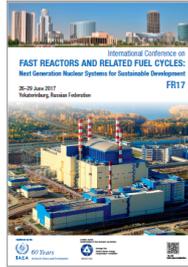


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Main R&D objectives and results for under-sodium inspection carriers – Example of the ASTRID matting exceptional inspection carrier.

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In Service Inspection (ISI) of sodium cooled fast reactor prototype ASTRID implies a large R&D effort for associated tools: among others, a specific articulated carrier is being designed to allow exceptional ultrasonic controls of under-sodium core support structure (strongback) at about 200°C.

This carrier has to reach deep in the main sodium vessel and yet adapt to the many different weld positions of the strongback, while being simple and robust. Its design thus includes a hollow rigid pole inside which a specific chain can deploy its ultrasonic transducers bearing head in several directions.

But first the specific components needed for this carrier have to be developed and tested for these harsh “sodium” conditions : small electrical motor (reducers, sensors), dry bearings, elastomers for leaktightness...

Consequently a large qualification program is starting involving tests to be performed with specific samples and prototypes, in air at 200°C, in water, then in sodium.

Country/Int. Organization

FRANCE / AREVA NP / CEA / EDF

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