

PH₂OENIX™ MEMBRANE PURIFIER IMPACT STORIES

NUCLEAR POWER PLANT EHC (ELECTRO HYDRAULIC CONTROL SYSTEM) PHOSPHATE ESTER PHOENIX MEMBRANE OIL PURIFIER INSTALLATION

A local nuclear plant was having issues with water ingress into its 250 gallon EHC Electro Hydraulic Control System each summer during humid months. Phosphate Ester high temperature hydraulic fluids are inherently hydrophilic with a water saturation point much higher than typical mineral oils. Phosphate Ester can hold as much as 4500 ppm of water in dissolved form before it becomes free which can lead to acid formation and then corrosion issues with critical servo valves that control the speed of the steam turbine of the plant. A loss of this system can cause millions of dollars of lost revenue to the plant.

During summer months it was found that the water level in the EHC system consistently increased above the allowable limit of 1000 ppm.

A PHoenix™ skid specially adapted for use on Phosphate Ester fluid was installed and found to drop and maintain dissolved water levels below 600 ppm. Results in figure 2 below.



Figure 1: Nuclear Plant With PHoenix™ Skid installed on EHC System

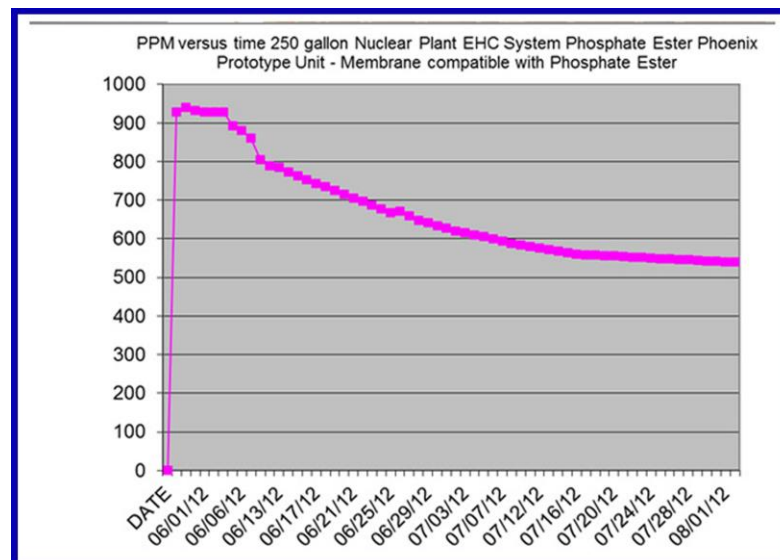


Figure 2: PHoenix™ Nuclear Plant EHC Results