

Memorandum

Date: July 30, 2004

To: Harbor Safety Committee, San Francisco Bay Region

From: Len Cardoza

Subject: Underwater Rocks Work Group 2003 Annual Report

The Purpose for the San Francisco Central Bay Rock Removal Project is to take actions to prevent groundings on the rock mounds in Central San Francisco Bay near the existing deep-draft channels. The prevention of groundings could significantly reduce the risk of oil and fuel spills from occurring in the Central Bay. These actions would further serve to improve navigational safety and reduce significant environmental and economic damages within all of San Francisco Bay.

Annual Summary:

The Corps of Engineers (CoE) determined that there was not a Federal interest in pursuing a structural alternative (physically lowering some or all of the rocks) as a result of the Feasibility Study for the proposed project. The CoE completed the Reference Report (Report) reflecting the status of the Corps of Engineers Feasibility Study for the project in November 2003. The final Report incorporates comments by reviewers, including members of the Underwater Rocks Group of the San Francisco Bay Harbor Safety Committee. The CoE posted the report on its website located at www.spn.usace.army.mil (publications and studies). The Feasibility Study is complete, pending a final audit. The San Francisco Central Bay Rock Removal Project has been officially discontinued. Therefore, the Underwater Rocks Work Group was disbanded, pending new information and/or alternative funding to pursue the lowering of the rock mounds in Central San Francisco Bay near the existing deep-draft channels.

Annual Report for 2003. The Underwater Rocks Work Group accomplished the following goals and objectives for calendar year 2003:

- a. Conduct the F-3 Conference (Feasibility Scoping Meeting).

The Corps of Engineers (CoE) held the F-3 Conference for the San Francisco Bay Rock Removal Project (Project) on January 23, 2003. The purpose of the conference was to review the results of the Feasibility Study to date; certify, if possible, the “without project” conditions (baseline data); and conduct a technical review of the supporting documents. California State Lands Commission, as the non-Federal Sponsor of the project, was represented by Steve Jenkins and Bill Morrison. Len Cardoza represented the Underwater Rocks Work Group at the conference. Noting the apparently inadequate benefit-to-cost ratio resulting from preliminary study conclusions, the central policy question addressed at the F-3 Conference is as follows: *Can the study consider the feasibility of the structural alternative under the Federal objective for National Ecosystem Restoration (NER) since the lowering of the rocks would reduce the risk of a catastrophic loss of species and habitat from an oil spill created by grounding on one of the three rocks?* The attendees concluded that a NER structural alternative was inconsistent with current Federal policy, principles and guidelines. Although prevention of these impacts is a potential project output, CoE Principles and Guidelines for project formulation do not consider these outputs as environmental restoration. The outputs result from preventing an accident rather than restoring the environment.

b. Terminate the Corps of Engineers' Feasibility Study since it is unlikely that the Corps of Engineers will proceed with a project to prevent groundings on the rock mounds in Central San Francisco Bay near the existing deep-draft channels, due to the extremely low benefit to cost ratio as discussed above. Complete ongoing work to a logical (useful) point. Prepare a Feasibility Study document (Reference Report) stating conclusions noted above. Recommend that the CoE Commander/Division Engineer issue a Public Notice stating that the Feasibility Study is complete with the recommendation that there is no Federal interest due to the low benefit to cost ratio.

Underwater Rocks Work Group spent the balance of the year working with the State lands Commission and the Corps of Engineers to prepare a final reference report to summarize all work accomplished to date on the project

The Corps of Engineers (CoE) completed the Reference Report (Report) reflecting the status of the Corps of Engineers (CoE) Feasibility Study (FS) for the project in November 2003. The final Report incorporates comments by reviewers, including members of the Underwater Rocks Group of the San Francisco Bay Harbor Safety Committee. The CoE posted the report on its website located at www.spn.usace.army.mil (publications and studies). The Corps of Engineers determined that there was not a Federal interest in pursuing a structural alternative (physically lowering some or all of the rocks) as a result of the study.

The Final Reference report summarizes all work accomplished on the project. The Corps of Engineers determined that there was not a Federal interest in pursuing a structural alternative (physically lowering some or all of the rocks) as a result of the study. The final paragraph of the Report's Executive Summary follows:

As a result of more than two (2) years of study, it was determined there was not a Federal interest in pursuing a structural alternative. Given the current practices in place, which ensure the safe passage of vessels within the Bay, the probability of a vessel actually grounding on the rocks became extremely remote. This low probability of occurrence, when applied to the potential damages that may result from a spill, reduced the project benefits well below the cost to lower the rocks. Since evaluating non-structural measures (e.g., aids to navigation, tug support, emergence (sic) response) is continually being evaluated by others under the overall navigation safety mission of the Harbor Safety Committee, the Feasibility study (sic) was halted. There has been a significant amount of valuable information collected during this investigation, which may be applicable to others when confronting similar navigation hazards. It is the objective of this Reference Report; (sic) therefore, to make available the information to as wide an audience as possible.

The San Francisco Bay Rock Removal Feasibility Study was initiated on April 2000 pursuant to Congressional House Resolution docket 2516, adopted May 7, 1997. The San Francisco Bay Harbor Safety Committee identified four named submerged rock mounds (Harding, Shag, Arch, and Blossom) together with an additional un-named mound, all located in central San Francisco Bay, as a major hazard to navigation. Removing this hazard would significantly reduce the possibility of a major oil spill resulting from a vessel striking one of the mounds. Although there are other

obstructions to navigation within the Bay, these rock mounds are especially dangerous due to their close proximity to the confined shipping lanes.

The Corps of Engineers, working with the Harbor Safety Committee's Underwater Rocks Work Group and the California State Lands Commission, investigated the economic and environmental feasibility of lowering the rock mounds to depths required for safe navigation. The focus of the study was to develop a structural alternative (i.e. physically lower some or all of the rock mounds).

The following studies / field investigations were performed in support of the study:

- Hydrographic study (mapping underwater topography)
- Seismic survey (geological data)
- Benthic survey (environmental habitat)
- Risk assessment Simulation (risk analysis – incident causes, frequency and potential volume of oil spills)
- Bio-economic oil spill simulation (ecological and financial consequences of an oil spill)

The Project Team, led by the CoE, arrived at following conclusions:

1. The Benefit/Cost analysis applies the design and construction costs to lower some or all the rocks against the benefits gained by elimination the navigation hazard (e.g., savings accrued by not expending the necessary costs to respond to a spill, to restore the affected species and environmental habitat, and the associated economic losses that would result from a major oil spill in the Bay). The actuality of accruing these benefits, however, depends on the probability (risk) of the spill actually occurring. The Harbor Safety Committee has established stringent safety procedures, which act to significantly reduce this risk. With these safety procedures in place, therefore, the Benefit/Cost ratio is significantly below unity – the legal requirement to be met under National Economic Development (NED) for the CoE to continue to evaluate the structural alternative.
2. The CoE further determined that the structural alternative could not be considered under the Federal objective for National Ecosystem Restoration (NER). While the FS documented that an oil spill in the San Francisco Bay may have devastating environmental impacts, characterizing the prevention of these impacts as environmental restoration is problematic - The CoE can not investigate the restoration of an environment before the damages requiring that restoration have actually occurred.

The Feasibility Study is complete, pending a final audit. The San Francisco Central Bay Rock Removal Project has been officially discontinued.

- c. Work with the California State Lands Commission and Harbor Safety Committee to address the following questions / concerns:
 1. Evaluate alternate means of Federal funding to pursue project.
 2. Evaluate alternate means of non-Federal funding to pursue project.

Underwater Rocks Work Group, working with the California State Lands Commission, Corps of Engineers, and Congressional delegation, determined that alternate means of Federal / non-Federal funding is unlikely to be made available in the near future, pending new information required to re-open the Feasibility study for the Project.

