09-1 - HIGH IMPACT ITEMS (LW, MW, AND HW),INTERNAL TO THE PRESSURE HULL:

HIGH IMPACT (HI) SHOCK QUALIFICATION VIA TEST, EXTENSION, OR ANALYSIS IN ACCORDANCE WITH MIL-S-901D WITH INTERIM CHANGE #2 (IC2) IS REQUIRED FOR THIS ITEM, UNLESS THE ITEM HAS ALREADY BEEN QUALIFIED FOR OHIO REPLACEMENT CLASS SUBMARINES VIA STANDARD CLAUSE 09-S WITHIN THE PART DESCRIPTION FOR THIS ITEM.

ALL POTENTIAL SHOCK QUALIFICATION OPTIONS (INCLUDING ANY ASSOCIATED COST AND/OR RISK ASSESSMENTS) SHOULD BE THOROUGHLY INVESTIGATED PRIOR TO DETERMINING WHETHER SHOCK TESTING, EXTENSION, OR ANALYSIS IS THE MOST TECHNICALLY ACCEPTABLE AND COST EFFECTIVE APPROACH.

IF SHOCK DESIGN GUIDANCE IS REQUIRED BY THE SUPPLIER, THE SUPPLIER SHALL SUBMIT A VENDOR INFORMATION REQUEST (VIR) TO REQUEST THIS INFORMATION, WHICH WILL BE PROVIDED STRICTLY FOR GUIDANCE ONLY. REGARDLESS OF SHOCK DESIGN VALUES USED, THE SUPPLIER IS RESPONSIBLE FOR PROVIDING ITEMS WHICH SATISFY ALL SHOCK QUALIFICATION REQUIREMENTS (FOR TESTING, EXTENSION, OR ANALYSIS, AS APPLICABLE).

ORDERING DATA FOR SHOCK QUALIFICATION IN ACCORDANCE WITH PARAGRAPH 6.2 OF MIL-S-901D IC2 HAS BEEN PROVIDED IN THE PART TEXT/DESCRIPTION, PURCHASE ORDER, DRAWING/DESIGN DISCLOSURE, AND/OR PROCUREMENT SPECIFICATION, AS APPLICABLE. IF SHOCK ORDERING DATA IS REQUIRED AND HAS NOT BEEN PROVIDED, THE SUPPLIER IS TO SUBMIT A VIR TO REQUEST AN ORDERING DATA SUPPLEMENT TO THE PURCHASE ORDER.

WHEN SHOCK ORDERING DATA SPECIFIES CLASS I/II, II OR III AND/OR ITEM INCLUDES SHOCK, NOISE, OR VIBRATION ISOLATORS (INCLUDING MOUNTS TO MITIGATE SHOCK LOADS, RESILIENT MOUNTS, DISTRIBUTED ISOLATION MATERIAL (DIM), OR LIMITED DISPLACEMENT MOUNTS (LDM), FLEXIBLE ELEMENTS, ETC.), EITHER EXTERNAL OR INTERNAL TO THE PRINCIPAL UNIT, THE DETAILED INFORMATION FOR THESE MOUNTS SHALL BE PROVIDED TO THE BUYER IF THE MOUNTS ARE SELECTED AND/OR SUPPLIED BY THE SUPPLIER (INCLUDING, BUT NOT LIMITED TO MATERIALS, DIMENSIONS, MATERIAL PROPERTIES, RATED CAPACITY, LOAD/DEFLECTION CURVES, LINEAR OR NON-LINEAR STIFFNESS VALUES, STATIC/DYNAMIC RESPONSE VALUES, TEST RESULTS, ETC., AS APPLICABLE). IF THE ITEM IS CLASS I/II, II OR III, BUT MOUNTS ARE NOT SELECTED OR SUPPLIED BY THE SUPPLIER, THE BUYER SHALL PROVIDE THE DETAILED MOUNT INFORMATION TO THE SELLER.

SHOCK QUALIFICATION BY EXTENSION: ITEMS IDENTICAL OR SIMILAR TO ITEMS WHICH HAVE BEEN PREVIOUSLY SHOCK TESTED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS, OR IN ACCORDANCE WITH THE REQUIREMENTS OF

PPD 802-6335704, MIL-S-901C, MIL-S-901D (WITH OR WITHOUT INTERIM CHANGE #1), OR MIL-S-901D IC2 MAY BE RECOMMENDED FOR ACCEPTANCE WITHOUT FURTHER SHOCK TESTING. HOWEVER, REVIEW AND APPROVAL BY THE DESIGNATED APPROVAL AUTHORITY IS REQUIRED AS PART OF THE SHOCK QUALIFICATION PROCESS FOR BOTH IDENTICAL AND SIMILAR EXTENSION CANDIDATE ITEMS.

CONSIDERATION OF "IDENTICAL" ITEMS SHALL ADDRESS SPECIFIC SYSTEM AND MOUNTING LOCATION INFORMATION (I.E., USAGE, APPLICATION, AND ISOLATION DEVICES) IN ADDITION TO HARDWARE. PIECE-TO-PIECE COMPARISON WITH TECHNICAL RATIONALE FOR EXTENSION SHALL BE PROVIDED. DETAILED PROOF OF PREVIOUS SHOCK TESTING, INCLUDING A SHOCK TEST REPORT AND APPROVAL DOCUMENTATION, SHALL BE SUBMITTED TO THE BUYER WITHIN 30 DAYS OF RECEIPT OF THIS ORDER FOR EVALUATION FOR SHOCK TEST EXTENSION APPLICABILITY.

ALL EXTENSION REQUESTS (FOR IDENTICAL OR SIMILAR ITEMS) SHALL BE PREPARED IN ACCORDANCE WITH DATA ITEM DESCRIPTION DI-ENVR-80706 OF MIL-S-901D IC2 AND MUST BE REVIEWED BY THE BUYER TO DETERMINE IF THE ORIGINALLY TESTED ITEM, MOUNTING CONFIGURATION, ORIENTATION, FUNCTIONAL REQUIREMENTS, ETC., ARE ACCEPTABLE AS A BASIS FOR EXTENSION PRIOR TO OBTAINING SHOCK QUALIFICATION APPROVAL FROM THE DESIGNATED APPROVAL AUTHORITY.

SHOCK QUALIFICATION BY TEST:

IN THE EVENT THAT THE BUYER IS RESPONSIBLE FOR SHOCK TESTING AN ITEM, SUPPLIER INVOLVEMENT SHALL TYPICALLY BE LIMITED TO SHIPPING, POST-TEST INSPECTION, REFURBISHMENT, AND FUNCTIONAL

IN THE EVENT THAT THE SUPPLIER IS CONTRACTED TO COORDINATE AND/OR PERFORM SHOCK TESTING, THE FOLLOWING APPLY:

SHOCK TEST, POST-SHOCK TEST INSPECTION, AND FUNCTIONAL TEST PROCEDURES SHALL BE PREPARED IN ACCORDANCE WITH THE APPLICABLE ORDERING DATA, AND DATA ITEM DESCRIPTION DI-ENVR-80709 OF MIL-S-901D IC2. THESE PROCEDURES, INCLUDING A COPY OF THE SUPPLIERS ASSEMBLY ANALYSIS AND DRAWING (IF NOT PREVIOUSLY SUBMITTED FOR THIS CONTRACT), A DETAILED SCHEMATIC OF THE TEST SETUP FOR LIGHTWEIGHT (LW) AND MEDIUM WEIGHT (MW) ITEMS AND A SHOCK TEST FIXTURE DRAWING FOR HEAVYWEIGHT (HW) ITEMS (INCLUDING SIZES, DIMENSIONS, MATERIALS, DUMMY WEIGHTS, MEANS OF ATTACHMENT, ETC., AS APPLICABLE FOR LW, MW, AND HW ITEMS) AND SAMPLES OF SHOCK TEST DATA SHEETS, AS APPLICABLE, SHALL BE SUBMITTED TO THE BUYER FOR APPROVAL AT LEAST TWO MONTHS PRIOR TO THE SCHEDULED TEST FOR LW/MW ITEMS AND AT LEAST SIX MONTHS PRIOR TO THE SCHEDULED TEST DATE FOR HW ITEMS.

SHOCK TESTING SHALL BE PERFORMED AT APPROVED SHOCK TEST FACILITIES PER NAVSEAINST 9491.1C. GOVERNMENT WITNESSING AND REPORT CERTIFICATION REQUIREMENTS ARE AS SPECIFIED IN MIL-S-901D IC2.

STANDARD LW AND MW SHOCK TEST MOUNTING FIXTURES IN ACCORDANCE WITH MIL-S-901D IC2 SHALL BE USED UNLESS OTHERWISE AUTHORIZED BY THE BUYER. SUITABLE BOOKENDS OR OTHER SUPPORT STRUCTURE TO BE USED ON LW TESTS MUST HAVE A NATURAL FREQUENCY (WITH ATTACHED COMPONENT) OF 160 HERTZ OR GREATER. SUITABLE BOOKENDS OR INTERMEDIATE STRUCTURE TO BE USED ON MW TESTS MUST HAVE A NATURAL FREQUENCY (WITH ATTACHED COMPONENT) OF 90 HERTZ OR GREATER. NON-STANDARD MOUNTING FIXTURES REQUIRE APPROVAL OF SUPPORTING CALCULATIONS WHICH VERIFY THAT THE FIXTURE HAS ADEQUATE STRENGTH AND THAT THE SHIPBOARD MOUNTING STIFFNESS IS ADEQUATELY REPRESENTED. IF A NON-STANDARD FIXTURE IS REQUIRED, THE SUPPLIER SHALL IDENTIFY THIS TO THE BUYER AND THE BUYER SHALL PROVIDE APPROPRIATE MINIMUM SHIPBOARD STIFFNESS OR FREQUENCY VALUES TO BE SIMULATED.

UPON COMPLETION OF SHOCK TESTING, THE SUPPLIER SHALL PREPARE AND SUBMIT TO THE BUYER A SHOCK TEST REPORT IN ACCORDANCE WITH DATA ITEM DESCRIPTION DI-ENVR 80708 OF MIL-S- 901D IC2, INCLUDING POST-SHOCK TEST INSPECTION, IF APPLICABLE. GOVERNMENT WITNESSING AND REPORT CERTIFICATION REQUIREMENTS ARE AS SPECIFIED IN MIL-S-901D IC2.

ALL COSTS INCURRED DUE TO SHOCK QUALIFICATION REQUIREMENTS, SUCH AS TRANSPORTATION, TEST SETUP, SHOCK TESTING, REPAIR, REPLACEMENT, OR RECONDITIONING, RE-TESTING, POST-SHOCK TEST INSPECTION AND FUNCTIONAL TESTING SHALL BE BORNE BY THE SUPPLIER, UNLESS OTHERWISE AGREED TO BY THE BUYER. THIS SHALL INCLUDE COSTS FOR THOROUGH INSPECTION AND CORRECTION OF DAMAGE TO TEST ITEMS WHICH HAVE SUCCESSFULLY PASSED SHOCK QUALIFICATION TESTING AND WHICH ARE TO BE DELIVERED TO THE BUYER.

MANUFACTURING SCHEDULES SHALL ALLOW AMPLE TIME FOR SHOCK TESTING TO MEET THE BUYERS REQUIREMENTS. TEST ITEMS THAT FAIL TO PASS SHOCK TESTS SHALL BE IDENTIFIED TO THE BUYER AND, AS DIRECTED BY THE BUYER, REDESIGNED AND/OR RE-TESTED AS THE TEST FACILITY SCHEDULE PERMITS. THE SUPPLIER SHALL ALSO ALLOW SUFFICIENT TIME FOLLOWING THE SHOCK TEST TO PERMIT SHIPMENT BACK TO THE PLACE OF MANUFACTURE FOR POST-SHOCK TEST INSPECTION, FUNCTIONAL TESTING AND CORRECTION OF ANY DAMAGE SUCH THAT THE TEST ITEM MAY BE DELIVERED TO THE BUYER ON SCHEDULE.

SHOCK QUALIFICATION BY ANALYSIS

SHOCK QUALIFICATION BY ANALYSIS (PRIMARILY FOR SHOCK GRADE B ITEMS AND SELECTIVE GRADE A ITEMS) REQUIRES ADVANCE AUTHORIZATION, UNLESS THE PROCUREMENT SPECIFICATION OR OTHER GOVERNING REQUIREMENT SPECIFICALLY ALLOWS QUALIFICATION BY ANALYSIS. FOR QUALIFICATION BY ANALYSIS, THE SUPPLIER SHALL PROVIDE A REPORT TO THE BUYER WHICH DOCUMENTS THE ANALYSIS, INCLUDING ALL ANALYSIS ASSUMPTIONS AND PROCEDURES. THE ANALYSIS SHALL BE APPROVED BY THE DESIGNATED APPROVAL AUTHORITY.

MIL-S-901D IC2 MODIFICATIONS, SUPPLEMENTAL CLARIFICATIONS & PROVISIONS THE FOLLOWING ARE SUPPLEMENTAL CLARIFICATIONS AND PROVISIONS THAT ARE APPLICABLE WHEN USING MIL-S-901D IC2. THESE ARE PRIMARILY PER PMS397 LETTER SER 397T1/0632, DATED 11/15/13, AND SHIP SPECIFICATION SECTION 072K. ANY QUESTIONS REGARDING THE BELOW SHOULD BE CONVEYED TO AND ADDRESSED BY THE BUYER.

1. ITEMS IDENTICAL (IN ALL RESPECTS, INCLUDING COMPONENT/SYSTEM DESIGN, MOUNTING LOCATION, ORIENTATION, AND INSTALLATION DETAILS, ETC.) TO PREVIOUSLY QUALIFIED ITEMS DO NOT REQUIRE ADDITIONAL TESTING (REGARDLESS OF ANY NEW CLASSIFICATION FROM CLASS I TO NEW CLASS I/II). THE DIRECTION PROVIDED HEREIN SUPERSEDES THAT CONTAINED IN MIL-S-901D IC2. CANDIDATE ITEMS SHALL BE SUBMITTED BY THE SELLER ALONG WITH RATIONALE AND REVIEWED AND APPROVED BY THE BUYER AND DESIGNATED APPROVAL AUTHORITY.

2. SIMILAR EXTENSION ITEMS, AS ADDRESSED IN SECTION 3.2 OF MIL-S-901D IC2, MAY REQUIRE RETESTING OR ADDITIONAL TESTING, IN ORDER TO MEET ANY NEW/DIFFERENT REQUIREMENTS OF MIL-S-901D IC2. CANDIDATE ITEMS SHALL BE SUBMITTED BY THE SELLER ALONG WITH RATIONALE, AND REVIEWED AND APPROVED BY THE BUYER AND DESIGNATED APPROVAL AUTHORITY. EXTENSIONS WILL BE CONSIDERED FOR THE FOLLOWING CIRCUMSTANCES (WHICH DIFFER FROM WHAT IS CONTAINED IN MIL-S-901D IC2):

A. WHEN THE ONLY REASON AN EXTENSION CANDIDATE ITEM WOULD NORMALLY REQUIRE A RETEST IS THAT THE EQUIPMENT CLASS HAS CHANGED BECAUSE OF THE CHANGE TO THE DEFINITION OF CLASS FROM PREVIOUS VERSIONS OF MIL-S-901 (OR EQUIVALENT) VERSUS MIL-S-901D IC2 AND NOT DUE TO ANY CHANGES TO THE ITEM ITSELF, INCLUDING NO ADDITION, SUBTRACTION, OR ALTERATION OF ISOLATION DEVICES. (EXAMPLE: A PREVIOUSLY CLASS I ITEM IS NOW CONSIDERED CLASS I/II).

B. WHEN THE DESIGN/BUILD OF AN EXTENSION CANDIDATE ITEM IS IDENTICAL (INCLUDING NO ADDITION, SUBTRACTION, OR ALTERATION OF ISOLATION DEVICES), BUT THE INSTALLATION, SERVICE, AND/OR ORIENTATION HAS CHANGED, SHOCK EXTENSION MAY BE ACCEPTABLE IF AN EXTENSION WOULD HAVE BEEN ALLOWED BY A PREVIOUS VERSION OF MIL-S-901 (OR EQUIVALENT).

3. BASIC REQUIREMENTS, GUIDELINES, AND LIMITATIONS FOR USE OF THE DECK SIMULATING SHOCK MACHINE (DSSM) ARE PROVIDED BELOW. A SHOCK TEST PROCEDURE TEMPLATE FOR DSSM TESTING IS AVAILABLE UPON REQUEST FROM THE BUYER.

A. USE OF THE DSSM AS AN ALTERNATE SHOCK TEST MACHINE IN ACCORDANCE WITH MIL-S-901D IC#2 (IC2) IS LIMITED TO TESTING CLASS II, CLASS I/II AND CLASS III CONVENTIONAL OR MITIGATED DECK MOUNTED EQUIPMENT (WHERE NOT ALL OF THE ISOLATION DEVICES ARE LDCIDS (LIMITED DISPLACEMENT CAPABILITY ISOLATION DEVICES, AS DEFINED IN IC2)) INSTALLED ON SUBMARINE WITH A SHOCK RESPONSE FREQUENCY OF 37 HZ OR LESS, UNLESS OTHERWISE APPROVED BY THE APPROVAL AUTHORITY.

B. THE FOLLOWING APPLICABILITY AND GUIDANCE SHOULD BE UNDERSTOOD PRIOR TO CONDUCTING SHOCK TESTING OF OHIO REPLACEMENT (OR) CLASS II, CLASS I/II, OR CLASS III CONVENTIONAL AND MITIGATED DECK MOUNTED EQUIPMENT. APPLICABILITY IS FOR THESE ITEMS WITH AT LEAST ONE ISOLATION DEVICE (INTERNAL OR EXTERNAL) THAT IS NOT A LDCID.

C. THE DSSM PROVIDES SHOCK LOADINGS TO DECK MOUNTED EQUIPMENT SIMULTANEOUSLY IN THE VERTICAL, LATERAL AND ROTATIONAL DIRECTIONS AT SEVERITY LEVELS COMPARABLE TO A DECK SIMULATING FIXTURE (DSF) USED ON FLOATING SHOCK PLATFORM (FSP) SHOCK TESTS PER IC2.

1. A DSSM TEST ALONE IS NOT SUFFICIENT FOR SHOCK TESTING THE FOLLOWING CASES:

- CLASS II EQUIPMENT WITH EXTERNAL LDCIDS AND INTERNAL NON-LDCIDS. (I.E., THIS IS EQUIVALENT TO A CLASS I/II ITEM)

- CLASS I/II EQUIPMENT WITH AT LEAST ONE ISOLATION DEVICE THAT IS NOT AN LDCID.

- CLASS III EQUIPMENT WITH AT LEAST ONE ISOLATION DEVICE THAT IS NOT ANLDCID.

2. IN THESE CASES A LIGHT WEIGHT SHOCK MACHINE (LWSM), MEDIUM WEIGHT SHOCK MACHINE (MWSM), FSP INNER-BOTTOM, OR FSP DSF TEST OF THE EQUIPMENT MUST ALSO BE CONDUCTED TO SATISFY THE REQUIREMENTS AND INTENT OF IC2 PARAGRAPH 3.1.6.4(C)(3) AND 3.1.6.4(C)(4).

D. GUIDANCE IS AVAILABLE FROM THE BUYER REGARDING THE ACTIVITIES TO BE PERFORMED DURING DSSM PRE AND POST-TEST PERIODS, EQUIPMENT INSTALLATION, TEST CONDUCT, EQUIPMENT OPERATION, POST SHOCK FUNCTIONAL TESTING AND INSPECTIONS AND TEST ACCEPTANCE AND REPORTING. ALL DSSM TESTS SHALL COMPLY WITH THE REQUIREMENTS OF IC2. THE TEST CATEGORY FOR EQUIPMENT SUBJECTED TO DSSM TESTING IS ALTERNATE SHOCK TEST MACHINE/DSSM PER 1.2.1 OF IC2.

4. COMPONENT DESIGNER MUST DESIGN APPROPRIATELY (E.G., FULLY CONSIDER ALL ASPECTS, BOTH LINEAR AND NON-LINEAR FOR DOUBLY-ISOLATED SYSTEMS, ETC.) FOR LOW FREQUENCY INPUTS/RESPONSE (I.E., FOR POTENTIAL FOR SHOCK LOAD AMPLIFICATION). EXAMPLE: ANY CLASS I/II, II, OR III DECK-MOUNTED ITEM WITHOUT LDCIDS (EITHER INTERNAL OR EXTERNAL ISOLATION MOUNTS).

5. IN-LINE PIPE-MOUNTED VALVES IN PIPING SYSTEMS UTILIZING RESILIENT-MOUNTED HANGERS ATTACHED TO DECKS ARE ALLOWED TO BE CONSIDERED AS CLASS I, UNLESS THEY CONTAIN ELEMENTS THAT ARE SENSITIVE TO LOW FREQUENCY INPUTS/RESPONSE. AS SUCH THEY CAN BE TESTED USING BOOKENDS WITHOUT EXCEPTION, AS STATED IN MIL-S-901D IC2. OTHER IN-LINE PIPE-MOUNTED OR VENTILATION-MOUNTED ITEMS UTILIZING RESILIENT-MOUNTED HANGERS SHOULD GENERALLY BE ASSUMED TO BE CLASS II, UNLESS OTHERWISE DIRECTED.

6. ADDITIONAL GUIDANCE FOR HEAVYWEIGHT TESTING AND THE USE OF DECK SIMULATING FIXTURES (DSFS) IS AVAILABLE UPON REQUEST FROM THE BUYER.

THIS GUIDANCE ADDRESSES TOPICS INCLUDING RECOMMENDED DAMPING, MASS RATIOS, DSF TARGET FREQUENCIES, POSITIONING OF TEST ITEMS ON DSFS, ETC.

7. FOR COMPONENTS WITH ISOLATION DEVICES:

A. IN LIEU OF USING FIGURE 23 OF MIL-S-901D IC2, ISOLATION DEVICES LIMITED BY THEIR PHYSICAL SIZE (IN EACH PRINCIPAL ORTHOGONAL DIRECTION) TO A MAXIMUM DISPLACEMENT OF 0.5 INCH ARE CONSIDERED LIMITED DISPLACEMENT CAPABILITY ISOLATION DEVICES (LDCIDS).

B. FOR ANY CLASS II, I/II, OR III ITEM, FOR WHICH ALL INTERNAL OR EXTERNAL ISOLATION DEVICES ARE LDCIDS, THE ITEM MAY BE REQUESTED TO BE TESTED IN EITHER THE ISOLATED OR NON-ISOLATED MOUNTING CONFIGURATION TO CLASS I EQUIPMENT REQUIREMENTS, BUT ONLY WITH APPROVAL AUTHORITY APPROVAL, INCLUDING APPROVAL THAT THE CORRESPONDING SHOCK RESPONSE FREQUENCY (SRF) REQUIREMENTS HAVE BEEN MET.

C. ALTHOUGH ISOLATION MOUNTS ARE SPECIFICALLY ADDRESSED IN MIL-S-901D IC2, IT IS IMPORTANT TO ALSO NOTE THAT ANY/ALL INTERNAL, NON-MOUNT ELEMENTS WITHIN COMPONENTS GENERALLY DO NOT NEED TO BE IDENTIFIED AND EVALUATED TO ASSESS THAT THE COMPONENT HAS A NATURAL FREQUENCY OF LESS THAN 37 HZ OR DEFLECTION CAPABILITY OF LESS THAN OR EQUAL TO 0.5 INCH, AS ADDRESSED IN 7.A ABOVE). HOWEVER, STRUCTURAL OR OTHERWISE INTERNAL NON-MOUNT ELEMENTS WILL NEED TO BE ASSESSED WHERE USED TO SPECIFICALLY REPLACE ISOLATION ELEMENTS IN THE FUNCTION OF THE SYSTEM (I.E.,

IF A STRUCTURAL FEATURE IS SPECIFICALLY USED IN PLACE OF AN ISOLATION MOUNT).

8. SPECIFIC MODIFICATIONS TO MIL-S-901D INTERIM CHANGE 2, DATED JULY 30, 2012, APPROVED FOR OR ARE AS FOLLOWS:

SECTION 3.1.6.1(B) - CHANGE PARAGRAPH TO READ: (B) CLASS II EQUIPMENT SHALL BE SHOCK TESTED MOUNTED TO THE TEST FIXTURE IN THE ISOLATED MOUNTING CONFIGURATION. CLASS II EQUIPMENT FOR WHICH ALL ISOLATION DEVICES ARE LIMITED DISPLACEMENT CAPABILITY ISOLATION DEVICES (SEE 6.2.20) MAY BE TESTED ON MOUNTS TO CLASS I EQUIPMENT REQUIREMENTS WITH APPROVAL BY THE APPROVAL AUTHORITY.

SECTION 3.1.6.1(C) - CHANGE PARAGRAPH TO READ: (C) CLASS I/II EQUIPMENT SHALL BE SHOCK TESTED MOUNTED TO THE TEST FIXTURE IN THE SHIPBOARD MOUNTING CONFIGURATION. CLASS I/II EQUIPMENT THAT ONLY USES LIMITED DISPLACEMENT CAPABILITY ISOLATION DEVICES (SEE 6.2.20) MAY BE TESTED TO CLASS I EQUIPMENT REQUIREMENTS WITH APPROVAL BY THE APPROVAL AUTHORITY.

SECTION 3.1.6.1 (D) - CHANGE PARAGRAPH TO READ: (D) CLASS III EQUIPMENT SHALL BE SHOCK TESTED MOUNTED TO THE TEST FIXTURE IN BOTH THE ISOLATED AND NON-ISOLATED MOUNTING CONFIGURATIONS, UNLESS OTHERWISE SPECIFIED (SEE 6.2.1(I), 6.2.2(F)), OR IF APPROVED BY THE APPROVAL AUTHORITY (SEE 6.5(Z)). CLASS III EQUIPMENT FOR WHICH ALL ISOLATION DEVICES ARE LIMITED DISPLACEMENT CAPABILITY ISOLATION DEVICES (SEE 6.2.20) MAY BE TESTED IN THE NON-ISOLATED MOUNTING CONFIGURATION TO CLASS I EQUIPMENT REQUIREMENTS WITH APPROVAL BY THE APPROVAL AUTHORITY. PERMISSION TO DO SO IS SUBJECT TO THE PROVISION THAT ISOLATION DEVICES, SUBBASES, HOLDDOWN MEANS, AND OTHER COMPONENTS UNIQUE TO THE ISOLATION MOUNTED INSTALLATION ARE SELECTED AND INSTALLED IN ACCORDANCE WITH NAVSEA S9073-A2-HBK-010, OR MEET THE REQUIREMENTS OF MIL-M-17185 OR A NAVSEA APPROVED PROCUREMENT SPECIFICATION.

SECTION 3.1.6.2 - AT THE END OF THE SENTENCE ENDING WITH "FIXTURES ARE TO BE USED" INSERT ", EXCEPT WHERE SUITABLE BOOKENDS (SEE 3.1.7.1(A)), OR OTHER SUPPORT STRUCTURE THAT HAS A NATURAL FREQUENCY (WITH ATTACHED COMPONENT) OF 160 HERTZ OR GREATER ARE USED."

SECTION 3.1.6.3.2(C) - AT THE END OF THE SENTENCE ENDING WITH "OF THE TEST ITEM" INSERT "ACCEPTABLE INTERMEDIATE STRUCTURE INCLUDES SUITABLE BOOKENDS, OR INTERMEDIATE STRUCTURE THAT HAS A NATURAL FREQUENCY (WITH ATTACHED COMPONENT) OF 90 HERTZ OR GREATER."

SECTION 3.2.1(A): AFTER THE SECOND SENTENCE, INSERT: "RETESTING IS NOT REQUIRED FOR PREVIOUSLY TESTED AND APPROVED ITEMS IF THE ONLY CHANGE THAT WOULD REQUIRE A RETEST IS THE INTRODUCTION OF

NEW CLASSIFICATIONS IN SECTION 1.2.4 THAT WERE NOT CONTAINED IN MIL-S-901C, MIL-S-901D, OR MIL-S-901D WITH INTERIM CHANGE NO. 1, OR PPD 802-6335704, AND NOT DUE TO CHANGES IN THE ITEM ITSELF, INCLUDING NO ADDITION, SUBTRACTION, OR ALTERATION OF ISOLATION DEVICES (E.G., SHOCK, NOISE, OR VIBRATION MOUNTS, OR FLEXIBLE ELEMENTS). FOR EXAMPLE, IF AN ITEM WAS PREVIOUSLY CLASSIFIED AS CLASS I PER MIL-S-901D WITH I/C#1, AND IS NOW CLASSIFIED AS CLASS I/II PER MIL-S-901D WITH I/C#2, BUT THE ITEM ITSELF IS UNCHANGED (INCLUDING NO ADDITION, SUBTRACTION, OR ALTERATION OF ISOLATION DEVICES) THE ITEM MAY BE EXTENDED WITHOUT REQUIRING A TEST."

SECTION 6.6.20 - DEFINITION OF LDCID: AT THE END OF THE THIRD SUB-PARAGRAPH, ADD THE FOLLOWING: "ISOLATION DEVICES LIMITED BY THEIR PHYSICAL SIZE (IN EACH PRINCIPAL ORTHOGONAL DIRECTION) TO A MAXIMUM DISPLACEMENT OF 0.5 INCH ARE CONSIDERED LDCIDS."