

Filtration Group application example – Power Plants & Energy

FG Module system for the filtration of diesel fuel in coal-fired power plants



Power Plants &
Energy

Initial situation

On the south coast of Peru, existing coal-fired power plants are being extended by two additional gas turbines with "dual-fuel" propulsion in order to secure the power supply in the southwestern areas. Diesel is transported directly from a tanker to a tank farm. An additional daily tank is connected upstream of the gas turbine. The processing of diesel fuel takes place between the tanks of the main storage facility and the day tank. Filtration Group supplied an innovative system here, which also consists of several individual components. Based on experience from the marine sector, a PTS-800 (Phase Separation Stage) was selected for the separation of free water for the indirect reduction of sodium and potassium.



Solution statement

- Filtration Group supplied a 4+1-module plant as well as two upstream, redundant pumps (2 x 200 m³/h) and a double change-over filter VG 100 (200 μm) as pump protection
- Each of the five modules connected in series consists of a backflush filter R5-3 (25 μm) to further reduce the dirt load, and a PTS-800 to separate the free water
- The PTS are equipped with coalescence and membrane elements, the maximum flow rate per module is 50 m³/h



Customer value

- Elimination of costs for turbine coating by adherence to the specified sodium and potassium limits
- Cost-effective solution compared to a water washer/centrifuge combination
- Integration of the system into the central control of the power plant
- Enabling the local requirements for earthquake protection classes
- 24/7 plant availability

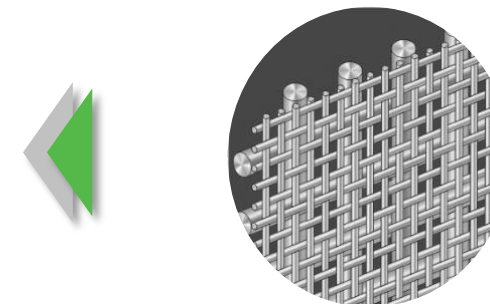


Challenge

- Reduction of solids as well as sodium and potassium
- Max. flow rate of the whole plant 200 m³/h
- Very complex customer specification regarding control, automation and documentation
- Adjustability of the volume flow
- High corrosion requirements (offshore standard, because installation in coastal areas)
- Earthquake protection
- System integration into the overall power plant system

Technical data

- Dimensions LxWxH = 15 m x 2,5 m x 3,3 m
- Flow rate variable from 50 – 200 m³/h
- Separation of solids < 25 μm



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