

# Core Mapping and Gap Measurement



Increased asset protection with reduced schedule impact

## Every Innovation Has a Mission

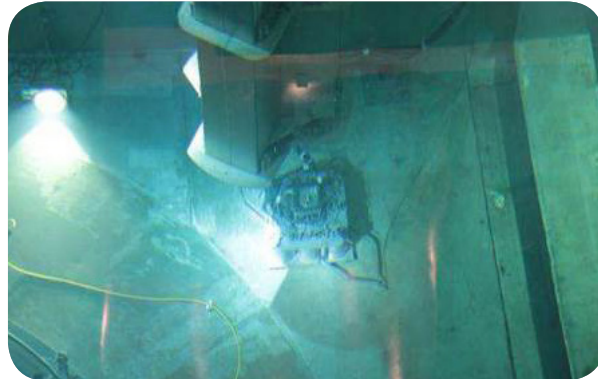
One of utilities' top priorities in the 21<sup>st</sup> century is securing their operational excellence. Tangible results that ensure safety, quality, performance and delivery are paramount. Your teams can count on AREVA to deliver results that:

- Reduce cost
- Reduce critical path time
- Reduce overall dose
- Increase task safety and efficiency
- Resolve emergent issues quickly
- Improve plant performance and reliability

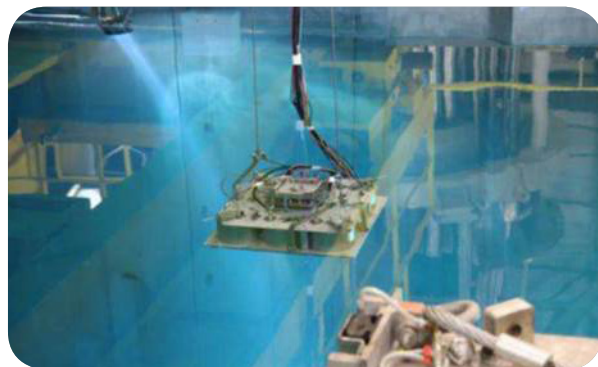
## Core Mapping & Gap Measurement

The main steps for core mapping and gap measurement (absolute cartography) include:

1. Tool handling under water.
2. Top nozzle assembly mounted to camera system allows refuel machine to easily latch onto staged system in upper cavity.
3. Core data acquisition & results (one high-resolution picture per assembly).
4. Report issued that includes the serial number of each assembly as well as the "S" hole location and conformance locally and for the entire core.



*Gripper engagement by the refueling machine into a top nozzle assembly mounted to the camera system*





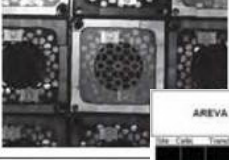
*Tool handling under water*

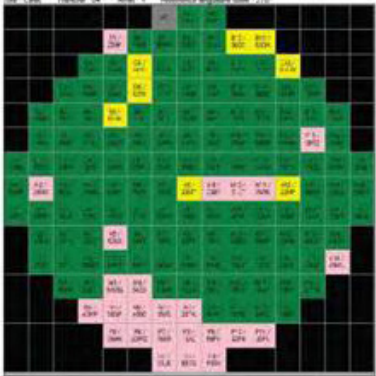
## Features and Benefits

- Accomplish three tasks simultaneously:
  - FME scan of top nozzles post core-reload
  - Core mapping with serial numbers recorded for each assembly
  - Gap measurements with results provided as soon as the final picture is taken



Core data acquisition (same number of high-resolution pictures as number of fuel assemblies)

AREVA NP	AREVA	Doc N°	Page 52 / 53
Site: Celsi Trench: 04 Arm: 1 Référence angulaire point: 210°			
		AC-A8 ID: 810L Rotation: -0.79° Count S1 X: 5.54 mm Count S1 Y: -0.42 mm Count absolu S1: 9.38 mm Count S2 X: 2.30 mm Count S2 Y: 1.90 mm Count absolu S2: 3.80 mm Type grappe: 0303 Inducteur: %	
		AC-A9 ID: 842D Rotation: -0.26° Count S1 X: 6.14 mm Count S1 Y: 1.34 mm Count absolu S1: 6.28 mm Count S2 X: 2.70 mm Count S2 Y: 4.12 mm Count absolu S2: 4.36 mm Type grappe: 040404 Inducteur: %	
		AC-C8 ID: 849L Rotation: -0.41° Count S1 X: 1.74 mm Count S1 Y: -1.12 mm Count absolu S1: 2.87 mm Count S2 X: 0.36 mm Count S2 Y: -0.50 mm	

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Site: Celsi Trench: 04 Arm: 1 Référence angulaire point: 210°			
			

Report issued that includes the serial number of each assembly as well as the "S" hole location and conformance locally and for the entire core.

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