ATTACHMENT 2
CONFIGURATION MANAGEMENT
AND TECHNICAL DATA PACKAGE
BRIDGE ERECTION BOAT

1.0 General:

1.1 The Mk II BEB is a fielded item. The procedures herein describe how configuration will be controlled while and after the boat is upgraded to BEB configuration. This effort does not redefine existing configurations, and does not re-document previously documented items. Development of a technical data package is limited to the requirements herein. Configuration management of the BEB will start with the documentation as it exists at the time of contract award.

1.2 The contractor shall:

- Establish a configuration for the BEB.
- Develop a Technical Data Package (TDP) which consists of these items:
  - An indented bill of materials that captures the components of the BEB as delivered.
  - Drawings of parts, assemblies, kit components and shipping containers.
  - Installation instructions, parts lists, inspection requirements, product assurance documents necessary to support fabrication of the BEB.
  - Documentation of Kits.
- Maintain the above documents current:
  - By submitting documents (requests for deviation and engineering change proposal) prior to altering approved hardware or its documentation.
  - By revising TDP components.
  - Providing a repository for the TDP elements.

2.0 Configuration Baselines:

2.1 Initial Configuration. The configuration for the Mk II BEB is established by Drawing, 97403 13226E0450, Boat, Bridge Erection, Twin Jet, Aluminum Hull, Model USCSB MK2, Revision L and its companion parts list. Work performed under this contract will alter that configuration. The first BEB configuration is established by the preliminary design. The preliminary design will be approved and a production design will be established. The final design will be established after the completion of tests and adjustment of the TDP to account for feedback. The contractor shall document changes to the configuration in accordance with MIL-HDBK-61A as tailored herein.

3.0 TDP Elements.

3.1 Bill of Materials.

3.1.1 The contractor shall develop an indented bill of materials (BOM) for the BEB. The BOM shall be developed in conjunction with the provisioning process and the structure of its indentures shall conform to the structure used in developing provisioning information. The detail of the BOM shall extend to the lowest provisioned item of each system or assembly. Provisioned level is determined by the provisioning process. Development of the BOM shall be coordinated with the personnel developing the provisioning data. The BOM shall be in contractor format and shall include, at a minimum:

- Identifying name for each item.
- Identifying number for each item.
- Indication of "component of" and "contains these components" for each item.
- The applicable revision level of each item.
- Quantity of the item in each application.

3.1.2 The BOM shall be submitted at the Preliminary Design Review (PDR). A revised BOM shall be submitted at each subsequent design review, the Production Review, at each provisioning conference and the Physical Configuration Audit. A revised BOM shall be submitted upon incorporation of each approved engineering change that alters the boat hardware content. Initial and subsequent submissions of the BOM shall be in accordance with CDRL A003.

3.2 Drawings.

3.2.1 General. The contractor shall develop drawings to describe the completed boat, to support provisioning, to support the installation of kits and to support technical manual development. Drawings shall be in contractor's format. The contractor may use ASME Y14.24, ASME Y14.100, DOD-STD-0100D (AR) and MIL-DTL-31000B as references. Drawings shall be in American English language.

3.2.1.1 Structure Drawings. The contractor shall furnish a drawing similar to 97403-13226E0449, depicting only the alterations to the hull structure necessary to install the new equipment. All interfaces for installed equipment shall be depicted, i.e. holes, brackets and foundations. The contractor shall furnish a drawing similar to 97403-13226E0581 depicting the alterations to the cab. A similar drawing is required for the mast.

3.2.1.2 Assembly Drawings. The contractor shall furnish a drawing similar to 97403-13226E0450, depicting how new parts are located and assembled. The drawing shall include a list of the parts and consumables required, and specifications governing assembly (such as torque values, inspections and tests). The contractor shall furnish a drawing similar to 97403-13226E0230, depicting the cab assembly. A similar drawing is required for the mast.

3.2.1.3 Provisioning Drawings. The contractor shall develop, submit and maintain drawings of all provisioned items and assemblies. These drawings shall contain

sufficient information to allow the Government to purchase the item(s). (Reference SOW C.4.5.6.1) Commercial items shall be described using Source Control or Specification Control drawings as defined by MIL-STD-100G. Contractor-manufactured items and alterations to existing items shall be defined completely. Provisioned items which are assemblies of provisioned items shall be described by assembly drawings. Assembly drawings shall include lists of the parts and consumables, and specifications governing assembly (such as torque values, inspections and tests). Drawings are not required for provisioned items which are already fully provisioned (have an NSN) or which are defined by a commercial or Government standard (e.g. ANSI, DIN, MS, etc,). The reusable containers are provisioned items for the purpose of documentation.

3.2.1. 3.1 Altered Items. Drawings of altered items shall clearly indicate what the original part was and how the part was altered to become the new part. The alterations shall be described to the same degree as for a newly manufactured item.

3.2.1.4 Stowage Plan Drawing. The contractor shall furnish drawing which indicates assigned stowage location for the BII and other removable components of the boat (such as rafting brackets). The Stowage Plan Drawing shall serve the function of "BII assembly" drawing such that BII items are listed as components.

3.2.1.5 Markings Drawing. The contractor shall furnish a drawing which indicates the location of painted labels, warnings, draft marks and informational stencils. The wording of the markings shall be included. Manufactured data plates that are not included in the top assembly drawings (paragraph 3.2.1.2) shall be included on the Markings Drawing.

3.2.1. 6 Transportability Drawing. The contractor shall furnish a drawing which indicates how the boat is prepared for transportation. The drawing shall include how to secure the mast, cab and other removable items. This drawing shall include the design of any chocks and blocks used when the boat is transported without its cradle.

3.2.1. 7 Technical Manual Fold-Outs. The contractor shall submit schematic drawings, sized and formatted for use as fold-outs in the Technical Manuals. Sample formats can be found in MIL-HDBK-1222B, Figures B30 and B31. Coordination with the technical manual developers is required to determine the number and content of fold-outs. For planning purposes fold-outs are required for the electrical, fuel, hydraulic steering and scoop control, and raw water and jacket water systems.

3.2.1.8 Kit Drawings. The contractor shall develop, submit and maintain drawings that describe kits as defined by DOD-STD-0100D (AR), Section 201.9.10. Each kit drawing package shall contain Kit Drawing (this is similar to a parts list), a kit installation drawing, and drawings of the individual kit components. The Kit Drawing carries the Government assigned the kit number. The kit component drawings shall contain the same information as Provisioning Drawings (C.4.10.1.1).

3.2.2 Drawing Submission Requirements.

3.2.2.1 Provisioning Drawings. Drawings to support provisioning shall be submitted in draft form with the provisioning data for the item or assembly described. This applies to items provisioned against the boat and to items provisioned as components of kits. Final provisioning drawings shall be submitted within 90 days after submission of the draft drawings. Provisioning drawings shall be submitted electronically in a printable format (i.e. .DWF, .DWG, .PDF, etc). Drawings shall be submitted in accordance with CDRL A004

3.2.2.2 Kit Drawings. Kit Drawings and kit installation drawings shall be submitted in draft form concurrent with the start of production. Final kit drawings shall be submitted concurrent with the PCA. Kit drawings shall be submitted electronically in a printable format (i.e. .DWF, .DWG, .PDF, etc). The Transportability, Markings, Stowage, Assembly and Structure drawings shall also be submitted using this schedule. Drawings shall be submitted in accordance with CDRL A004

3.2.2.3 Fold-Out Drawings. Fold-out drawings shall be submitted in draft form concurrent with submission of the draft manuals. Draft fold-outs shall be submitted as fold-out pages in the draft manuals, in the format of the draft manuals. Final foldouts shall be submitted as pages in the final manuals, in the format of the final manuals. Fold-outs shall be submitted in accordance with CDRL A005.

3.2.2.4 Engineering Change Documentation. Drawings and drawing excerpts supporting engineering changes shall be submitted electronically in a printable format (i.e. .DWF, .DWG, .PDF, etc.). These items shall be included in the change request documentation.

3.2.2.5 Wrap-up Drawing Delivery. Upon conclusion of the contract the contractor shall deliver, electronically, two copies of each approved and accepted drawing. One copy shall be in a printable, non-alterable format (i.e. .DWF, .PDF, etc). The second copy shall be in an alterable format compatible with Autocad software (i.e. .DWG). Drawings shall be submitted in accordance with CDRL A005.

3.2.3 Drawing Approval. The Government will not approve Provisioning Drawings. Acceptance of the provisioning data for an item or assembly constitutes acceptance of the drawing. The Government will not approve Fold-Out Drawings. Acceptance of the final publication(s) constitutes acceptance of the drawing. The Government will approve the Kit, Kit Installation, Transportability, Markings, Stowage, Assembly and Structure drawings. These drawings will be compared to the actual boat during the PCA. The drawings will be signed upon successful completion of the PCA.

3.3 Part Numbers. The contractor shall ensure that part numbers are assigned to all provisioned items. When a TACOM part number is used, the part number and the drawing number shall be the same. Commercial part numbers shall be used for all purchased and commercially available items. TACOM drawing numbers in the series, 19207-12492140 through 19207-12492333 and 19207-12492423 through

19207-12492622 have been assigned to the BEB. Part numbers consumed on the XM20 project, 19207-12491856 through 19207-12492055 and 19207-12492134 through 19207-12492139 shall not be reused. The Government will provide numbers for the Kit Drawings upon request.

3.4 Standards and Specifications. The standards and specifications developed by the contractor (Reference SOW paragraph C.2.3.) shall be included in drawings.

4.0. TDP Maintenance.

4.1 The contractor shall establish a Configuration Control organization. This organization shall develop and submit configuration change documentation, incorporate approved changes into the TDP, maintain the configuration of the hardware and incorporate approved changes into the hardware. The contractor shall develop an internal plan describing how the Configuration Control organization operates. Handbook MIL-HDBK-61A, Appendix A provides guidance on developing a CM organization and plan. A copy of this plan shall be provided to PM-Bridging 70 days after contract award (in conjunction with the Critical Design Review). The plan shall be developed and submitted in accordance with CDRL A009.

4.2 Change Proposals. The contractor shall document changes to the final configuration through the use of Requests for Deviation (RFD) and Engineering Change Proposals (ECP). Requests for changes shall be submitted to PM-Bridging for approval. Changes to hardware or documentation shall not precede PM-Bridging approval. Handbook MIL-HDBK-61A, Section 6 and Section 7, provides guidance on the development of RFD and ECP. Each proposal shall be accompanied by sufficient documentation to describe the change, the need for the change, the impact of the change (cost, safety, transportability, function, performance, etc.), the effective date/unit of the change and the method of applying the change to the hardware. Drawing revisions shall be described by Notices of Revision (NOR).

4.3 Change Initiation. Changes can be initiated by either the Government or the contractor. The contractor shall propose changes to correct test deficiencies or to ensure continued compliance with ATPD 2317.

4.3.1 Mk II Configuration. Changes to the Mk II configuration prior to the preliminary design need not be tracked. Submission of the preliminary design establishes the initial configuration of the BEB. Government approval of the preliminary design constitutes approval of the proposed changes.

4.3.2 Preliminary Design. The contractor shall track changes to the approved preliminary design. The Government will approve changes in equipment type and location that may affect compliance with the specification (ATPD 2317). Notification of proposed changes and approval of changes shall be in writing (E-mail or letter).

Government approval at the Critical Design Review constitutes approval of all other changes.

4.3.3 Production Design. The contractor shall track changes to the approved production design. The Government will approve all changes. Notification of proposed changes and approval of changes shall be in writing (E-mail or letter). Government approval at the Critical Design Review constitutes approval of all other changes.

4.3.4 Final Design. The contractor shall submit RFDs and ECPs to document proposed changes to the Production Baseline. The Government will approve or reject proposed changes. Hardware and the TDP shall not be changed until the RFD or ECP is approved. This requirement starts with the approval of the Configuration Audit.

4.4 Change Documentation. Handbook MIL-HDBK-61A, Chapter 6 shall be used as a guide in developing the documentation to support a change request. Contractor developed formats or Government forms may be used. The format is optional provided that the content of the documentation complies with the recommendations of MIL-HDBK-61A and this Appendix. Change documentation shall be developed and processed in accordance with CDRL A007.

4.5 Configuration Status Maintenance. The contractor shall maintain configuration status records using MIL-HDBK-61A, Section 7 as guidance. Status shall be maintained through control of the TDP, through a configuration status log for each boat, and through application of retrofits.

4.5.1 Revisions to the TDP. Government approval of an ECP or RFD constitutes authority to revise the TDP. The contractor shall then alter the TDP documents (drawings) with the changes reflected by the NORs. The contractor shall incorporate the change into the TDP and hardware on a schedule negotiated by the Government during approval of the change.

4.5.2 Boat Configuration Log. The contractor shall generate a configuration status log (CM Log) for each boat. This log shall be maintained by the contractor from the time of hull acceptance through the life of the contract. The log shall be in contractor format and may be electronic or hard copy. Responsibility for log maintenance after the completion of the production contract shall be subject to negotiation. The log shall be available for Government review. A copy of the log shall be provided to the Government upon request. The log shall be developed in accordance with CDRL A008. The log shall contain the following data, as a minimum:

- BEB Serial Number.
- The original (Mk II) hull or identifying number.
- Incoming survey results.
- Date assembly as a BEB was completed.
- Serial numbers of the engines, jets, gear boxes and warranted items.
- Unit Identification (UID) codes of the boat, engines and jets.

- Contractor's final inspection record and date.
- Government acceptance inspection and acceptance date.
- Warranty start date.
- Date of incorporation of ECP and RFD.
- Hand-off date and initial fielding location / unit.
- List of contractor applied kits.

4.5.3 Retrofits. Configuration changes resulting from RFD and ECP shall be incorporated into boats as directed by the Government. Hardware used to perform alterations shall be provided as kits, in bulk or incorporated into production as directed by the Government. The responsibility for performing alterations, the method of applying alterations and the schedule for applying alterations will be negotiated during the RFD /ECP approval process.

4.5.4 Wrap-up TDP Delivery. Upon conclusion of the contract the contractor shall deliver, electronically, two copies of the TDP less drawings. The delivery shall be in a printable format (Excel, Word, .DWF, .PDF, etc). Paragraph 3.2.2.5 covers drawings delivery. The TDP shall be submitted in accordance with CDRL A005

4.6 Configuration Audits.

4.6.1 Required Audit. The contractor shall perform a PCA fifteen (15) days after Government approval of the Shakedown Test Report. The PCA is a physical comparison of the hardware to the TDP. The PCA shall be carried out in sufficient detail to verify that the Production Baseline TDP accurately reflects the configuration of the boat examined. The PCA shall also verify that the TDP is of sufficient quality to allow identical boats to be manufactured and maintained. The audit is performed at the contractor's facility using contractor's resources. The Government will participate in the PCA. The PCA shall be conducted in accordance with CDRL A009.

4.6.2 PCA Plan. The contractor shall develop a plan for the PCA, giving the intended scope and method of conducting the audit. Guidance on the performance of the PCA and development of the plan is found in MIL-HDBK-61A, Chapter 8. The PCA Plan shall be delivered to PM-Bridging at least 10 working days prior to the PCA, in accordance with CDRL A009.

ATTACHMENT 3

CONVERSION REQUIREMENTS FOR AN Mk I BRIDGE ERECTION BOAT (BEB) TO AN Mk II BEB FOR PURPOSES OF PREPARING FOR REMANUFACTURE AS A BEB

1 General.

This document describes the requirements to convert an Mk I BEB hull into an Mk II BEB hull for the limited purpose of allowing further conversion of the hull to BEB standards.

2 References.

AWS D1.2/D1.2M:2003 - Structural Welding Code – Aluminum

Drawing 97403-13226E0449 Hull Structure, USCSB MK2
Drawing 97403-13226E0581 Cab Construction
Drawing 97403-13214E8326 Aluminum Welding Specifications

3 Requirements.

3.1 Alterations.

3.1.1 Keel Coolers. In accordance with drawing 97403-13226E0449 install two keel cooler pockets. The materials and process used shall conform to the drawing with the exception that welding may be performed in accordance with AWS D1.2/D1.2M:2003 in lieu of 97403-13214E8326.

3.1.2 Raw Water Inlets. The raw water inlet hull penetrations and standpipes shall be removed. The altered hull shall conform to drawing 97403-13226E0449. Hull penetrations shall be replaced by flush, welded inserts of the hull material specified by the drawing. Welding may be performed in accordance with AWS D1.2/D1.2M:2003 in lieu of 97403-13214E8326.

3.1.3 Push Knees. The existing push knees shall be removed. Pads, reinforcements and attaching point that do not interfere with the Mk II style push knees need not be removed. Push knees conforming to drawing 97403-13226E0449 shall be installed. Reinforcing plates required by the drawing may have their locations adjusted to account for access restrictions. Welding may be performed in accordance with AWS D1.2/D1.2M:2003 in lieu of 97403-13214E8326.

3.2 Interface Assessments.

3.2.1 Aft Cockpit. The aft cockpit interface dimensions and mounting provisions shall be checked for conformance to drawing 97403-13226E0449. Nonconformance shall be recorded. A note shall be entered in the boat's records that a non-standard aft cockpit is required.

3.2.2 Jet Compartment Hatches. The jet compartment hatch interface dimensions and mounting provisions shall be checked for conformance to drawing 97403-13226E0449. Nonconformance shall be recorded and a note shall be entered in the boat's records that non-standard hatches are required.

3.2.3 Engine Compartment Hatches. The engine compartment hatch interface dimensions and mounting provisions shall be checked for conformance to drawing 97403-13226E0449. Nonconformance shall be recorded and a note shall be entered in the boat's records that non-standard hatches are required.

3.2.4 Cab Interface. The cab interface dimensions and mounting provisions shall be checked for conformance to drawing 97403-13226E0581. Nonconformance shall be recorded and a note shall be entered in the boat's records that non-standard cab is required.

3.2.5 Mast Mountings. The mast interface dimensions and mounting provisions shall be checked for conformance to drawing 97403-13226E0449. Nonconformance shall be recorded and a note shall be entered in the boat's records that a non-standard mast is required.

3.2.6 Fuel Tank Interface. The fuel tank interface dimensions and mounting provisions shall be checked for conformance to drawing 97403-13226E0449. Nonconformance shall be recorded and a note shall be entered in the boat's records that non-standard fuel tank is required.

3.2.7 Diver's Platform. The interface dimensions and mounting provisions for the folding diver's platform inserts shall be checked for conformance to drawing 97403-13226E0449. Nonconformance shall be recorded and a note shall be entered in the boat's records that non-standard inserts are required.

3.3 Correction of Interfaces. Interface discrepancies shall be corrected only when directed by the Government.

3.4 Weld Inspections. All welds made during these alterations shall be visually inspected. Welds in watertight boundaries shall be further inspected by dye penetrant or other means that verifies the watertight condition of the resulting joint.