

T-AKE 1 BUILDER'S TRIAL REPORT

4 MAY 2006

FM SUPSHIP BATH DET SAN DIEGO CA
TO DISTRIBUTION

SUBJ/"MOCK INSURV" REPORT FOR USNS LEWIS AND CLARK (T-AKE 1)

1. SUPSHIP BATH DET SAN DIEGO CONDUCTED A MOCK INSURV TRIAL OF USNS LEWIS AND CLARK (T-AKE 1) IN CONCERT WITH BUILDER'S SEA TRIAL (BT). THE TRIAL WAS CONDUCTED 24 APRIL TO 2 MAY 2006 IN VICINITY OF SAN DIEGO, CA.

2. SENIOR "MOCK INSURV" MEMBER (SUPSHIP BATH DET) COMMENTS:

A. THE BUILDER'S SEA TRIAL WAS A HIGHLY SUCCESSFUL EVENT, ESPECIALLY FOR A LEAD SHIP.

B. WHILE THE OVERALL MATERIAL CONDITION AND PERFORMANCE OF THE SHIP WAS SATISFACTORY, FINAL COMPLETION AND GROOMING REMAINS FOR 49 OF 830 SPACES. OTHER MINOR WORK, MODIFICATIONS, REPAIRS, AND A SIGNIFICANT VOLUME OF LABELING AND FINAL GROOMING OF SPACES ALSO REMAIN.

C. USNS LEWIS AND CLARK (T-AKE 1) WILL BE READY FOR AT UPON COMPLETION OF REMAINING WORK, TESTING, FINAL GROOMING OF SPACES, AND CORRECTION OR RESOLUTION OF SIGNIFICANT DEFICIENCIES HIGHLIGHTED BELOW.

3. DEMONSTRATION RESULTS:

- A. FULL POWER EVENT CONDUCTED SATISFACTORILY. VERIFICATION OF FULL POWER COMPLIANCE PENDING TRIAL DATA REDUCTIONS.
- B. THE QUICK REVERSAL ASTERN WAS SATISFACTORY; THE QUICK REVERSAL AHEAD WAS SATISFACTORY.
- C. THE STEERING TEST WAS SATISFACTORY.
- D. THE ANCHOR DROP TEST WAS SATISFACTORY.

4. SIGNIFICANT OBSERVATIONS AND DEFICIENCIES:

A. MAIN PROPULSION:

(1) DURING CONDUCT OF FULL POWER EVENT, EXCITATION FOR 2 OF 4 PROPULSION MOTOR WINDINGS TRIPPED OFF LINE AFTER APPROXIMATELY 1.5 HOURS AFTER COMMENCING THE FULL POWER RUN. LOSS OF EXCITATION RESULTED IN TEMPORARY REDUCTION IN POWER LEVEL. THE MOTOR WAS IMMEDIATELY RESET, AND THE EVENT

CONTINUED FOR AN ADDITIONAL FOUR UNINTERRUPTED HOURS AT FULL POWER. NASSCO AND PROPULSION VENDOR ALSTOM ARE INVESTIGATING CAUSE OF EXCITATION TRIP.

(2) LINE SHAFT BEARING EXHIBITED A LEAK THAT DID NOT AFFECT SUSTAINED OPERATION. OIL CONDITION AND BEARING TEMPERATURES WERE OBSERVED TO BE NORMAL THROUGHOUT THE TRIAL. SEAL REPLACEMENT AND INSPECTION REQUIRED PRIOR TO AT.

(3) PROPULSION STANDARDIZATION AND RELATED EVENTS CONDUCTED SATISFACTORILY. VERIFICATION OF CONTRACT SPEED PENDING TRIAL DATA REDUCTIONS AND RE-RUN OF MODEL TEST AT ACTUAL TRIAL CONDITIONS.

(4) NOISE BELIEVED TO BE PROPELLOR CAVITATION OBSERVED AT UPPER RPM RANGE. OBSERVATIONS WERE BASED ON QUALITATIVE DATA OBTAINED FROM INSPECTORS. FURTHER INVESTIGATION AND MEASUREMENTS, WITH NAVSEA 05D ASSISTANCE, MAY BE REQUIRED.

B. ELECTRICAL:

(1) DEMONSTRATION FOR AUTOMATED CONTROL SYSTEM CERTIFICATION FOR UNATTENDED ENGINE ROOM (ACCU) WAS SUCCESSFUL. AMERICAN BUREAU OF SHIPPING (ABS) IDENTIFIED TWO CONCERNS. ONE CONCERN IS THE OCCURENCE OF MULTIPLE DATA AND COMMUNICATION ALARMS THAT DID NOT IMPACT THE OPERATION OF THE PLANT BUT WERE NOT TRACED TO THEIR CAUSE. THE SECOND CONCERN OCCURRED DURING THE REVERSAL FROM HALF-AHEAD TO HALF-ASTERN. THE MOTOR EXPERIENCED A "HALF-MOTOR" FAULT THAT DID NOT IMPACT PLANT OUTPUT BUT WAS UNABLE TO BE EXPLAINED BY ALSTOM. AS A RESULT, ABS WILL WITHHOLD ACCU CERTIFICATION UNTIL THE SYSTEM IS OBSERVED DURING AT TO VERIFY THAT THOSE ALARMS DO NOT RECUR (A REPEAT OF ACCU DEMO IS NOT REQUIRED). NASSCO AND ALSTOM ARE WORKING TO RESOLVE ALARM CONCERNS IN THE INTERIM.

(2) ALL FIRE DETECTORS SERVING FREEZE/CHILL CARGO HOLD NO. 3 REQUIRE REPLACEMENT AS THEY ARE NOT RATED FOR FREEZE SERVICE (KNOWN BEFORE BT). CARGO HOLD NO. 3 WAS MAINTAINED IN CHILL MODE FOR BT. ALL FIRE DETECTORS IN CARGO HOLD NO. 3 ARE REQUIRED TO BE TESTED IN FREEZE MODE PRIOR TO AT.

(3) AN/SLQ 25A STREAM AND RECOVERY EVENT COULD NOT BE COMPLETED BECAUSE OF CHAFING OF WIRE AT FAIRLEAD BOLSTER. NASSCO ENGINEERING IS INVESTIGATING TO DETERMINE APPROPRIATE FIX.

(4) DURING BLACKOUT DEMONSTRATION EVENT, VENT DAMPERS SERVING EMERGENCY DIESEL GENERATOR FAILED TO OPERATE PROPERLY. CORRECTION AND REDEMONSTRATION REQUIRED PRIOR TO AT.

C. AUXILIARIES:

(1) EXTERIOR BOUNDARIES OF CARGO HOLD NO. 3 EXHIBIT CONDENSATION IN CHILL MODE AND FROSTING AND/OR ICING IN FREEZE MODE (KNOWN BEFORE BT). NASSCO ENGINEERING IS INVESTIGATING TO DETERMINE APPROPRIATE FIX.

(2) FOREIGN NOISE OBSERVED COMING FROM VICINITY OF BOW THRUSTER TUNNEL ON RETURN ROUTE TO SAN DIEGO. PRIOR BOW THRUSTER UNDERWAY EVENT WAS SATISFACTORY. BOW THRUSTER WAS SECURED AND NOT USED FOR RETURN TO PORT. NASSCO INVESTIGATED WITH DIVERS UPON RETURN AND FOUND ONE LOOSE BOLT IN GRATING BARS AT BOW THRUSTER TUNNEL ACCESS. CORRECTED.

(3) DISTILLER PLANTS NO. 1 AND NO. 2 FAILED TO PRODUCE REQUIRED CAPACITY. PLANT NO. 1 PRODUCED 48 MT/DAY, NO. 2 PRODUCED 52 MT/DAY. REQUIREMENT IS 53 MT/DAY. NASSCO ENGINEERING AND VENDOR ARE INVESTIGATING.

(4) PERSONNEL ELEVATOR WAS SECURED AT SEA BECAUSE OF REPORTED SCORING OF ELEVATOR RAILS. NASSCO IS INVESTIGATING AS TO CAUSE AND REQUIRED REMEDY. REPAIR, INSPECTION AND RETEST, AS APPROPRIATE, REQUIRED PRIOR TO AT.

(5) FUEL LEAKED FROM EMERGENCY FUEL OVERFLOW VENT LINE WHILE UNDERWAY. LEAK WAS FULLY CONTAINED INSIDE A SERVICE TRUNK. NASSCO ENGINEERING IS INVESTIGATING TO DETERMINE POSSIBLE DESIGN MODIFICATION. REINSPECTION AND DEMONSTRATION, AS APPROPRIATE, REQUIRED PRIOR TO AT.

(6) FUEL CLEANLINESS AND QUALITY IS SUSPECT. FREQUENT FUEL SERVICE FILTER CHANGEOUTS WERE REQUIRED THROUGHOUT THE TRIAL. CONTAMINATION WAS FOUND IN FILTERS. FUELS SERVICE SYSTEM REINSPECTION AND FUEL OIL ANALYSIS ARE REQUIRED PRIOR TO AT.

(7) AUXILIARY FUEL OIL TRANSFER PUMP SEIZED DURING BT. SAME PUMP SEIZED AND WAS REPLACED PRIOR TO BT. NASSCO ENGINEERING IS INVESTIGATING. ENGINEERING EXPLANATION OF FAILURES, PUMP REPLACEMENT, SYSTEM INSPECTION AND REDEMONSTRATION, REQUIRED PRIOR TO AT.

D. DAMAGE CONTROL:

(1) CYCLING OF FIRE PUMP DISCHARGE VALVES OBSERVED IN CONNECTION WITH FIRE PUMP OPERATION. NASSCO ENGINEERING IS INVESTIGATING. CORRECTION AND VERIFICATION OF PROPER SYSTEM OPERATION REQUIRED PRIOR TO AT.

(2) DURING FOAM SYSTEM DEMONSTRATION EVENT, FOAM WAS INADVERTENTLY RELEASED INTO THE MACHINERY ROOM BILGES THROUGH A FAULTY HEADER VALVE. NASSCO CORRECTED AT SEA BY REPLACING VALVE.

(3) DRAINAGE DEMONSTRATION EVENT COULD NOT BE COMPLETED BECAUSE OF INADVERTENT FOAM DISCHARGE NOTED ABOVE. DEMONSTRATION IS SCHEDULED TO COMPLETE PRIOR TO AT.

E. NAVIGATION:

(1) RADARS ARE UNABLE TO TRACK TARGETS IN AFT QUADRANTS, AND SOME TARGETS APPEAR IN DUPLICATE FORM. NASSCO IS INVESTIGATING WITH VENDOR SPERRY.

(2) MAGNETIC COMPASS CALIBRATION REVEALED UP TO 11 DEGREES ADDITIONAL DEVIATION WITH ADVANCED DEGAUSSING SYSTEM ENERGIZED. FURTHER INVESTIGATION WITH NAVSEA 05D ASSISTANCE IS REQUIRED TO DETERMINE SUITABILITY OF MAGNETIC COMPASS FOR NAVIGATION. EXISTING FLUXGATE COMPASS PROVIDES BACK-UP CAPABILITY.

(3) VARIOUS LIGHT LEAKS TO/FROM HOUSE, WHEELHOUSE, AND OPEN DECK AREAS, OBSERVED TO AFFECT NIGHT VISION AND/OR DARKEN SHIP CAPABILITIES. CORRECTIONS REQUIRED PRIOR TO AT.

F. COMMUNICATIONS/OPERATIONS:

(1) NASSCO-RESPONSIBLE PORTION OF EXTERIOR COMMUNICATIONS DEMONSTRATION WAS SATISFACTORY. DEMONSTRATION OF SPAWAR COMMUNICATIONS SUITE WAS NOT COMPLETED BECAUSE OF CRYPTO RELATED ISSUES. PROGRAM OFFICE, SPAWAR, AND SUPSHIP WORKING TO RESOLVE PRIOR TO AT.

G. OCCUPATIONAL HEALTH:

(1) PROPER OPERATION OF THE MACHINERY SPACE AND CARGO OILY WATER SEPARATORS COULD NOT BE DEMONSTRATED. THE MACHINERY SPACE OWS HAS A BAD SENSOR. THE CARGO OWS HAS A PROGRAMMING ERROR. NASSCO AND VENDOR ARE CORRECTING.

(2) VIBRATION OBSERVED IN VARIOUS LOCATIONS AT UPPER PROPELLOR RPM LEVELS, MOST NOTICEABLY IN THE AFTER AREAS OF SHIP INCLUDING FLIGHT DECK, MOORING DECK, AND STEERING GEAR ROOM. NASSCO ENGINEERING IS REVIEWING VIBRATION SURVEY MEASUREMENTS AND APPLYING FIXES WHERE REQUIRED.

(3) WATER OBSERVED LEAKING FROM ADVANCED DEGAUSSING CONDUIT CONNECTION BOX INTO STAIRTOWER 3-20-2, ADJACENT TO BOW THRUSTER ROOM. DEGAUSSING SYSTEM WAS TAGGED OUT. OBSERVED LEAKAGE WAS MINOR BUT MONITORED THROUGHOUT THE TRIAL. NASSCO IS INVESTIGATING AS TO SOURCE. INSPECTION AND TESTING, AS APPROPRIATE, IS REQUIRED PRIOR TO AT.9

(4) EYEWASH STATIONS THROUGHOUT THE SHIP EITHER DID NOT WORK PROPERLY, OR WERE SECURED. CORRECTIONS AND DEMONSTRATION REQUIRED PRIOR TO AT.

(5) INCINERATOR DEMONSTRATION WAS UNSAT. NASSCO AND VENDOR ARE INVESTIGATING. REDEMONSTRATION REQUIRED PRIOR TO AT.

H. MEDICAL:

(1) EMERGENCY POTABLE WATER TANK AND CORRESPONDING INSTRUCTIONS FOR EXAMINATION AND HOSPITAL AREAS COULD NOT BE LOCATED. CORRECTION AND DEMONSTRATION REQUIRED PRIOR TO AT.

I. COMBAT SYSTEMS/WEAPONS:

(1) CIRCUIT BREAKER IN CARGO ELEVATOR EMERGENCY STOP CIRCUIT FAILS INTERMITTENTLY (KNOWN BEFORE BT). POSSIBLE DESIGN ISSUE. BREAKER IS GOVERNMENT-SPECIFIED. NASSCO ENGINEERING AND NAVSEA 05D ARE INVESTIGATING.

/END REPORT//

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