



# REHABILITATION OF BURIED PIPE

United Engineers & Constructors is a full service provider of engineered solutions for mitigation, repair, and/or rehabilitating of degraded underground and buried piping. Cured in Place Piping (CIPP) is a trenchless repair method, which does not require uncovering the buried pipe.

## Cured In Place Pipe

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This type of repair requires the insertion of a carrier tube, containing thermosetting resins and reinforcement fillers into the host pipe. The length of the carrier tube is only limited by the pot life of the resin and restrictions of piping geometry. Once the insertion is completed, the resin is cured using hot water, air or steam, which is circulated through the host pipe. After curing, the resultant product is a form-fitted structurally reinforced resin pipe within the existing host piping. This methodology provides a technically sound and economically feasible solution to buried piping repairs.

## Complete Engineered Solution

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United provides a complete engineered CIPP Nuclear Rehabilitation Solution. Key characteristics include:

- Customized CIPP design for structural repairs
- Validation of Mechanical Properties (Tensile & Flexural) Through Materials Test
- Commercial Grade Dedication
- Qualification of Installers
- Preparation of Site Specific CIPP Installation Procedures
- Installation Mock-ups
- All Work Performed Under a 10CFR50 Appendix B Program
- Installation Oversight



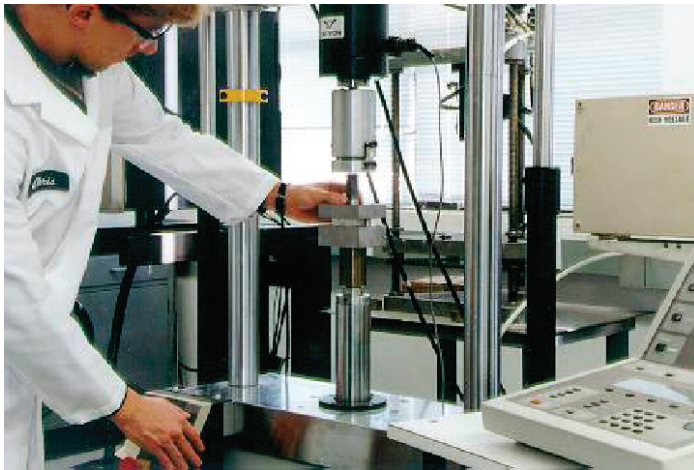
# INDUSTRY LEADING EXPERTISE IN ENGINEERING AND IMPLEMENTATION OF NUCLEAR SAFETY RELATED CIPP

## Commercial Dedication

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United's commercial dedication capabilities ensure adequate attention is given to:

- Single lot of materials for mockups and final installation
  - Carrier tube
  - Epoxy
  - End Seals (retaining bands, rubber, shims)
- Material Identification
  - Confirmation of CMTRs, CoCs, etc.
- Evaluation of critical parameters
  - From qualified installation mockups
  - Mechanical (Impact, flexural, tensile, peel, etc.)



## United Experience and Expertise

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United's team of experts have the experience and technical expertise to ensure a successful implementation of CIPP.

- VC Summer Trains A and B 8-inch Service Water CIPP Projects.
- Calvert Cliffs Unit 1 and 2, 30 and 36-inch Buried Pipe Sleeving. Approved NRC Relief Request
- ANO Unit 2, 30-inch Emergency Cooling Water (ECW) CIPP Project
- Co-authors of EPRI Non-Metallic Repair and Relief Request Guidelines
- ASME and ANSI Pipe Code Experts

Additional attributes that separates United from the competition include:

- Experience in the installation of CIPP in many infrastructure installations
- Familiarity with nuclear facility procedures and processes
- Nuclear level QA program
- Decades of experience at generating facilities

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## About United

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United Engineers & Constructors is an industry leading infrastructure engineering, procurement, construction and consulting company dedicated to improving lives by delivering the most impactful solutions. Since 1905, we have served the power industry by providing comprehensive lifecycle services for the nuclear, conventional generation, renewable, and distributed energy markets.

Together with our clients and partners, we are unified in our efforts to deliver innovative and transformative infrastructure that is designed and built to meet the demands of today and the future.

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### To learn more contact

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