Filtration Group application example- Power Plants & Energy

Diesel treatment on emergency engines in nuclear plants

Power Plants & Energy

Initial situation

Especially in **nuclear power plants**, **safety** has the **highest priority**. For this reason even smallest processes are monitored in detail.

In Switzerland the **storage of the diesel** for the emergency engines **were identified as critical process**. The fuel, stored in 50.000 liter tanks, can be contaminated with water due to changes in temperature. This **water sinks to the ground of the tank and can cause problems** during the operation off the aggregates.

Challenge

Four independent emergency power systems can be used in case of an incident. To **ensure a frictionless operation** of the emergency engines, a **certain diesel quality is required**. Low water content in the fuel is one of the main criteria. Water can cause **corrosion**, can be a **risk for the engine injection nozzles** or can build a good basis for microorganisms. This so called **diesel pest** is very dangerous, as this microorganisms create a kind of slime that can **block filters, nozzles and pipes**. In worst case the emergency engine is not able to start when it is required because of bad fuel quality.

Solution statement

The **Filtration Group-facility in Hamburg is delivering fuel treatment systems** for the marine industry for several years now. The proven technology from the marine industry can nowadays also be found in several power plants. The **two stage systems** separates particles and dirt in the first filter stage and separates water in the coalescer stage afterwards.

The **remaining water content is too low for the microorganisms to grow** and avoids the dangerous dieselpest. The **Filtration Group FTS** can guarantee a continuously low remaining water content, which means that diesel pest will be no longer a problem for the customer. The **operational readiness** of the stored fuel **is assured at any time**.

Customer value

The **Filtration Group FTS** provides several advantages to the power plant operator:

- **Long time storage** of the fuel is **no longer a risk**
- Reduction of the free water in the fuel continuously below the critical limit
- Cost reduction due to **lower maintenance requirements** and reduced wear
- **Replacement** of no used fuels **no longer necessary**
- **Inspections** of the fuel quality **can be reduced significantly**

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