Sinopec selects Siemens for wastewater treatment at Chinese refinery

Siemens Water Technologies will provide a system to treat wastewater at China Petroleum & Chemical Corporation (Sinopec Corp.)’s Anqing refinery, in Anhui Province, China. The complete wastewater treatment solution will include a powdered activated carbon treatment (PACT) system, a Zimpro wet air regeneration (WAR) hydrothermal unit, and a Hydro-Clear sand filtration system. The three-tier system will be used to treat salty and oily wastewater from refining and petrochemical production activities from existing and upgraded units. The wastewater needs to meet the Chinese specifications for surface discharge. The system will become operational in 2012.

The 1,000 m³/h Anqing system will help Sinopec discharge a cleaner effluent and also generate approximately 500 m³/h of reusable water. The refinery will reuse the water in its cooling tower system, which will help to further offset the strain on China’s surface water bodies.

To treat the refinery’s wastewater, Siemens will install a PACT system, which combines biological treatment and carbon adsorption into a single, synergistic treatment step to remove organics. The solids are pumped as slurry to the Zimpro WAR unit where the carbon is regenerated and biological solids are destroyed. As it will generate virtually no sludge that requires landfill disposal or incineration, the WAR system will help to lower operating costs for the Anqing refinery’s wastewater treatment. The Hydro-Clear filter system makes it possible to filter large volumes of water and return it to the cooling circuit, resulting in large savings in the amount of fresh water required and thus further reducing costs. The entire wastewater treatment system’s small footprint design will also reduce land requirements.

The Sinopec refinery discharges its treated wastewater into the Yangtze – the third largest river in the world and the largest in China. Preserving and maintaining this major waterway’s water quality
and ecosystems is one of the Chinese government’s main environmental initiatives. Siemens’
approach will help reduce the environmental impact of the treated effluent. The new wastewater
treatment system is the seventh project that Siemens Water Technologies has worked on with
Sinopec Corp.

Sinopec Corp. is one of the largest crude oil and petrochemical companies in China and Asia. It is
also one of the largest gasoline, diesel and jet fuel and other major chemical products producers
and distributors in the region. The principal operations of Sinopec Corp. and its subsidiaries
include: exploring, developing, producing and trading crude oil and natural gas; processing crude
oil into refined oil products; producing, trading, transporting, distributing and marketing refined oil
products; and producing and distributing chemical products.

PACT, Zimpro, and Hydro-Clear are trademarks of Siemens and its affiliates in some countries.

Further information about solutions for water treatment is available at:
http://www.siemens.com/water

A photo supplements this press release. Please see:
http://www.industry.siemens.com/data/presse/pics/IIS201105888.jpg

A Siemens wastewater treatment solution, similar to what is at the Anqing
refinery, with the aeration tank in the foreground and the WAR system in the
background. Picture: Siemens AG
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