

CASE STUDY

Increased Nuclear Reactor Coolant Pumps (RCP) Reliability Through Retrofit With Proven Seal Technology

Sulzer has supplied replacement nuclear reactor main coolant pump (RCP) seals for utilities with older and less reliable designs. The retrofit seals have been installed in selected US non-OEM reactor coolant pumps in Pressurized Water Reactor (PWR) systems.



A Sulzer seal installed in a non-OEM reactor coolant pump

“ Our customers appreciate the ease of installation, excellent seal life and very good and predictable performance of Sulzer’s retrofit RCP seals. ”

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The Sulzer difference

Plants constructed with Combustion Engineering NSSS technology are especially well suited for the Balanced Stator® sealing technology because Sulzer has already retrofitted both the early and later NSSS plant designs.

The challenge

The original seal did not perform or last as long as the nuclear plant expected it to. Sulzer actively sought out these poor performing seal installations to offer a seal retrofit package which would last at least two fuel cycles while minimizing how the plants were operated.

The solution

Sulzer installed our existing Balanced Stator® RCP seal into 12 non-Sulzer RCP’s at a site in the United States. The retrofit seals are designed to ASME Section III, Class 1 requirements.

Customer benefit

The Balanced Stator® seal provides for the following benefits, unavailable with the OEM seal:

- Much more predictable performance
- Much longer seal service life
- Faster lead time
- Lower initial hardware acquisition cost

Through this retrofit, the plant is now getting three fuel cycle reliability compared to only one from their original RCP seals.

Contact

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Applicable markets

Power generation

Applicable products

Balanced Stator® seal