

# Mast Sipping Systems for Failed Fuel Detection

## Dependable Results for All Types of Plants

AREVA's mast sipping technology delivers proven performance and reliability for detecting failed fuel. The detection system (water/gas) services all types of commercial reactors. This system is a dependable process to detect leaking fuel during routine refueling shuffles or off-loading, minimizing the impact of the fuel sipping inspections on critical path outage time.

## Systems Monitor Fission Products to Detect Failed Fuel

When fuel assemblies are raised from their core positions for transfer, the pressure differential that occurs during lifting allows water-soluble and/or gaseous-fission products to escape from failed fuel rods. AREVA sipping systems monitor these fission products to detect failed fuel. Depending on the reactor design and plant fuel handling system, we can easily adapt our sipping systems to the fuel handling mast equipment through temporary or permanent hardware attachments.

## Monitor Both PWR and BWR Designs

AREVA water/gas systems can be applied to both PWR and BWR reactor designs. If required, a water sample can be acquired for each fuel assembly and analyzed offline for secondary confirmation of failure.

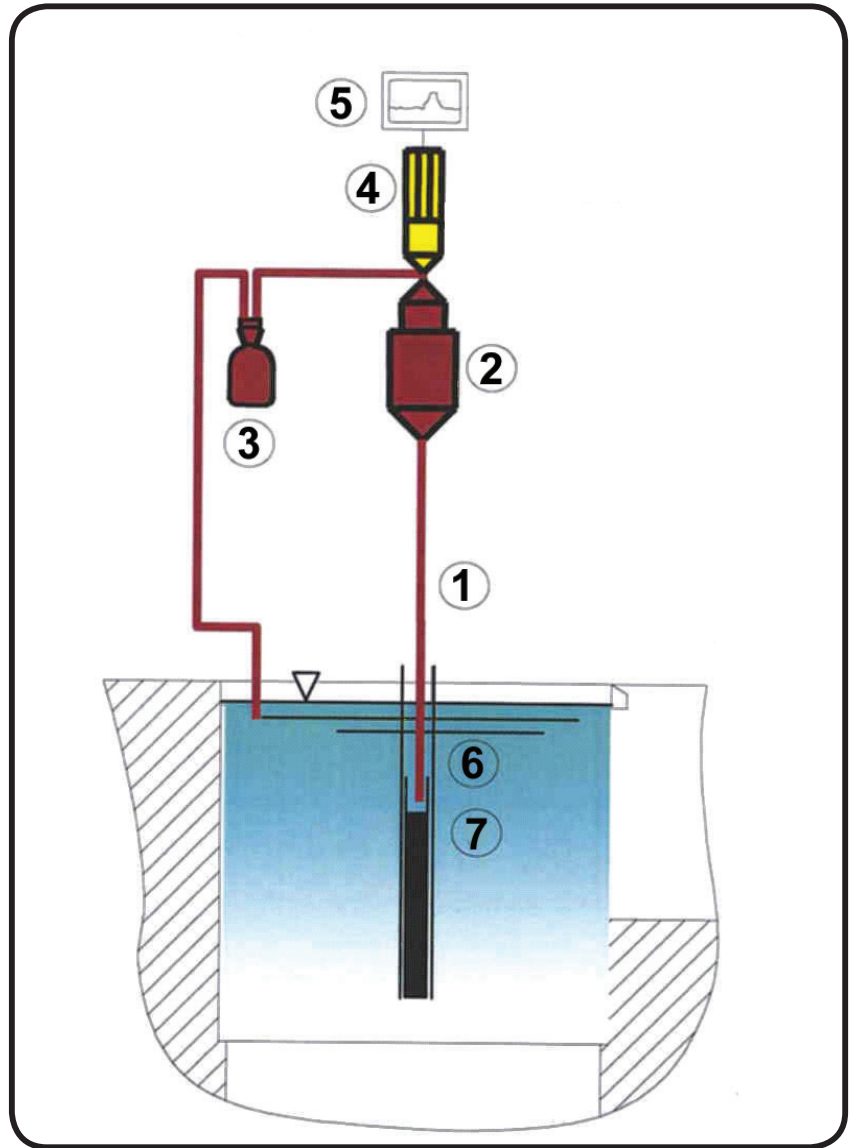


Because of its enhanced automation, inspection sensitivity and reliability, sipping is setting new standards of performance.

## Features and Benefits

- Proven performance and reliability for detecting failed fuel
- Water/gas systems monitor both PWR and BWR fuel designs
- Minimal or no impact to the critical path refueling schedule for the fuel inspections

1. Water sample line
2. Sample conditioning system
3. Water sample extraction
4. Gas detector
5. Sample evaluation system
6. Refuel machine mast
7. Fuel assembly



**AREVA Inc. Corporate Headquarters**  
7207 IBM Drive  
Charlotte, NC 28262

For more information,  
contact your VP, Key Accounts:  
Tel: 704 805 2305  
regional.manager@areva.com  
[us.areva.com](http://us.areva.com)

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