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Hitachi Plant Technologies, Ltd.
Sumitomo Corporation

Hitachi Plant Technologies, Ltd. and Sumitomo Corporation Agreed with Iraq's South Oil Company (Iraqi national oil company) to Commence Investigations for Introduction of an Advanced Water Treatment System

Hitachi Plant Technologies, Ltd. ('Hitachi Plant Technologies') and Sumitomo Corporation ('Sumitomo') have concluded an Agreement with South Oil Company ('SOC') agreeing to commence investigations for introduction of Hitachi Plant Technologies' advanced water treatment system for the Iraqi oil industry.

Iraq is expected to be one of high oil-producing countries of the world, and further investment in oil development such as drilling of new oil wells is anticipated in the future. SOC, one of the largest national oil companies, responsible for Iraq's southern region, is very keen on introducing advanced technology to improve the efficiency of its oil processing facilities and to prevent environmental pollution.

In order to solve Iraqi concerns of produced water, Hitachi Plant Technologies and Sumitomo have concluded to sign this Agreement and to penetrate this technology as a solution provider for the Iraqi oil industry.

As the first step, the three companies will install a demonstrative Industrial Water Treatment System unit (see following page for details) developed by Hitachi Plant Technologies in a certain oil field owned by SOC in southern Iraq, and will study various applications as solution for environmental requirement and technical requirement demonstrating the proven performance.

Hitachi Plant Technologies is contributing the reconstruction of Iraq through its Middle East Regional Headquarters (in Dubai, UAE), and in 2010 delivered ten units of a membrane bioreactor system as wastewater treatment systems for Al-Shafa and Al-Faw Hospitals, and has one reference of delivering the reverse osmosis (RO) membrane system of our recycle water technology for the Ministry of Municipalities and Public Works. Based on this experience and expertise, Hitachi Plant Technologies is to be engaged in the engineering, construction, operation, and maintenance of water treatment systems for the oil industry.

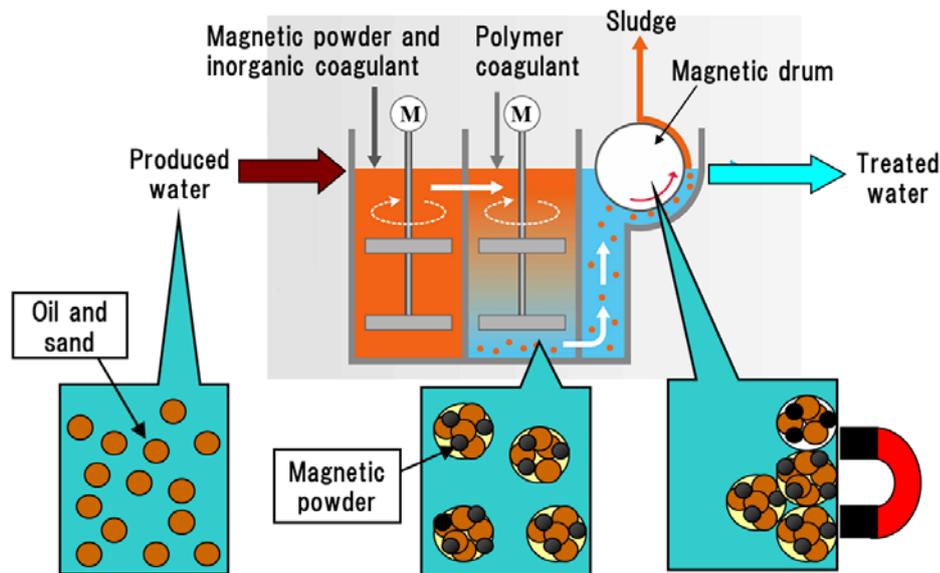
Sumitomo is engaged in the contact point toward Iraqi government and proceeds marketing for the introduction of this technology utilizing the extensive knowledge and business experience in fields of automobiles, construction equipment, iron and steel, electrical power, telecommunication equipment since Baghdad office was established in 1966. In addition to promote the penetration of this water solution technology, Sumitomo will promote earth-friendly projects worldwide such as associated gas treatment solutions to contributing to the preservation of environment.

***Reference: Summary of Hitachi Plant Technologies' Produced Water Treatment System**

Groundwater mixed with crude oil during extraction, and water injected into oil wells to extract the oil is discharged as 'produced water'. Depending on the characteristics of the ground strata, this produced water contains various chemical components (salt, oil, organic oxides, heavy metals etc.). This water is normally either re-injected into the oil well or discharged. With the rising treatment costs associated with increased volume of produced water, strengthening of environmental regulations due to heightened environmental awareness, and a greater need for effective utilization of produced water in regions of water shortages, there is a growing demand for greater efficiency in processing produced water and improvement in the quality of the treated water.

Hitachi Plant technologies has responded to this need with its advanced Produced Water Treatment System which employs a separation of oil and water using flocculation magnetic separation system as the core technologies. In addition to achieving advanced processing of produced water, the system contributes to the life extension of oil wells by improving the quality of the re-injected water, reducing operating costs, and relieving chronic water shortages.

Separation of Oil and Water using Flocculation Magnetic Separation System



In one of Hitachi Plant Technologies' core technologies, oil in produced water from oilfields or oil refinery wastewater is mixed with a flocculent containing magnetic particles, and flocculated and removed in a magnetic drum. Using this process, extremely fine particles down to a diameter of 0.1 μm are processed at high speed, obtaining processed water of high quality with less than 5 mg/L of oil. The design is compact - a plant with a processing capacity of 350m³/h requires an installation area of only 24m². The system can therefore be installed on oil rigs in the limited space available for treatment of produced water from offshore oilfields. Produced water can be sampled and processed on-site, or used for re-injection, eliminating the need for pumps and piping to transfer the water to land-based facilities. This flocculation magnetic separation technology is already in use for treatment of ballast water^{*1} in ships in compliance with IMO (International Maritime Organization) standard.

*1: Ballast water: Seawater held inside cargo ships to maintain stability during transit. Ballast water intake and discharge invariably occurs in different locations and has been identified as a likely cause of marine ecosystem disruption.

Oil & Gas Industrial Water Treatment System product information

<http://www.hitachi-pt.com/iwts/index.html>