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Geiger® Seawater Intake Equipment KPONE, Ghana

KPONE Independent Power Plant, Ghana installed maintenance-friendly Seawater Screening Equipment as ideal solution to their mechanical seawater cleaning requirements.

Challenge

In 2016 KPONE Independent Thermal Power Station (CCGT) was constructed to improve the distribution of electricity throughout the country. The power plant is a 340 MW (460,000hp) multi-fuel-fired thermal power station. At KPONE, seawater accessed through underground pipes is used to feed the power plant's cooling water system.



Solution

For the first stage in the mechanical screening of seawater (coarse screening), the efficient and robust Geiger® Cable-Operated Bar Screen Cleaner was implemented, and for the second (fine screening) the innovative, compact and low-maintenance Geiger MultiDisc® filtration machine. A Geiger® Impressed Current Cathodic Corrosion Protection System protects the screening equipment in aggressive mediums i.e. seawater.

Technical Data

The seawater screening equipment consisted of the following:

- 4 Geiger® Cable-Operated Bar Screen Cleaners with conveyor belt for debris transportation
 - 4 through-flow, zero carry-over Geiger MultiDisc® travelling water screens with spray water system
 - 4 stop logs
 - Control cabinet for fully automatic operation
 - Materials: 316L for seawater wetted parts, well-proven in combination with the Geiger® Impressed Current Cathodic Corrosion Protection System
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- Flow Rate per Channel: 15,000 m³/h
 - Number of Channels: 4
 - Bar Screen Spacing: 60 mm
 - Geiger MultiDisc® Filtration (mesh): 9.5 mm
 - Water Source: Sea Water

Key Features

Commissioning year: 2018

Benefits:

- Low/easy maintenance
- Robust and highly reliable Travelling Water Screen (Geiger MultiDisc®)
- Compact design saves on construction costs/ space required for the onshore pump chamber (Geiger MultiDisc®)
- Easy, time-saving installation (Geiger MultiDisc®)
- Zero carry-over of debris to the clean water side (Geiger MultiDisc®)



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Product Line: Water Intake

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