

A regional approach on sedimentmanagement: confined disposal facility the Slufter as storage location for contaminated sediments from the river Rhine

Arie Noordijk¹ , Ronald Rutgers²

Port of Rotterdam Authority, P.O. Box 6622, 3002 AP Rotterdam, The Netherlands

¹ Phone: +31(0)10-2522183; E-mail: AC.Noordijk@portofrotterdam.com

² Phone: +31(0)10-2522140; E-mail: R.Rutgers@portofrotterdam.com

Over the centuries the river Rhine has been one of the most contaminated rivers in Europe. Rotterdam, situated downstream of the river, has been the sink of the Rhine in terms of contaminated sedimentation for many decades. To guarantee access to the port for shipping traffic, dredging activities are continuously carried out. Each year, some 20 million cubic meters of sediment is dredged in Rotterdam. In the last decades of the last century the legal regulations forced both the Port of Rotterdam Authority and the Ministry of Transport, Public Works and Water Management of the Netherlands to take measures to store the dredged material in a responsible manner. In the year 1987 the Slufter was build as Confined Disposal Facility (CDF) in order to create a temporary solution for the storage of contaminated sediments.

Since the construction of the CDF the Port of Rotterdam Authority started the Rhine Research Project. In this project many action was taken to the make agreements with all major dischargers neighboring the river Rhine, which led to a significant reduction of their discharges. The result of the project was a success. The quality of the sediments in the port basins and fairways improved enormously due to the measures at the source of the contamination. At the start of the Slufter exploitation, roughly 80% of all maintenance dredging was contaminated and had to be stored in the Slufter. At this moment less than 5% of the dredged material has the Slufter quality. The lifecycle of the Slufter, because of this development, has been prolonged from an operational period until 2002 to a period until 2035.

As a conclusion to the Rhine Research Project, a study into the historical contaminated sediments was carried out. Due to this the awareness of historical contaminated sediments was raised, ultimately leading to the drafting of a Sediment Management Plan by the International Commission for the Protection of the Rhine. When these historical contaminated sediments are released into the river, they are a potential risk influencing the sediments in the Rhine and also in the port of Rotterdam. Because of the remaining capacity in the CDF Slufter it felt like a logical 'next step' to look for possibilities to store also the historical contaminated sediments of the Rhine into the Slufter. This represents a new way of looking at sediment management on a river basin scale.

The remaining capacity is roughly 50 million cubic meter of dredged material. Authorities in the Netherlands agree with this initiative, considering the permits they have granted.