

Case Study

Separators Protect Power Plant Heat Exchangers From Fouling

South Korea's First Power Plant Relies On LAKOS

Application: Industrial Separators Assist Process Cooling In Power Plant
Solids: Sand, Silt, and Other Solids
Liquid: Cooling Water

LAKOS Separators are used in the power industry to eliminate the presence of sand, silt and other solids in cooling water. The contamination of solids in cooling water causes major problems to heat exchangers, damages process equipment, and reduces the life of bearings and seals.

South Korea developed nuclear energy in the late 1970's with the establishment of Kori No. 1 Power Plant. Now with over 16 plants, the nation is one of the largest producers of nuclear power in Asia. Fourteen more plants are planned by 2020.

LAKOS Separators are installed at Kori No. 1. The separators are installed to protect the heat exchangers from fouling—reducing the maintenance and helping maintain thermal efficiency. The LAKOS Separators are installed after two bar screens—the first bar screen is 3" and the second bar screen is 1.5". The LAKOS Separators are capable of handling 3000-3300 m³/hr. flow range. Removing solids and other debris found in seawater, the LAKOS Separators are maintenance free and operate continuously. The use of the LAKOS Separators have decreased downtime and costly maintenance associated with cleaning the heat exchangers.

Results: Regardless of the source water (river or seawater), LAKOS is a viable and effective solution for filtering sand, silt, and other solid debris for example shells found in seawater intake. It is always recommended to use a proper prescreen prior to the LAKOS to ensure solids that are greater than the specified tolerance of the LAKOS Separator do not enter into the inlet chamber.

On December 13, 2000, LAKOS was presented a "Plaque of Appreciation" from Kori Nuclear Power Station; Kori Nuclear Power Division for assisting Kori in improving its operations.



The LFD-2402-B/SK Separators are installed on the seawater intake pumps to protect the heat exchangers from fouling by removing sand, silt, shells and other debris found in sea water. The customer is using 4" pneumatic pinch valves to purge the separators.