



The 3M team involved in the sludge dewatering, from L to R: Wouter Pacque (Plant Engineering Supervisor - electric utilities and water treatment), Michael Dalemans (Senior Process Engineer), Marc Crockaerts (Senior Specialist Waste Water Treatment), Emmanuel Van Exaerde (Waste Water Treatment Operator).

The Indaver Impex state-of-the-art dredging boat: electrically powered and radio controlled.

Structural dewatering of biological sludge by Indaver Impex. The residue is discharged for sustainable Waste-to-Energy processing by Indaver.

Indaver synergy is great added value for 3M

The 3M site in Zwijndrecht is the European headquarters of their Materials Resource Division, which manufactures and sells specialised materials. Here 3M produces basic products for other 3M plants, such as adhesives for Post-it® Notes and Scotch® products and inerts used in cooling and cleaning computer parts. Diverse production means various waste streams. 3M has been relying on Indaver since 2006 to optimize the management and processing of that waste.

The collaboration between 3M and Indaver goes much further back than 2006. In the late 1980's, Indaver was responsible for the processing of a number of critical waste streams. In 2006, 3M contracted Indaver to provide its Total Waste Management service. This enables the customer to focus on its core business while Indaver takes care of the waste management. Michael Dalemans, Senior Process Engineer, and Ingrid Wouters, Waste Coordinator, explain what this partnership means for 3M. Indaver analyses the market for 3M in order to find the best available technology (BAT) for the processing of both critical and mainstream streams. For critical waste streams, Indaver carries out with 3M in-depth Best Practicable Environmental Option (BPEO) studies to assess the environmental impact of a particular solution. Costs, too, are an important parameter. 3M knows that Indaver always chooses sustainable, risk-free solutions, in the short and long term. Indaver always check that contaminants have been effectively removed from the waste. Thus, 3M avoids future liabilities.

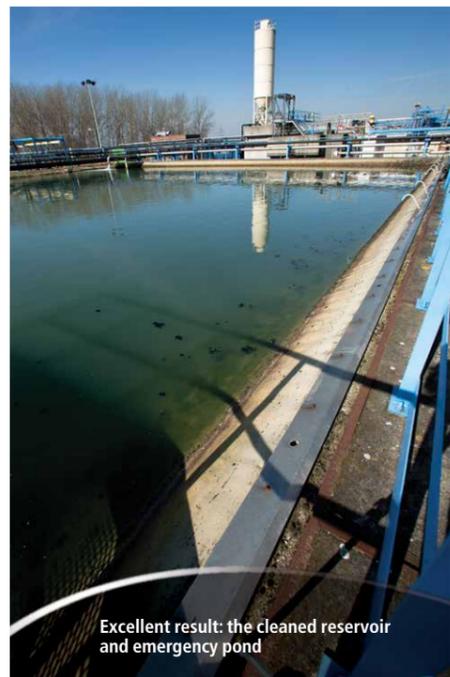
Total outsourcing and savings through synergy

The complex production at 3M generates contaminated wastewater which then goes through several purification stages in its water treatment plant. Over the years, in some parts of the system, a sludge layer had formed that was difficult to remove, and therefore prevented the plant from operating at full capacity. 3M had to look for a suitable technology to remove caked sludge. A market study showed that Indaver Impex was the right partner for sludge dewatering. Indaver Impex differentiated itself by presenting a transparent quotation and a sound project plan, and offering its own equipment, experienced staff and strong commitment. The synergy between Indaver and Indaver Impex provided added value for 3M. Indaver took over the entire administration from 3M and researched the market for the best processing solution for the sludge residue. With the help of a vacuum truck and a centrifuge, the sludge was dewatered from the water treatment plant and the contaminated wastewater treated on site. This meant a considerable saving for 3M. The various sludge fractions were analysed to identify the most suitable processing technology for their final treatment. Hazardous sludge was treated in Indaver's rotary kiln.

Indaver and a person in charge of operations on site. This allowed 3M to carefully monitor the project and budget. Thanks to the thorough preparation, the dewatering project took only 9 weeks to complete. 3M was so pleased that it has confirmed a long-term contract with Indaver Impex for the monthly dewatering of its biosludge. 3M has advised Indaver to use this collaboration to see how it can improve waste management at 3M.

Sustainability at different levels

For 3M, sustainability is paramount. The waste package must therefore be tailored according to the best available technology and optimised as much as possible without risks. Sustainability also means savings in time and money. On top of the sludge dewatering service provided by Indaver Impex, Indaver also succeeds in offering short and long term added value within the TWM project. With their joint solution they bring real sustainability to 3M.



Excellent result: the cleaned reservoir and emergency pond

Total service for waste management

3M has to understand and control the complex administration. The CustomerZone, Indaver's innovative e-platform, fulfils that need. As a major user, 3M has a clear view of operations through customized reports, daily and monthly stock lists, and inventory calculations. 3M also receives digital versions of the supporting invoices for the quantities of waste to be disposed of. In addition, Indaver offers a number of services which take the TWM partnership to a higher level. These include the monthly assessment in which various performance indicators are evaluated. 3M's Quality Manual, which governs the daily waste management, was refined in collaboration with Indaver and tailored to the TWM project. Indaver also introduced the identification of waste containers (non-hazardous waste) using signs, maximizing sorting and making collection safe. All this allowed 3M to save time and costs, successfully keeping down the total cost of waste management.

Opportunities through good experience and expertise

Biological sludge can also accumulate in the 800m³ settling basin. Since Indaver Impex had all the necessary equipment on site, it was able to take care of this basin. An electric dredge coupled with a vacuum pump and a centrifuge was used to that effect. Indaver Impex dewatered the 'biological sludge' in order to reduce the volume by 80%. That was a major job, since the sludge, due to its variable composition, was difficult to suck up and reduce. The controlled use of additives in the dewatering demonstrated an innovative approach. The remaining dry sludge went to Indaver's Waste-to-Energy plant in Doel. The energy generated in the combustion of this waste was recovered to heat neighbouring homes. The project was monitored daily through consultation between 3M, Indaver Impex,

TWM meets 3M's requirements for waste management

Know-how & expertise give Indaver Impex the edge

Indaver Impex

Indaver and DELTA Milieu were recently merged together under Indaver Netherlands BV, expanding Indaver's TWM offering to sludge dewatering for industrial customers as a result. The service involves the use of various technologies (decanter centrifuges, screen belt and plate and frame filter-press, thickening tables) to mechanically dewater sludge. Some of Indaver's customers, 3M included, are already using our Impex sludge dewatering services. More info on www.indaver.nl and www.indaver.nl/impex.



More information ?

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