OSMO supplies System Technology for Landfill in Hanover

The treatment of seepage water by reverse osmosis can remove the negative environmental effects of dumping

The Wuppertal Company Boden- und Deponiesanierung GmbH (BDS) has been operating hydraulic security at the Lahe landfill in Hanover successfully now for 12 years. Because the old structure was not sealed off the contaminated groundwater will now be treated by reverse osmosis. OSMO was granted the contract to delivery the technology and operate the system.

The System

250 to 300 m3 of groundwater are being treated every day using nano-filtration as a preliminary process followed by reverse osmosis. The permeate is of direct discharge quality but is also available to the landfill as service water while the concentrate is fed into the landfill's own seepage water treatment system.
OSMO Membrane Systems operates the system on behalf of BDS. The fully automated system is carried out remotely and any defects are communicated to the stand-by personnel. The system is currently working successfully in its trial operation period and will enter regular service in the autumn. This regular service will continue for 6 years.

To protect the Environment

Seepage water from landfills must not be fed into the sewage system or a receiving water course. The following environmental protection measures are therefore necessary: the cleaned water must be separated from the wastewater and must fulfil feed values as well as a minimum concentrate content level. The cleaned water can then be used again as service water or possibly as drinking water.
For landfill seepage water, as with many other industrial wastewater types, we must, however, be satisfied with bringing the water to a quality at which secondary clarification is possible at biological clarification plants or at which it may be fed into a receiving water course. The contents are concentrated so that they can be disposed of without negative effects on the environment.

Treating Seepage Water with Reverse Osmosis

OSMO offers the following treatment for landfill seepage water: water cleaning to receiving water course quality and concentration of the contents so that the concentrate may be disposed of at the landfill depending on the landfill and the level of concentration. CSB and BSB values can sometimes be reduced substantially when ultra-filtration is used as a preliminary process. Where there is preliminary treatment reverse osmosis can be used as a general procedure in one or more stages depending on quality requirements.
Reverse osmosis is particularly interesting for the treatment of seepage water if the concentrate can be returned to the landfill. OSMO can operate corresponding landfill seepage water systems (operator model) at the client's request.

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