

09-2 - HIGH IMPACT ITEMS, WETTED SURFACE MOUNTED OR  
EXTERNAL TO THE PRESSURE HULL:

HIGH IMPACT (HI) WETTED SURFACE MOUNTED ITEMS AND ITEMS EXTERNAL TO THE PRESSURE HULL SHALL BE DESIGNED AND QUALIFIED FOR SHOCK VIA TEST, EXTENSION, OR ANALYSIS IN ACCORDANCE WITH PPD 802-8484308 AND MIL-S-901D I.C. #2, UNLESS THE ITEM HAS ALREADY BEEN QUALIFIED FOR OHIO REPLACEMENT CLASS SUBMARINES VIA STANDARD CLAUSE 09-S WITHIN THE PART DESCRIPTION FOR THIS ITEM.

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 I.C. #2 HAS BEEN PROVIDED IN THE PART TEXT/DESCRIPTION AND/OR PROCUREMENT SPECIFICATION, IF 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.

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, OR MIL-S-901D (WITH OR WITHOUT INTERIM CHANGE 1), OR MIL-S-901D I.C. #2 MAY BE ACCEPTED WITHOUT FURTHER SHOCK TESTING IF TESTING WAS ACCOMPLISHED IN A WETTED SURFACE ENVIRONMENT. HOWEVER, REVIEW AND APPROVAL BY A DESIGNATED APPROVAL AUTHORITY IS REQUIRED AS PART OF THE SHOCK QUALIFICATION PROCESS.

CONSIDERATION OF IDENTICAL ITEMS SHALL ADDRESS SPECIFIC SYSTEM AND MOUNTING LOCATION INFORMATION (I.E., USAGE AND APPLICATION) IN ADDITION TO HARDWARE. PIECE-TO-PIECE COMPARISON WITH TECHNICAL RATIONALE FOR EXTENSION SHALL BE PROVIDED. ALL POTENTIAL SHOCK EXTENSION 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 AND COST EFFECTIVE APPROACH. FOR SUCH

ITEMS, 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 PPD 802-8484308 AND DATA ITEM DESCRIPTION DI-ENVR-80706 OF MIL-S-901D I.C. #2 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 AND FUNCTIONAL TESTING, AS APPLICABLE.

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 PPD 802-8484308, THE APPLICABLE ORDERING DATA, AND DATA ITEM DESCRIPTION DI-ENVR-80709 OF MIL-S-901D I.C. #2. THESE PROCEDURES, INCLUDING A COPY OF THE SUPPLIER'S ASSEMBLY DRAWING (IF NOT PREVIOUSLY SUBMITTED FOR THIS CONTRACT), A DETAILED DRAWING OF THE TEST SETUP (INCLUDING SIZES, DIMENSIONS, MATERIALS, DUMMY WEIGHTS, MEANS OF ATTACHMENT, ETC., AS APPLICABLE FOR LIGHTWEIGHT (LW), MEDIUM WEIGHT (MW), AND HEAVYWEIGHT (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 NAVSEA INST 9491.1C. EXTERNAL COMPONENT QUALIFICATION TESTING ON A FLOATING SHOCK PLATFORM (OR OTHER APPROVED TEST VEHICLE) REQUIRES PRIOR NAVSEA APPROVAL.

AS A MINIMUM, THE BUYER SHALL PROVIDE APPROPRIATE MINIMUM SHIPBOARD STIFFNESS/FREQUENCIES TO BE SIMULATED BY THE TEST FIXTURE. 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 I.C. #2, INCLUDING POST-SHOCK TEST INSPECTION. GOVERNMENT WITNESSING AND REPORT CERTIFICATION REQUIREMENTS ARE AS SPECIFIED IN MIL-S-901D I.C. #2.

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 BUYER S REQUIREMENTS. TEST ITEMS THAT FAIL TO PASS SHOCK ESTS SHALL BE IDENTIFIED TO THE BUYER AND, AS DIRECTED BY THE BUYER, 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.