DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD
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13 OCT 2022

DDESB-PE

MEMORANDUM FOR COMMANDING OFFICER, NAVAL ORDNANCE SAFETY AND SECURITY ACTIVITY (ATTENTION: CODE N54)

SUBJECT: Approval of 7-Bar Structural Strength Designation for Navy Standard Modular Storage Magazine (MSM) Constructed to Naval Facilities Engineering Systems Command Drawing Numbers 14115969 through 14116021

References: (a) NOSSA ltr 8020 Ser N41/1208 of 9 June 2022, Subject: Expedited Request for Approval of Revised Standard Drawings for Navy Type Box C, Navy Type Box D and Navy Modular Storage Magazines [Criteria/Non-WEBSAR/ NN-002]

(b) Naval Facilities Engineering Systems Command Drawing Numbers 14115969 through 14116021, Modular Storage Magazine Standard Drawings, dated 14 September 2022

(c) Defense Explosives Safety Regulation 6055.09, Edition 1, 13 January 2019

(d) Naval Facilities Engineering Command Atlantic Drawing Numbers 14063806 through 14063858, Modular Storage Magazine Standard Drawings, dated 2 July 2019

(e) DDESB-PE Memorandum, 18 July 2019, Subject: Approval of 7-Bar Structural Strength Designation for Navy Standard Modular Storage Magazine (MSM) Constructed to Naval Facilities Engineering Command Drawing Numbers 14063806 through 14063858

(f) DDESB Technical Paper 15, "Approved Protective Construction," Revision 4, 26 July 2020

As requested by reference (a), we have reviewed the reference (b) drawings for compliance with Department of Defense explosives safety criteria found in reference (c). Based on our evaluation, the design contained in reference (b) is approved as a 7-Bar earth-covered magazine (ECM). This new design and approval supersede the previous reference (d) Navy MSM design and the reference (e) approval.

The new drawings of reference (b) include two significant modifications from the existing MSM standard design. First, the blast door has been completely redesigned to incorporate Grade 50 structural steel due to the generally limited availability of previously specified A36 steel. This modification includes a new configuration of vertical structural steel

stiffeners. Also, the connection between the roof panels and side wall panels has been revised to enhance capacity for increased loading transferred into the roof diaphragm from the blast door.

The design of reference (b) will be added to Table AP1-1 of reference (f) as approved for new construction, and reference (d) will be relocated from Table AP1-1 to Table AP1-2 and considered not approved for new construction.

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