Unmatched Field-proven Experience

Challenge
To ensure your nuclear facility’s safe, efficient equipment operations, you need access to critical parts 24/7/365. To address this need, our Nuclear Parts Center (NPC), based in Lynchburg, Va., teamed up with the Framatome Jeumont site, which designs and manufactures the key mobile components for the primary coolant system of nuclear reactors in northern France, to provide reactor coolant pump (RCP) motor and seal hardware to customers in the U.S.

Solution
For more than 40 years, the Framatome Jeumont site has been designing and manufacturing reactor coolant pumps, motors and seals for the French and worldwide nuclear markets. The Framatome Jeumont site has provided more than 300 complete sets of RCPs, motors and seals in operation throughout the world.

Focus on Quality
Framatome focuses only on the highest quality RCP, motor and seal hardware — to all levels of safety classifications. We supply all items in accordance with the applicable portions of our approved Quality Assurance Program which meets the requirements of NCA 3800 and 10CFR50 Appendix B.

Technical Support
Framatome’s dedicated team of design, test and fabrication engineers can address any emergent needs at your plant. Greater reliability and increased performance? It’s a way of life at the NPC and Jeumont.

Reactor Coolant Pump & Motor Hardware
NPC stocks a large quantity of RCP and motor hardware for Westinghouse-style pumps and motors. Design innovations include enhanced thrust bearings, pads, pins and spacers — extending longevity while decreasing motor inspection and rebuild frequencies. In fact, we can fabricate long-lead special order items (RCP internals and upgraded RCP motors and RCPM stators) to your specific requirements.

Customer benefits
- Design, fabrication and testing to original design requirements
- Backed by years of operating experience
- 24/7/365 Hardware and technical support availability
- ASME code, 10CFR50 Appendix B and 10CFR21 hardware supply
- Immediate delivery available from inventory
- Guaranteed stocking programs available
- Equivalency certification to originally supplied hardware

Your performance is our everyday commitment
Reactor Coolant Pump Seal Hardware

NPC-supplied parts are currently in operation in more than half of the U.S. Pressurized Water Reactor (PWR) nuclear plants featuring the Westinghouse Model 93, 93A, 93A1 and 100 RCPs. Several U.S. utilities have signed long-term contracts with NPC, ensuring an emergency supply of hardware on hand at all times.

With more than $5M in inventory, the NPC stands ready 24/7/365 to support same day or next day shipments as needed. Just-in-time deliveries help customers minimize on-site inventory and associated carrying costs, resulting in substantial savings.


Reactor Coolant Pump Seal Innovation

PSDS: With more than 15 accumulated years of operations in the U.S., Europe and Asia, the Passive Shutdown Seal is an additional safety system for existing hydrostatic seals, installed in the N°1 seal insert. This self-actuated device is triggered only in accidental conditions when water temperature within the shaft seal system rises. The PSDS is qualified to withstand SBO conditions for an extended period and ensures perfect leak tightness.

A battery of tests have been carried out to ensure the reliability and the repeatability of the triggering, its resistance to ageing phenomena, and the absence of impact on the seal behavior in normal operation. Perfectly compatible with the Framatome Diamond Seal or with standard ones, the PSDS is a safety element that protects the RCP and the entire reactor building in all conditions.

Diamond Seal: Framatome has developed a solution that prevents fouling of the faceplates by depositing a thin layer of diamond on the silicon nitride. Diamond crystals form a protective layer, extremely hard and even. It allows a significant increase in N°1 seal lifetime, improved leakage flow stability in operation and optimization of maintenance costs.

This technological innovation underwent a battery of tests that qualifies its anti-fouling performances, its durability and non-impact on the normal operation of the seal. The Framatome Diamond Seal is compatible without any modification with all existing hydrostatic seal systems, 7 inches and 8 inches.

Framatome brings new progress with the Diamond Seal, which in turn extends the durability of the N°1 seal up to 12 years and makes the strategic functions of the primary pump more reliable.

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