

Core Exit Thermocouple Repair and Replacement



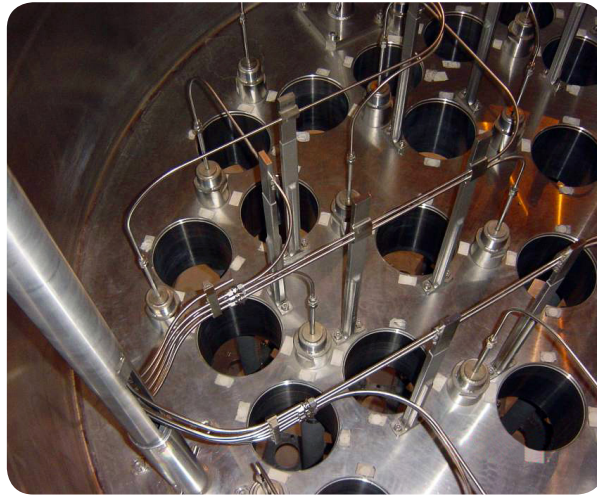
Reduces dose and precludes damage to conduits.

Innovative Vibratory Method

More plants have to replace their aging thermocouples (TC) because of surprise events or damaged connectors. An older industry removal method put a tremendous strain on the thermocouples, often causing breakage. AREVA now offers a safe solution by removing your old thermocouples with vibrations.

Removal using the vibratory system

The TC removal tool causes the thermocouples and conduits located above the upper guide tube plate to vibrate. Prior to removal of the thermocouples, AREVA inspects the upper guide-tube plate.



Three Step Method

- 1** From the platform, the operator lowers the vibrator located at the end of the pole into place above the upper internals.
- 2** Guided by the CCTV image, the operator connects the vibrator to the conduit.
- 3** The resonant frequency is determined and the operator starts removing the thermocouple.

Components

- Removal System
- Pole fitted with an instrumented pneumatic vibrator and an air-operated gripper, which can be angled or straight, depending on the requirement for a vertical or horizontal excitation
- Remote control panel to guide the tool and determine the resonant frequency of the conduit

Remote Operation Enhances Safety

AREVA removes thermocouples remotely under water, providing biological shielding and reducing operator exposure.

Control at All Levels:

- Less static pulling required to remove
- Removal system controls speed and pulling tension
- The pole/ vibrator/ gripper assembly controls vibration
- The remote control panel controls pulling tension, vibrations and vibration frequency

Caring for the Environment

The vibratory system generates no waste, is non-intrusive and requires no chemical substances. Plus, AREVA's high success rate means fewer repairs required on your upper internals and less waste generated.

Benefits

- An innovative, fully-mastered solution to meet customer requirements
- Less pulling tension for safer thermocouple removal
- Simple, easy-to-use tool
- No damage to conduits
- Reduced operator exposure = less dose
- High success rate
- Secure access according to AREVA standards
- Less risk of contamination and irradiation for operators



**AREVA has removed
90% of the industry's
thermocouples.**

AREVA Inc.

155 Mill Ridge Rd., Lynchburg, VA 24502

For more information, contact

John Peters

Sr. Manager of Innovation and Technology

John.Peters@areva.com

(434) 832-3077- Office (434) 841-0988 - Cell

Levi Johnson

Business Development Manager

PWR Reactor Services

Levi.Johnson@areva.com

(434) 832-3351 - Office (434) 944-3122 - Cell

Kenneth Coffey

Technical & Logistics Manager

PWR Reactor Services

Kenneth.Coffey@areva.com

(434) 832-3070 Office (434) 907-9023 - Cell

or your VP, Key Accounts:

Tel: (704) 805-2305 – Fax: (434) 382-5629

regional.manager@areva.com

www.us.areva.com

The data and information contained herein are provided solely for illustration and informational purposes and create no legal obligations by AREVA. None of the information or data is intended by AREVA to be a representation or a warranty of any kind, expressed or implied, and AREVA assumes no liability for the use of or reliance on any information or data disclosed in this document. ©2014 AREVA Inc. All rights reserved.