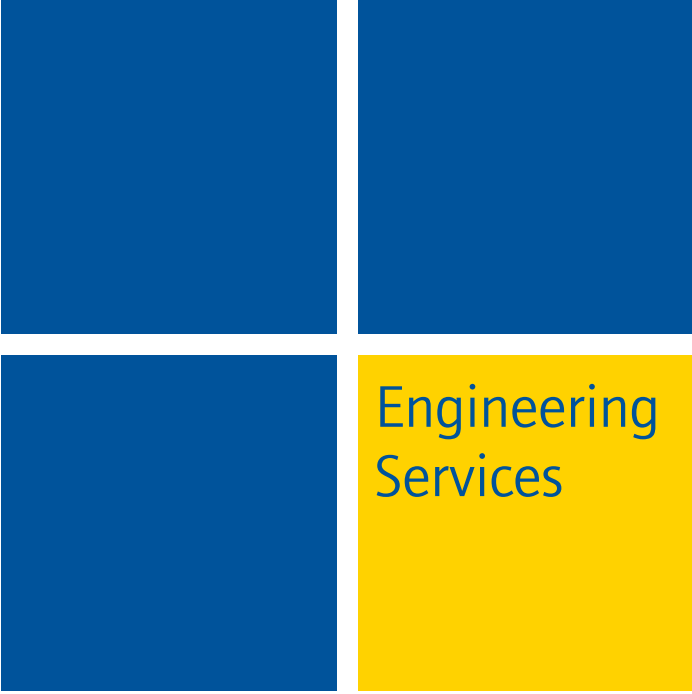


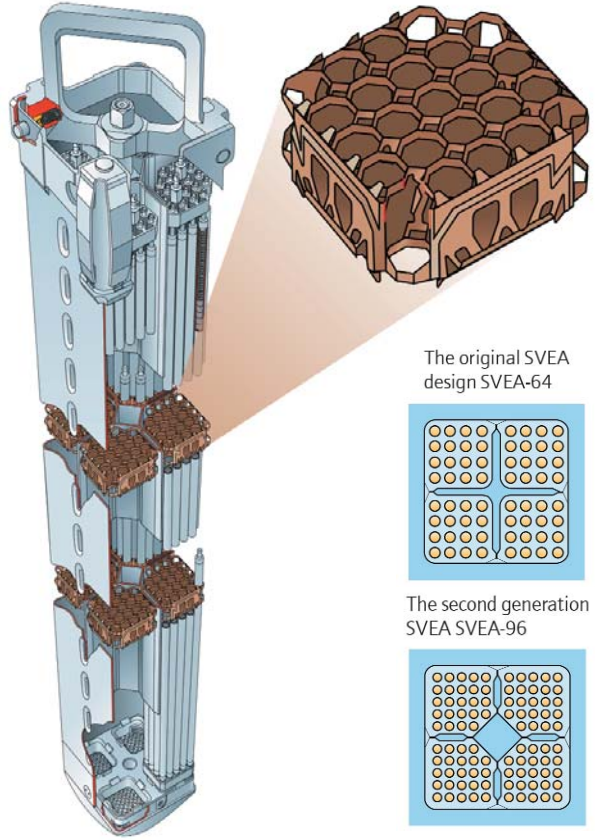
# Westinghouse SVEA-96 Optima2 BWR Fuel



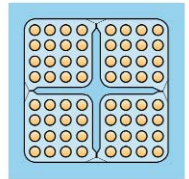
Engineering  
Services

## Background

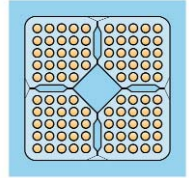
The design of the SVEA-96 Optima2 fuel, with its enlarged water-cross center and part-length rods, is the optimum fuel for BWRs. The SVEA-96 Optima2 has 96 fuel rods arranged in 4 sub-bundles. This 10x10 lattice was introduced in 1986 and was based on the successful experience of the original SVEA-64, which was introduced in 1981. The new 10x10 lattice marked a major step forward in increasing burnup and load capability, now further developed into SVEA-96 Optima2.



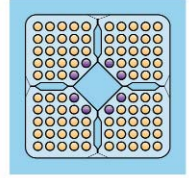
The original SVEA design SVEA-64



The second generation SVEA SVEA-96

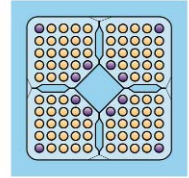


The third generation SVEA SVEA-96 Optima



● Part-length rods

The fourth generation SVEA SVEA-96 Optima2



● Part-length rods

(Continued on back)



For more information, call your local Westinghouse Electric Company sales representative.

## **SVEA-96 Optima2 Advantages**

- Lower fuel cycle cost
- Higher burnup capabilities
- Improved design margins
- Load follow without operating restrictions
- Core power uprating
- Long cycles
- Optimized mixed-oxide concept
- Flexible cycle planning

## **SVEA Concept**

Conceptually, the BWR fuel channel is divided into four sub-bundles using a double-wall structure that forms an internal water cross. This design results in a more uniform moderator distribution, which increases reactivity and gives a more uniform power and burnup distribution. As a result, the SVEA design provides significantly better fuel utilization.

## **SVEA-96 Optima2 Features**

The primary features of the SVEA-96 Optima2 fuel are improved thermal margins, improved shutdown margin, and reduced assembly pressure drop. These features are accomplished by the introduction of part-length rods. Pressure drop reduction is further attained by providing a wider flow channel and a reduction in the upper tie plate pressure drop. These enhancements can provide substantial improvement in performance for applications such as high burnups and power uprates. The SVEA-96 Optima2 design is based on the proven SVEA-96 concept with only evolutionary changes.

Only those materials proven by SVEA-96/96+ experience are used. The SVEA-96 Optima2 design also utilizes basically the same fuel rod, spacer, and channel design with only minor modifications.

## **Licensing**

SVEA-96 Optima2 improves margins in all areas relevant to licensing, ensuring a smooth licensing process. Licensing procedures for SVEA-96 Optima2 are currently in progress for reactor operations in Sweden, Germany, Switzerland, and the United States.

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