In-Core Sipping for BWR Failed Fuel Detection

The Cost-Effective Solution for Detecting Mid-Cycle Fuel Failures
AREVA’s BWR in-core hood sipping delivers proven performance and reliability for detecting failed fuel. The dependable process detects failure in the core by sampling both water and gas from each assembly.

Unique In-Core System
Our in-core sipping system interrupts the natural circulation of coolant through the bundle by using the sipping hood, and compressed air lowers the water level in the channels. Sample probes are then lowered and water samples acquired after several minutes, or when the water temperature increases approximately 10°C due to decay heat. Water fills the void as it is exhausted and forces air up the vent line to the detector. The analysis system assesses the integrity of each fuel assembly, and an audible alarm identifies failed fuel assemblies to the system operator.

Eight Assemblies at Once; Additional Sipping Services
Our in-core sipping can test up to eight BWR fuel assemblies simultaneously — without any fuel handling. AREVA also offers optional mast sipping to further minimize impact to your outage schedule. And our vacuum can sipping efficiencies approach 100%.

Features and Benefits
- Proven technology utilized since 1992
- Experience? We have inspected more than 8,500 fuel assemblies
- Sips eight fuel assemblies simultaneously
- Can sample both water and gas
- Ascending sampling probes preclude cross-contamination of samples
- Short set-up time: Only one 12-hour shift
- Cycle time of only ten minutes for eight fuel assemblies
- Real-time results
AREVA in-core sipping system is the perfect solution for detecting mid-cycle fuel failures.

**Minimal Service Requirements:**
- Electric Power: 120 VAC/60Hz/20 AMP
- Demin Water: 30-50 psi, Maximum Flow Rate of 8 gallons/minute
- Compressed Air: 100 psig@6 cfm

**Equipment Dimensions:**
**Control Console**
- Height: 69”
- Depth: 21”
- Width: 50”
- Weight: 660 #

**8 Position Hood**
- Height: 42”
- Depth: 25”
- Width: 23”
- Weight: 350 #

**Detector Cave Box**
- Weight: 150 #

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