3.2 Engineering, System Engineering and Process Engineering Support

Boecore uses disciplined engineering and systems engineering processes based on defining customer needs and required system functionality, documenting and tracing requirements, synthesizing system design, and leading programs through the DoD acquisition lifecycle. To optimize cyber security, we ensure the four phases of cyber security are fully integrated throughout the lifecycle and not just added on in the end.

3.3 Modeling, Simulation, Stimulation, and Analysis Support

Boecore develops, maintains, and performs verification, validation and accreditation (VV&A) for numerous Air Force and MDA modeling and simulation (M&S) programs. An example of one of our M&S processes is our System Post Flight Reconstruction (SPFR) process which is used to enhance the fidelity of M&S for the BMDS (Figure 2). Boecore conducts SPFRs to determine system performance during flight test (based on Measures of Performance (MOP)), assess the ability of the M&S to accurately predict system performance, and provide recommendations for enhancing M&S fidelity (e.g. Simulation Trouble or Incident Report (STIR)).

3.5 System Design Documentation and Technical Data Support

Team Boecore ensures the timely and economic development, release, distribution, and maintenance of both contractual and non-contractual required data items. Our mature methodologies and tools develop and control high quality, detailed technical and programmatic data throughout the lifecycle of the program (and any subsequent data retention periods), facilitate timely review and approval of project specified data, and ensure the controlled release of data in accordance with Customer Delivery Requirements Listing (CDRL) and Subcontractor Data Requirements List (SDRL).

3.6 Software Engineering, Development, Programming and Network Support

Boecore's software engineering and development approach is based on the iterative software development process. We surround the process with Program Management Book of Knowledge (PMBOK) based methods to ensure standardized, efficient, responsive, and controlled delivery of software to the production baseline. Our process drives well-planned and coordinated software releases, robust software quality assurance, software change and configuration control, and rigorous systems engineering. Our process includes testing at all phases, requirements through deployment, and ensures our final delivered software products meet all user requirements.

3.9 System Safety Engineering Support

Lockheed Martin maintains a comprehensive "Process Asset Library" with guidance and compliance requirements as well as templates for use on every project/program. Our

System Safety Engineering Plans result in a thorough assessment from design through disposal. The plans describe in detail the tasks and activities of system safety management and engineering required to identify, evaluate, and eliminate and control hazards, or reduce the associated risk to a level acceptable to government safety offices throughout the system life cycle.

3.10 Configuration Management Support

Team Boecore has designed and implemented Configuration Management processes using IT Infrastructure Library (ITIL) as a framework. As part of our approach, we document and track 100% of all proposed modifications using tools like BMC Remedy and our ITIL CM processes to create modules (e.g. Configuration Items (CIs), Critical Asset List (CAL), software, network drawings, etc.) within a Configuration Management Database (CMDB). Our approach includes processing all Requests for Change (RFC) within an RFC module to track and measure affected CIs within a Change Request. Requests are fully vetted by a Configuration Control Board prior to implementation. Changes are made to the system/software baseline documentation and updated in the Remedy database.

3.11 Quality Assurance (QA) Support

The Team Boecore approach to QA support provides consistent, measurable program performance while maintaining alignment to the task order and mission objectives. Boecore's software development processes have been independently evaluated as Software Engineering Institute's CMMI Level 2 through a Standard CMMI Appraisal Method for Process Improvement appraisal. We use a Quality Assurance Program Plan (QAPP) based on our team's collective proven best practices. Our approach is flexible and comprehensive, uses customer QA direction including Quality Assurance Surveillance Plan (QASP) and technical requirements, and is tailored, as necessary, to each Task Order to assure cost-effective, high quality products and services.

3.12 Information System (IS) Development, IA, IT Support

Team Boecore's IS/IA/IT approach focuses on enabling the end customer. We use a three-tier IT service model with a single Service Desk to manage day-to-day operations. Our tiered IT support structure is comprised of: Tier 1 single Service Desk, Tier 2 Network and Systems Administration; and Tier 3 Architecture, Systems Engineering, Software Applications, IA and Vendor support. Our approach integrates IT systems and processes across the customer domain ensuring standardized processes are consistently applied for the design, development, testing, implementation and sustainment of customer IT systems. A key component of our approach is providing all customers a single customer access point for all IT services simplifying the User experience and increasing responsiveness, accountability, and customer satisfaction.

Our integrated and standardized system accreditation approach increases system security and assures systems fulfill all mission requirements while reducing IA resource

requirements. In Step 1, we develop the System Identification Profile (SIP) and the DoD IA Certification and Accreditation Process (DIACAP) Implementation Plan (DIP) based on the Mission Assurance Category (MAC) and other IA controls. Executing the Plan of Action and Milestones (POAM) in Step 2, we consistently achieve rapid approval of our DIACAP package during Step 3. We continuously maintain Authority to Operate (ATO) and related DIACAP approvals in Step 4 until system decommissioning in Step 5.

3.18 Training Support

Boecore's Course Developers employ our proven Instructional System Design (ISD) processes (analysis, design, development, implementation, and evaluation/validation (ADDIE)) to effectively provide well-crafted curricula and training materials. A key feature of our ADDIE process is the inclusion of an evaluation in each phase to provide documented stakeholder approval of each phase's product (e.g., Training Needs Assessment (TNA)) before proceeding to the subsequent phase.

3.19 In-Service Engineering, Fleet Introduction, Installation and Checkout Support

Our teammate, LM, provides In-Service Support Equipment (ISSE) and Depot Factory Test Equipment (DFTE) Maintenance on government furnished support and test equipment and multiple MK 48 Heavyweight Torpedo assemblies, ensuring the fleet has dependable torpedoes to accomplish their missions. Our team conducts periodic and corrective maintenance and calibration on all ISSE and DFTE authorized for use at the IMA, including calibration and self-test of ISSE and DFTE in accordance with the IMA Test Equipment Procedures and the Quality Systems Manual (QSM) (SW513-AG-PRO-010) requirements to ensure suitability for use in testing of All Up Round (AUR) Torpedoes, Groups, Functional Item Replacement (FIR) assemblies and components. The LM PDLR team provides calibration schedules to the Government upon request and maintains ISSE and DFTE in a serviceable condition. They provide technical support which includes in-service engineering, technical analysis/evaluation, troubleshooting, repair, testing, structured teardowns and monitored/controlled builds of Torpedo and Test Equipment and facility problem resolution in support of IMA daily operations. We also provide system engineering services to support NUWC relative to planning and execution of failure analysis and technical support requirements and initiatives for the Torpedo Program and assist the NUWC Fleet Failure Analysis team members conduct failure analysis as required for torpedo system hardware, support equipment and components using GFI which may include: torpedo pre-launch, in-water run and test failure data; test equipment failure data; environmental test data; proofing and periodic test data; and other pertinent failure data sources. The team assists in the analysis of operational, test and repair trends and indicators to determine and isolate problems adversely affecting system performance, hardware reliability, maintainability and life cycle support. When failures are observed, the equipment casualties are resolved to ensure equipment readiness fully supports IMA operational objectives and schedules and the ISSE and DFTE meets the Availability (Ao) thresholds as defined in the ISSE and DFTE maintenance plan. These failures are immediately addressed by deploying a Troubleshooting Team, which includes Senior Staff representatives, PDLR Technicians, and Government

representatives to identify root causes of problems and develop corrective actions to prevent recurrence. The Team periodically uses a second/split shift to focus troubleshooting efforts that arise involving a torpedo, test, or facility equipment to minimize dayshift work stoppages. This approach maximizes production capacity by actively managing bottlenecks. LM CI teams combine corporate resources with MK 48 IMA torpedo experience to support resolution of systemic problems. These teams work in partnership with government, OEM and ISEA members using Lean/Six-Sigma CI methodology.