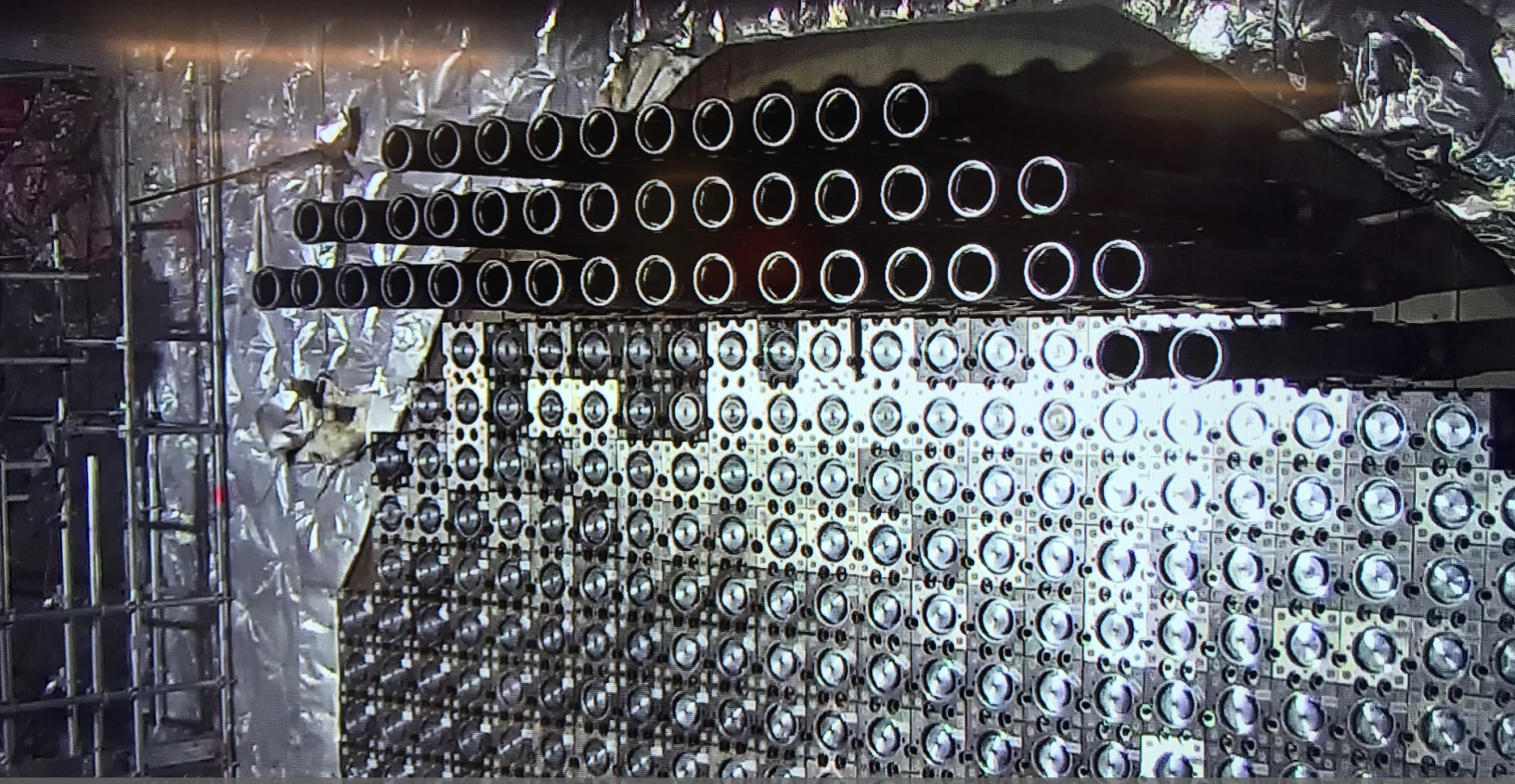

Annulus spacers play a critical role in maintaining the gap between the pressure tube and calandria tube inside a nuclear reactor's fuel channel.

A quick primer on annulus spacers

What is an annulus spacer?

The annulus spacer is a garter spring that plays a critical role in maintaining the gap between the pressure tube and calandria tube, ensuring there's no contact between the components.

Why did they need to be removed?

Like any component in a reactor, knowing how long it will safely perform its function is critical. Periodic testing and inspection of the annulus spacers provides the necessary knowledge and confirmation that the components can continue to function for the service life of reactors. This work is aimed at supporting previous studies on the spacers, which assist in setting dates for future unit refurbishments.

Springs removed from Darlington's Unit 2 have been sent to Canadian Nuclear Laboratories in Chalk River for analysis.

Why was a different toolset necessary?

After reviewing external and internal operating experience regarding the original toolset, OPG determined that a modified version was required to ensure the retrieval could be executed event-free and would not impact the project schedule. Laveer Engineering and Promation, both subcontractors to the Joint Venture Group (Aecon and SNC-Lavalin), redesigned the tool based on industry operating experience.

How did it go?

Removal of annulus spacers took place over the 2018 New Year's weekend. The work was completed safely and with quality, and a half-day ahead of schedule.