



Код: 10934

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Electromagnetic Eddy Current Sensors for Evaluation of Sea-Cure and 2205 Duplex Condenser Tubing

Дрезден, Германия, 2012 год

8 стр; формат: 23,5 x 16 см; библиографический список: 2 единицы

As more condenser tubes are replaced with high performance, thin-walled ferritic stainless steel tubing such as Sea-Cure and 2205 duplex, more attention is needed to address inspectability of such tubing, especially in both tube free spans and tubes under support plates. EPRI has been examining this issue by evaluating both mockups and field-removed tubes, and by conducting field trials utilizing both magnetically-saturating eddy current probes as well as combination Saturn probes that inspect and characterize both tube free spans and tubes under support plates using innovative probe designs.

This paper presents results of one such evaluation by reviewing a field-removed Sea-Cure tube section containing impingement pits in a steam eroded condenser tube section. Also, details of the 2205 duplex tubing mockup evaluation will be presented based on the application of both magnetically-saturating eddy current and combination Saturn probes.

Доклад. 6-я Европейская конференция по мониторингу технического состояния сооружений, 2012. Редакция Кристиана Боллера.

Ключевые слова:

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Sea-cure reference standard
Sea-cure calibration standard eddy current signals
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2205 duplex reference standard
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