

NORIT NV

For immediate release

Clean water for the world – Norit innovations at Aquatech Amsterdam 2008

From 30. September through 03. October Amsterdam RAI is again the venue for the world's most important exhibition in the field of potable, process and wastewater treatment, transport and storage, process control and automation, and point-of-use, and a meeting place for all water industry professionals. Norit 'leading in purification' – one of the major exhibitors and main sponsors of Aquatech – is using this important event to launch a number of innovations in water treatment, flood control and transportation, celebrate it's 90th anniversary and proudly announce some spectacular orders for it's desalination and wastewater treatment solutions.

Clean Water for the World

Norit is always in the lead when it comes to finding and applying innovative, affordable solutions to the world's water challenges, which range from flood control to large scale desalination and wastewater treatment applications to compact water purification solutions.

By putting a firm emphasis on research and development we help make water usable for those who need it. Developing and deploying high standard purification technologies allows us to find the optimum balance between environmental, health, safety, and economic requirements and work towards a sustainable future.

Desalination – Norit SEAGUARD order for the largest UF based SWRO in the Gulf region.

In order to fulfill the growing demand for potable water, sea or brackish water is a natural resource, especially for many of the countries surrounded by the sea. Today, Norit proudly announces the receipt of the order from Doosan for the supply of its SEAGUARD ultrafiltration (UF) membranes as pre-treatment for Kuwait's Shuwaikh Sea Water Reversed Osmosis (SWRO) plant. The pre-treatment system has a capacity of 350 MLD / 93 MGD while permeate output is 136 MLD / 36 MGD. The anticipated start-up of **the largest UF based seawater pre-treatment RO in the Gulf region** is expected by early 2010.

Next to the SEAGUARD UF membrane for seawater pre-treatment, Norit is also launching its carbon dioxide (CO₂) injection for pH correction at SWRO desalination plants and water pumps for SWRO desalination plants and brackish water treatment.

Potable water

Norit's extensive experience in the field of potable water treatment is reflected in the large number of applications for Norit's technologies. Tap water cannot always be trusted. Therefore Norit is launching a range of innovative point-of-use/point-of-entry (POU/POE) water treatment systems. Norit's activated carbon and UF membranes remove biological, chemical and pharmaceutical residues from potable water.

- Together with PWN (a Dutch water treatment company) Norit developed a new and innovative process based on **advanced oxidation and catalytic granular activated carbon (GAC)**. Since early 2008, the technology has been in use at the PWN Heemskerk plant, proving to be an environmental sound and robust solution, which can solve specific water treatment challenges at many other water treatment plants around the world.
- Based on its UF membrane technology Norit is launching the revolutionary H2OK™ cartridges for POU water treatment. The **Norit H2OK™ water purifiers** can easily be mounted under the sink or as Norit H2OK™ aQix countertop as well as H2OK™ Medical Filter for use in shower heads and water taps in hospitals, minimizing infection risk and ensure safety of the patients.

Process and Wastewater

Process and wastewater treatment are crucial in any industry to meet the ever-growing quality demands as well as the ever-tightening regulations against the lowest possible cost. More than ever re-use of wastewater is becoming a feasible and affordable solution to reduce water consumption. Norit offers its extensive knowhow in wastewater and process water treatment to breweries, malt houses and beverage, dairy, pharma, food, paper and pulp, and oil and gas manufacturers around the world.

- In response to the **EU 5th Water Framework Directive** Norit developed new types of activated carbon **to remove medicine residues and endocrine disruptive components**. During Aquatech results will be presented from the largest reference site at Swindon UK, part of Thames Water using Norit GAC technology, utilizing Norit *i*-SOTHERM modeling techniques.
- A month ago, the Dutch Water Board Regge and Dinkel officially put into operation the **first large-scale Membrane BioReactor (MBR) for municipal water treatment using Norit's proprietary Airlift™ MBR technology**. Norit's non-breaking and non-fouling tubular membranes operate at high fluxes and require a small footprint by keeping the membranes outside the bioreactor (side-stream) providing a clean and safe environment.

Flood control and transportation

Norit supplies tailor-made **pumps** for water transport from wet to dry areas, protection against floods, and in the process of 'polluted to clean' and 'salt to fresh' water for a large variety of applications.

- Norit supplied all pumps for the Marina Barrage in Singapore, a basin where seawater is converted over time by into drinking water by natural flushing with rainwater. To keep the water level in the basin under control **a drainage system with seven large-scale Norit pumps** is installed next to the dam to discharge excess water back into the sea and prevent flooding. The capacity of the pumps is 40 m³ per second with a head of 3.8 mlc and a propeller diameter of 3.2 meters. The official opening of the Marina Barrage is scheduled for October 31st.

Norit 'leading in purification'

Norit 'leading in purification', founded in 1918 develops and applies state-of-the-art purification technologies to help society through our clients meet environmental, health and safety challenges, and work towards a sustainable future. The Norit Group, headquartered in The Netherlands, supplies consumables, components, systems and solutions, based on proprietary technology in every step of the water and beverage value chains. More than 8 percent of the world's population – over half billion people – already consumes water purified by Norit!

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