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Title: 1.3 ATA PO(2)-in-He Decompression Tables for MK 16 MOD 1 Diving: Summary Report and Operational Guidance

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Abstract: The Navy Experimental Diving Unit (NEDU) was tasked by PMS-EOD to develop repetitive helium-oxygen (HeO<sub>2</sub>) decompression tables for use with the MK 16 MOD 1 Underwater Breathing Apparatus. Statistical and probabilistic decompression technology (LEM model) was used to generate profiles with depths, bottom times, and surface intervals of operational relevance to the fleet Explosive Ordnance Disposal (EOD) diver. These profiles were then man-tested 227 times, with one diagnosed case and one possible case of decompression sickness (DCS). These data were used to recalibrate the LEM model, which was then analytically mapped onto a deterministic model to allow the generation of repetitive decompression tables in U.S. Navy Diving Manual format with a predicted risk of DCS of 2.3percent. Selected profiles from these tables were man-tested 299 times with 6 cases of DCS, yielding a 2.0percent overall observed incidence of DCS in conformance with the intended risk. This report summarizes the work completed at NEDU during the development and testing of these tables, and forwards the tables with recommendations and guidance for their operational use. The tables are recommended for single no-decompression and decompression MK 16 MOD 1 HeO<sub>2</sub> dives to depths from 40 to 300 fsw, and within certain limits, for repetitive MK 16 MOD 1 HeO<sub>2</sub> diving in the 40 to 200 fsw range with surface intervals as short as 30 minutes. A more detailed description of this work will be

released in a subsequent report or reports.

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