

**WAVE TANK STUDIES ON CHEMICAL DISPERSANT EFFECTIVENESS
AS A FUNCTION OF ENERGY DISSIPATION RATE**

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The U.S. Environmental Protection Agency (EPA) oil spill research program, in collaboration with Fisheries and Oceans Canada/Center for Offshore Oil and Gas Environmental Research (DFO/COOGER), has initiated a wave tank demonstration to quantify the effects of wave energy on the efficacy of chemical dispersants on crude oils. The effectiveness of chemical dispersants at various wave energy conditions has been evaluated by analysis of the dispersed oil concentration and dispersed oil droplet size distribution. Re-coalescence of the dispersed oil in the presence and absence of chemical dispersants under different hydrodynamic regimes was also investigated. The data presented show that effective chemical dispersants significantly reduce the oil droplet sizes; elevated dissipation energy promotes the penetration of oil into bulk aqueous phase; and the presence of dispersant dramatically decreases the re-coalescence of the dispersed oil.