
 <p>TNCHE Asia 2024</p>	<p>TNCHE Asia 2024 Conference " Decarbonization, AI and Digital Transformation for Sustainability in Process Industries " Presenter's Biodata & Abstract</p>	 <p>TICHE</p>
---	---	---

Full Name : Teerawut Pattaragosol

Company/ Organization : Veolia Water Technologies & Solutions

Current Position : SEA Regional Industry Manager



Title of Presentation : Chemical treatment program for Quench Water and Dilution Steam Generation unit maximized plant productivity, reliability, and energy saving for Olefins producer

Presentation Abstract :

One of the most challenging for Olefins producers is the corrosion and fouling problem at Quench Water (QW) and Dilution steam Generator (DSG). Excessive oil due to emulsion problem of oil and water in the recirculating QW and blowdown can result in Organic Fouling of the quench column, QW coolers, process water stripper (PWS) column, and DSG reboilers/exchangers. The cracking hydrocarbon in the pyrolysis furnace produces organic acids, predominantly acetic acid, some formic and propanoic acids. The organic acids are condensed along with the steam in the quench water tower, mainly contributing to low pH in quench water and DSG reboiler water, causing severe corrosion problems.

In some cases where Quench Oil is used as a heat source producing steam for DSG, once organic fouling is generated as a result of excessive oil carryover from the quench tower and/or polymerization organics such as styrene, under deposit corrosion due to low pH or high pH caustic corrosion (caustic gouging) can be severely formed, causing tube leakage that quench oil stream passed through to the water side. This results in the reduction of dilution steam produced, energy loss, maintenance cost increase, plant load reduction, and ultimately a significantly negative impact on plant productivity and reliability.

VEOLIA advanced chemical treatment program consists of a unique and wide range chemistries with different functions (Prochem™ emulsion breaker, Petroflo™, Optiguard™ corrosion inhibitor and dispersant) can address those potential problems from the early QW tower, through PWS, and DSG, consequently maintaining maximum plant reliability.