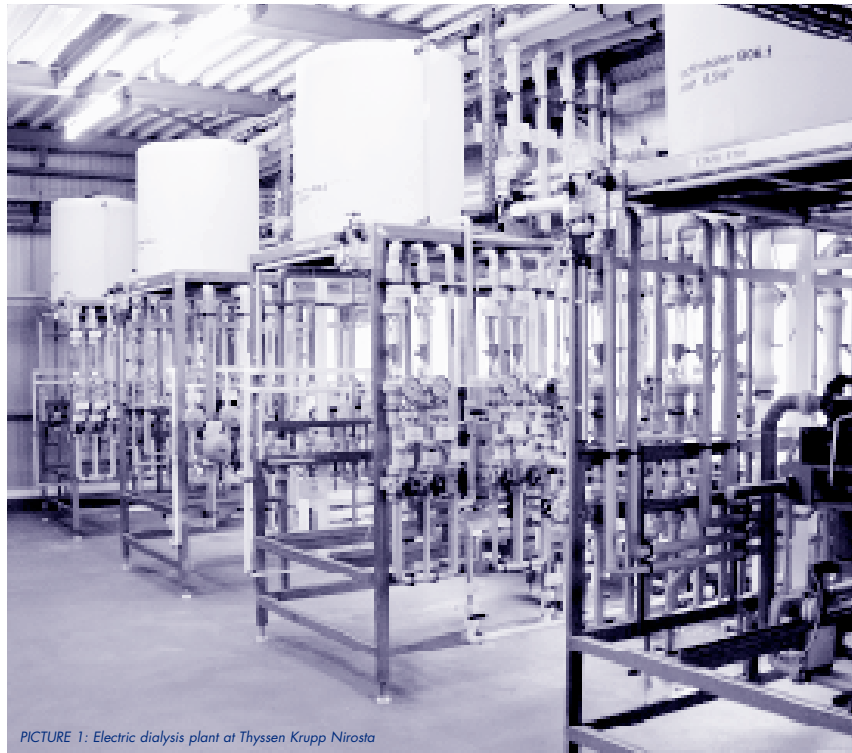


OSMO – Projects for ThyssenKrupp

Reduction of sulfate and emission of nitrates



PICTURE 1: Electric dialysis plant at Thyssen Krupp Nirosa

OSMO Membrane Systems presented its products and services at the IFAT (International trade fair for water-waste water -garbage-recycling) in Munich at the end of May.

The main focus this year was the reduction of sulfate and emission of nitrates from the most diverse industrial areas. Exemplary are two current projects at Thyssen-Krupp:

Electric dialysis plant at Thyssen Krupp Nirosa

About 2 tons of nitrate are removed during the dialysis from the sewage of the existing acid re-generation. It is then transported back in form of ni-

tric acid into the caustic line. The plant was taken into operation at the end of 2004 and has been working since then to the customer's greatest satisfaction (picture 1).

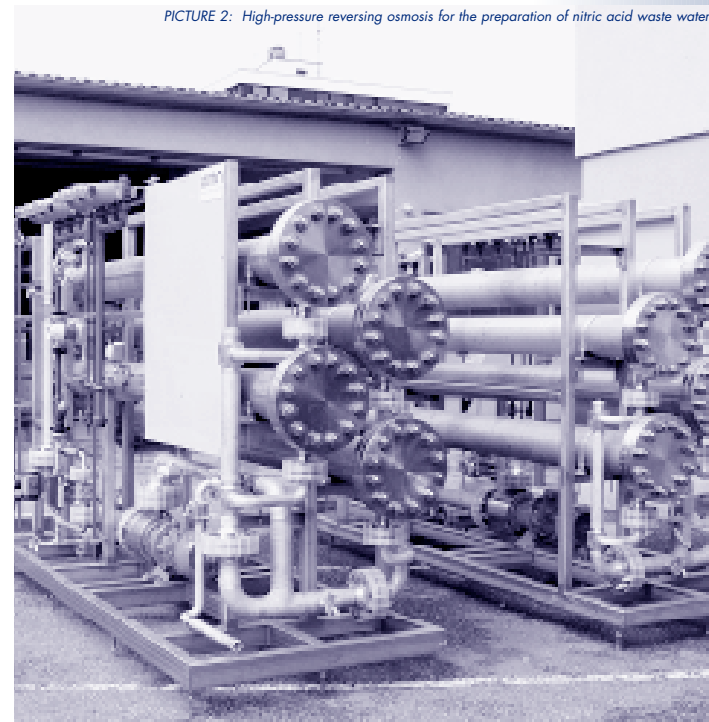
In comparison to the prototype, which was taken into operation in Sweden in 2001, the lifetime of the anodes could be doubled and thus the plant's costs could be reduced due to the plant's technical improvements.

In addition, OSMSO is working on a complementary operation with which – in combination with the electric dialysis – a total regeneration of the consumed pickle is necessary. For this reason, a research project has started at OSMSO since the beginning of April.

High-pressure reversing osmosis in the chemical industry

A second major OSMO project is also dealing with a reduction of the emission of nitrates, however in a neutral medium. The preparation of the nitric waste water, which is generated in the chemical industry, occurs via a multi-level reversing osmosis.

The last stage of the plant (high-pressure stage) works with different pressure capacities up to 120 bar. This stage was delivered at the end of March 2005 (picture 2) and will commence its operation in June this year.



PICTURE 2: High-pressure reversing osmosis for the preparation of nitric acid waste waters

- **Projects and orders.**

Presentation of current projects and orders of the group's companies.

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