



28/12/2017, China

SUEZ NWS and Hengli Petrochemical Won Special Climate Prize in Innovation Awards for Franco-Chinese Teams 2017 with “Embedded WWTP”

The ceremony of the 4th Innovation Awards for Franco-Chinese Teams organized by Comité France-Chine was held in Paris, France recently. The Embedded Wastewater Treatment Plant (“Embedded WWTP”), jointly developed by SUEZ NWS and Hengli Petrochemical (Dalian) Refinery Co., Ltd. (“Hengli Petrochemical”) won the “Special Climate Prize”. On the occasion of the 2nd anniversary of the signing of Paris Agreement, the award was intended for the most innovative project in coping with climate warming.

Comité France-Chine is an important organization in promoting the trading and business relations between China and France. It has been organizing Innovation Awards for Franco-Chinese Teams annually since 2014, aiming to reward outstanding innovative projects jointly developed between Chinese and French institutions, laboratories, R&D centers and enterprises, which have important influence and significance on the society, economy, industry and environment. With its innovative "Embedded WWTP" concept and favorable socio-economic and ecological benefits, the refinery wastewater treatment project jointly developed by SUEZ NWS and Hengli Petrochemical was thus awarded Special Climate Prize.

To achieve "green development", Hengli Petrochemical's 20million tons/year refining-chemical project in Changxing Island, Dalian, adopted SUEZ NWS' integrated solutions on wastewater treatment, reuse and brine treatment, with the first time introducing the "Embedded WWTP" concept into the petrochemical industry. This concept changes the conventional pattern of passive reception and terminal treatment. Instead, it combines the wastewater treatment process and petrochemical process at the very beginning of design, and makes a synergy with the upstream petrochemical installations through comprehensive analysis of the upstream pollutants' sources, characteristics and generation process, thereby turning the “water, gas and ashes” that are supposed to be treated as wastes into resources for reuse in the wastewater treatment process, thus treating the waste with waste. The wastewater treatment plant is transformed from “Receiving and Treating Unit at Wastewater Terminal” to an “Environment-friendly Resources Integration Unit”

Based on the experience of traditional chemical WWTP construction, the project introduces a number of new technologies and methods, including "CO₂ off-gas' coal-to-hydrogen utilization",

"recycling of ethylene waste alkali", "utilization of ozone in wastewater advanced treatment", "fusel utilization" and "reclaimed water reuse", to greatly reduce the operating costs. According to statistics, the new technologies reduce the CO₂ emission by 2,116 tons/year, save electricity consumption by 7.01 million kWh/year, reduce reagents consumption by 9506 tons/year, and save water resources by 14 million tons/year.

The concept of "Embedded WWTP" was implemented in Hengli's petrochemical project is of strong demonstration significance. It provides a referential example for the green development of the petrochemical sector and even the entire industry. By sorting out the whole industrial processes, it contributes to turning waste into resource, optimizing the allocation of resources while treating wastewater, saving regular consumption and reducing secondary pollution, thereby achieving the maximization of social, environmental and economic benefits.



Ceremony of Innovation Awards for Franco-Chinese Teams

10th from left: Marie-Ange Debon, President of International Division, SUEZ
9th from left: CHEN Qi, GM of Hengli Petrochemical (Dalian) Co., Ltd.



Refinery WWTP in Construction for the 20 million tons/year Refining-chemical Project

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SUEZ NWS Limited

SUEZ NWS Limited (“SUEZ NWS”) is a joint venture between SUEZ and NWS Holdings Limited that encompasses four essential business segments – Water Management, Recycling and Waste Recovery, Water Treatment Infrastructure and Consultancy in the Greater China region. With 8,000 employees and over 60 joint ventures with local partners, SUEZ NWS is helping authorities and industries develop innovative solutions to address climate change and sustainable resource management. It has built over 240 water and wastewater treatment plants in Greater China, supplying drinking water to 20 million people. It is a leading operator of waste management in Hong Kong and delivers its expertise in the management of environmental services to 11 industrial parks in Mainland China.

Hengli Petrochemical

Hengli Group, founded in 1994, is an international enterprise possessing petrol-chemical, polyester advanced materials and weaving as its main business, and thermal power, machinery, real estate, hotel, etc. for diversified development. In the petrochemical sector, Hengli Petrochemical (Dalian Changxing Island) Industrial Park owns a PTA factory with an annual production capacity of 6.6 million tons, which was constructed and put into operation per the “high-standard, strict-requirement and fast-pace” criteria, renewing a number of international records within the peer industry. Hengli’s refining-chemical project is the first major refining-chemical project that the nation opens for private enterprises, and one with the largest approved scale throughout the history. In December 2015, the project with an annual capacity of 20 million tons/year was commenced on construction.

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