

Mine Countermeasures Equipment Lubrication Discharge Summary

Description of Discharge

How is this discharge generated? This discharge consists of the constituents released into the surrounding seawater by erosion or dissolution from lubricated mine countermeasures equipment when the equipment is deployed or towed. Various types of mine countermeasures equipment are deployed and towed behind vessels to locate and destroy mines. Lubricating grease and oil applied to this equipment can be released into surrounding seawater during its deployment and use, including during training exercises.

Which vessels generate this discharge? The Navy is the only branch of the Armed Forces with a mine countermeasures mission. The Navy uses two classes of vessels, totaling 23 ships, to locate, classify, and destroy mines.

How often and where is this discharge generated? The discharge is generated during training exercises, which are normally conducted between 5 and 12 n.m. from shore. Depending on the class of vessel and the type of mine countermeasures equipment being used, the number of training exercises conducted by each vessel ranges from 6 to 240 per year.

Analysis

Nature of Discharge: Using estimates of the amount of lubricant released during each training exercise, EPA and DOD calculated the annual mass loading of lubricant discharges to be approximately 770 pounds of grease and oil. Using the estimates of the pollutant mass loading released during an exercise, and the volume of water through which the countermeasures equipment is towed or operated during an exercise, EPA and DOD estimated the oil and grease concentrations resulting from mine countermeasures training exercises. These estimated concentrations of oil and grease in the receiving water range from 0.688 to 7.3 µg/l and do not exceed acute water quality criteria.

An additional calculation was performed for the lift cable for the SLQ-48 mine neutralization vehicle (MNV). This lift cable is lubricated with grease; however, the cable is not towed through the water and is only used to deploy or recover the MNV while a vessel is stationary. Using the maximum predicted release of 0.15 ounces of grease per deployment, modeling results indicate that the grease released from the lift cable would disperse in the surrounding receiving waters and be at concentrations below the most stringent State acute water quality criteria within 3 to 5 feet from the cable.

Discussion and Discharge Determination

Discussion: Most discharges from mine countermeasures equipment occur while vessels are underway and the pollutants are quickly dispersed in the environment due to the turbulent mixing conditions caused by the wake of the vessel and towed equipment. Further, these discharges take place beyond 5 n.m. from shore in waters with significant wave energy, allowing for rapid and wide dispersion of the releases. The manner in which these releases occur, coupled with the relatively small amounts of lubricants released, results in this discharge having a low potential for causing adverse impacts on the marine environment. Therefore, EPA and DOD determined that it is not reasonable and practicable to require the use of a MPCD to mitigate adverse impacts on the marine environment for the mine countermeasures equipment lubrication discharge.

Determination: A marine pollution control device is not required.