the detection level of APA and the additional advantage of inspecting virtually 100% of the weld length
- Detects aligned cavitation and creep micro-cracking in P11, P22 and other low alloy carbon steels





Quest Integrity

Utilizing the inspection results, Team’s Quest Integrity Engineering Division can provide in-depth assessment and analysis services including:

- Creep Redistributed Stress Analysis
- Finite Element Analysis
- Fitness for Service assessments and other remaining life assessments

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