

**MARITIME RESOURCES**  
*New Jersey Department of Transportation*

**MEMORANDUM**

**Date:** 11/29/01

**To:** Decontamination Teams

**From:** Scott Douglas, NJMR

**Re:** "The Real Cost of Dredging" or "Is \$29 a Real Number?"

As we move through the pilot phase and into the demonstration phase for (at least some of) these projects, I thought it appropriate to remind everyone of the economics of dredging projects in the Port of NY and NJ. This paper is specific to NAVIGATIONAL dredging projects, not environmental or remedial dredging. Navigational dredging, by the way, is the only kind of dredging we are currently doing in the Port of NY and NJ, and it is likely to stay that way for at least 5 years.

How we got here

By way of history, the "dredging crisis" was precipitated by two things: 1) new tighter regulations from the Corps/EPA regarding ocean disposal of dredged materials and 2), legal action against the Port Authority of NY and NJ and others regarding a dredging project that was allowed to go to the ocean after the new regulations were released, but having been tested under the old guidance. At the time, the cost of dredging projects to the federal and local sponsor, soup to nuts, was about \$3-8 per cubic yard, depending on the size of the project. Practically all material was deemed suitable for ocean disposal; therefore no reasonable upland disposal methods or infrastructure were in place. When reality struck, the Port realized that as much as 75% of the material proposed for dredging would no longer meet ocean disposal criteria and would require alternative management methods. While the Corps had experience with a large number of alternative management techniques, experience and infrastructure for these techniques did not exist in the Port. The Port Authority of NY and NJ, faced with an immediate need to move a large quantity of contaminated material in order to get Howland Hook Marine Terminal on-line, paid \$118/cyd to dredge. It is important to note that this was a PANYNJ maintenance job, not a

federal channel, therefore the Corps did not have a say in the price paid. The Board of the PANYNJ knew that the price they were paying was not sustainable, but they could think of no better way to bring attention to the problem. On the other hand, the Corps was not doing any dredging of contaminated materials at this time. Why not? For some projects it was because the new costs of dredging exceeded their spending authorization, for others the new costs exceeded the cost/benefit ratio limits. They simply could not legally accept the bids. The Port was in "Mudlock".

To solve the problem, EPA and the Corps formed a study group (The Forum). The politicians also formed a study group (The Governor's Task Force). After a few years of talk, these two groups managed to get two things done: They got the Governors of NY and NJ to sign a Joint Dredging Plan and they formed NJ Maritime Resources. The Port Authority provided each State \$65 million to implement the Joint Plan. Task Force member Frank McDonough, as Director of NJMR, then worked with the NJ Legislature to enact the 1996 Dredging Project and Harbor Revitalization Bond Act. The voters approved of the concept and provided \$205 million for dredging projects and infrastructure in the Port. Of this, a minimum of \$5 million was to be spent on decontamination technology development. The goal of all of these programs was simple: find a way to manage our dredged materials, and get the price down to an affordable and sustainable level.

The first technological solution was the simplest: confined aquatic disposal. Beginning in 1996, the Port Authority sought out a location. Of numerous locations in Newark Bay investigated, only one location was deemed economically viable. Construction of the Newark Bay Confined Disposal Facility (NBCDF) was completed in 1997. The facility was located in front of Port Newark and had a capacity of 1.5 million cubic yards. Overlying contaminated material was taken upland locally and the clean parent material (red-brown clay) was dumped at the old ocean disposal site (now called the Historic Area Remediation Site or HARS). The cost of construction, operation, and closure of the facility was estimated to be \$29 per cubic yard assuming 1.5 mcy of dredged materials would be placed there. In order to recover costs, the charge for use of the NBCDF was set at \$29 per cubic yard.

At the same time, several entities had come to the Port Authority and NJMR to discuss the possibility of stabilizing dredged materials and using them as fill in brownfield reclamation projects. The most well-known of these, OENJ Corporation, proposed to utilize amended dredged material as fill at their development site in Elizabeth, NJ. From 1997 to 1998 OENJ successfully placed almost 1 million cubic yards of dredged materials at the site. Most of this was from State, Port Authority, and private jobs and averaged about \$56/cyd (dredging included). In 1997, another operator, ECDC Corporation, (later known as Safety Kleen or SK Services) set up shop at the old Koppers Coke site in Kearny, NJ. They successfully bid on the Corps maintenance of the Arthur Kill Channel. This project was a total of almost 1 million cubic yards and cost a total of \$42 per cubic yard (dredging included). Despite considerable success on these projects, the Corps and the Port Authority did not feel that these costs were sustainable and sought cheaper alternatives.

The operation of these sites was the subject of considerable debate in the 1998 and 1999 drafts of the Dredged Materials Management Plan (DMMP). Corps Headquarters was extremely concerned about the costs of dredging in NY/NJ Harbor. Nowhere in the country were they paying anywhere near \$42 per cubic yard and they were not willing to continue to pay that price if there were any cheaper alternatives. In fact, under Corps policy, they were only obligated to pay for the "least cost environmentally acceptable alternative". This policy, known as the "Federal Standard" allows the Corps to require the local sponsor to pay for any increase in dredging costs that has resulted from local permitting requirements or management options. In other words, if the local sponsor wants to do something over and above what the feds would allow, then the local sponsor has to pay any cost increase. The Corps felt that the proposed containment island in Raritan Bay should be the Federal Standard (\$15/cyd plus dredging). NJMR felt that the NBCDF should be the Federal Standard (\$29/cyd plus dredging). Due to the dissenting voice of the National Marine Fisheries Service on the containment island, it was decided that the NBCDF was, in fact, the least cost alternative. This meant that projects would be bid with both the NBCDF and an upland location as the alternatives. Costs in excess of the NBCDF bids would be the responsibility of the local sponsor.

Obviously, this resulted in a strong push by the PANYNJ and the State of NJ to find upland solutions that would cost \$29 per cubic yard or less. Discussions with SK Services, OENJ-Cherokee, and Consolidated Technologies, Inc., the three firms that held an operational permit at the time, revealed that they would offer services at \$29/cyd, provided that material arrived in suitable condition for them to process. The Corps was convinced to bid projects designating upland disposal sites as primary, and the NBCDF as an optional disposal option. Bidders would submit prices for both options and the Corps would bill the local sponsor for any cost escalation of upland over the NBCDF. Unfortunately, the Corps used overly flexible bidding sheets that allowed a bidder to engineer their bid to make the highest profit while still winning the bid (as any smart operator would do). The Corps also limited the upland placement sites to only those sites that were fully permitted at the time of submission of NEPA documentation. For the past several projects, that consisted of only one site, the OENJ-Cherokee/Bayonne site. This essentially created a monopoly. As a result, project costs did not come down, in fact costs are still in excess of \$50 per cubic yard **including** dredging. If the upland facilities are in fact charging \$29/cyd for processing and placement, why haven't the costs come down? According to the dredgers, the costs of dredging have escalated because of upland disposal issues such as water and debris management, and scow turnaround time.

Regardless of the reasons for continued high project costs, the State and the Port Authority have exhausted their reserved funds to pay for cost escalation in upland projects. So, despite what you hear about project costs, the fact that \$29 is the Federal Standard remains indisputable. As does the fact that the Corps is looking to see this number decreased. It may very well be that decontamination facilities could win bids at prices above \$29 per cubic yard. But I doubt it. The only way that could happen is if the facility conditional requirements for dredged material were sufficiently

lax enough and the throughput high enough that dredgers could operate at higher speed. Or if the facilities bid on projects themselves and subcontracted the dredging. The decontamination project teams should prepare to use this information in their economic analyses if they want to continue to see State funds for facility development. Decontamination facilities must show that they are a viable, sustainable, and above all, cost-effective solution to the navigational dredged material management problem if they want the Corps/Port Authority/State to recognize them, not simply show that their technology works.