Compendium of Annual Program Manager Assessments for 2015

A Sampling of Department of Defense Program Manager Status Reports to the Defense Acquisition Executive for Fiscal Year 2015

September 23, 2015

(Assessments as of March 2015)

Foreword

In February of 2015, I tasked all Department of Defense Acquisition Category I and Major Automated Information System program managers to provide me with a one to three-page assessment of the state of their programs. In reading the assessments, I realized that they provided a great deal of information and insight into the complexity of our programs, the professionalism of the people who are managing them, the problems they face, and the way in which they are dealing with those problems.

The Defense acquisition enterprise comes under a great deal of criticism. Some of this criticism is warranted; a few highly visible defense programs do experience cost overruns, schedule slips, and sometimes cancellation. There is also definitely overhead and bureaucracy that can be removed and more efficiency that can be attained – in industry and in government at all levels. What I believe these assessments demonstrate is that there is also a highly professional defense acquisition workforce that is completely dedicated to delivering as much capability as possible to our Warfighters and to using the taxpayers' investment in defense as effectively as possible. These assessments reflect the reality of the vast range of problems defense acquisition professionals confront, and the deep complexity of many of those problems. These are challenges that will not be resolved with simplistic broad reform measures. I am publishing these assessments so that those who only understand defense acquisition as a theoretical exercise will have an opportunity to appreciate its practical reality – as seen through the eyes of a representative cross section of our Program Managers.

For the last several years, the Department has been addressing acquisition improvement through a series of evolving continuous improvement initiatives collectively referred to as Better Buying Power. The assessments were simultaneously sent to me, the Service or Component acquisition executive, and the program executive with no input from any staff sections – unfettered access to the acquisition chain-of-command. I have responded to each Program Manager individually. The assessments provided valuable and often actionable insights, and the acquisition chain of command is using them to improve the way we do business. I will continue to request these assessments, but I do not plan to publish them again in the future; the candid comments and recommendations are of great value and I do not want to discourage that candor. I do, however, want to give those interested in or perhaps entering the field of defense acquisition the insights that these assessments provide.

This compendium is a subset of the assessments, printed here with the permission of the authors and redacted to remove proprietary and acquisition-sensitive information. They are organized by phase of the acquisition lifecycle and represent a good mix of each Service's defense products. Please note that this material was current in March of 2015 and many changes may have occurred since then.

The assessments highlight the contributions that our very talented and dedicated PMs, their staffs, and supporting organizations are providing to the Department and the Nation. They also highlight the vast complexity of defense acquisition, but they are not up-to-date reports on program status.

Sincerely,

Frank Kendall
Under Secretary of Defense,
Acquisition, Technology, and Logistics

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Chapter 1

Pre-Milestone B — Technology Development Phase Programs

Air Force Intercontinental Ballistic Missile Fuze Modernization

The ICBM Fuze Modernization program is a form, fit, and functionally equivalent replacement for the existing legacy Mk21 Arming and Fuzing Assembly utilized with the W87 warhead. Per MDA direction in the Phase 6.2/6.a feasibility study and Phase 6.3 Authorization, the program executes under joint DoD/DOE Instruction 5030.55 (commonly referred to as the Phase 6.X process). The APB was approved September 29, 2015, and the program submitted the initial SAR in March 2015.

The ICBM Fuze Modernization program achieved a number of successes in 2014. The design agent (Sandia National Laboratories) completed Performance Requirements Review (PRR) and Component-Conceptual Design Review (C-CDR). PRR successfully traced system-level requirements to fuze components to ensure effective design. The C-CDR baselined the initial hardware designs for each of the fuze components. In addition, the design agent (Sandia National Laboratories) began reporting Earned Value (EV) to the program office in August 2014 and completed the Initial Baseline Review (IBR) on March 6, 2015. EV implementation represents a significant achievement to instill cost accountability and discipline within the Department of Energy. With completion of the IBR, the program will begin reporting EV data into the Monthly Activity Report (MAR).

The program continues to greatly benefit from trailing and leveraging the engineering work performed on the Navy's Mk5 Alteration 370 (ALT 370) program. Three of the seven components in the Navy and Air Force fuzes are 100 percent common—the radar, path length module (PLM), and thermal battery. The Navy conducted a flight test during the summer of 2014, which successfully demonstrated radar performance. This flight test increased confidence in the radar models used in the design process. Regarding the PLM, the Air Force is reinvigorating the industrial base to build the sensor inside the module because there are not enough sensors to harvest for both Navy and Air Force reuse. The Navy will also benefit from the new sensor because the Air Force plans to deliver one for a future Navy flight test and qualify it as an alternative sensor for the Mk5. The Navy has begun qualification activities of these three common components, so the Air Force is paying a relatively small cost for program management and design oversight. The leader-follower model continues to represent an incredible cost savings for the Department of Defense.

The program developed a governance package that summarizes the tailored approach to Phase 6.X documentation that will still meet DoD 5000.02 statutory requirements. The PM coordinated this governance package with Program Counsel to complete a legal sufficiency review which identified statutory and regulatory gaps and delivered the program's resolution plan to close those gaps. The PM provided this legal sufficiency review to OSD/GC for resolution, but OGC would not provide comment.

Additionally, the program sought USD(AT&L) concurrence on the program governance; however, the coordination package was halted to be combined with the 2366b package. This creates a challenge because OSD staff expects to see a CAPE ICE as part of the 2366b certification package. The program established the ICE as entry criteria to Phase 6.4, which does not have an equivalent DoD 5000.02 milestone since it straddles "Development Engineering" and "Production Engineering" in the Phase 6.X process. OSD CAPE coordinated with AFCAA and the Program Manager to establish a plan to complete the ICE prior to Phase 6.4. The PM needs an Acquisition Decision Memorandum (ADM) from USD(AT&L) validating the Phase 6.X governance direction and directing the ICE only be required for Phase 6.4.

The ICBM Fuze Modernization program is executing a Life of Program Buy (LOPB) strategy to achieve additional cost savings by leveraging the Navy's Mk5 qualification testing. The AF will save over $100 million by procuring subcomponents with the Navy. The LOPB strategy ensures the Air Force will not pay twice for the nuclear qualification of the same components. The Air Force planned to leverage this savings for the W78-1 Life Extension Program (LEP) because the W78-1 LEP acquisition strategy aimed to utilize the same Mk21 replacement fuze. W78-1 LEP represents another significant cost savings opportunity. However, with the FY 2015 PB decision to defer the W78-1 LEP by 5 years, the program did not receive authorization or appropriation to procure W78-1 LEP. The Air Force submitted proposed FY 2016 authorization language on March 2, 2015, to the HASC and SASC for consideration in the FY 2016 NDAA to include W78-1 LEP. The PM is concerned that appropriations may not follow suit given the fact the W78-1 LEP was deferred to a FY 2020 start. The Program Manager needs USD(AT&L) help to garner consensus on the decision to execute LOPB to support the W78-1 LEP.

The program is executing incredibly well. Leveraging the Navy's Mk5 ALT 370 program has paid huge dividends for the DoD, and the program successes in 2014 are a testament to the team's continued hard work. In order to maintain this positive momentum, the PM recommends the following: (1) the program continue executing jointly with the Navy under the Phase 6.X process and tailor efforts to meet DoD 5000.02 statutory and regulatory requirements; (2) USD(AT&L) review the program's governance proposal as a stand-alone request to clarify the confusion at OSD over program documentation requirements and establish the ICE as entry criteria for Phase 6.4; and (3) USD(AT&L) support program efforts to gain consensus on the need to execute LOPB for the W78-1 LEP.

This assessment is the work of Col Ryan Britton and has not been staffed, reviewed, or approved by any other individual in draft or final forms.

General Fund Enterprise Business System (Enhancements)

As the PM for GFEBS I am responsible for GFEBS Increment I (sustainment), Increment II (pre-MDD), GFEBS Sensitive Activities (development) and the Army Contract Writing System (pre-MSA). This assessment will cover GFEBS Increment I, GFEBS Increment II and the Army Contract Writing System (ACWS).

General Fund Enterprise Business System

GFEBS is the Army's enterprise, web-enabled, financial asset and accounting management system. It is a single foundation that continuously incorporates modern technology, integrated data, and re-engineered business processes to meet the Army's current and future business needs. It implements an SAP COTS solution that warranted customization due to unique Army workflow processes and interfaces with over 40 partners. Increment I is in Sustainment (FD in July 2012). Increment II (in planning) will increase the electronic integration of financial businesses processes and extend the Increment I capability to other business areas in support of the Army's Business Management Strategy (ABMS). Additional capabilities in Increment II include a single integrated labor time tracking application, integrated resource management for budget formulation and manpower, and environmental management, as well as modernized infrastructure components.

GFEBS Increment I is meeting the Army's financial business needs extremely well and is actively competing for sustainment dollars. Increment II is actively competing against other Army requirements in POM 17-21. Originally there was not a plan for an additional increment; however, due to ongoing enterprise-wide business integration initiatives, process and data exchange standardization requirements, interface maturation, and the need to automate workflow to reduce errors and duplication, GFEBS requires follow-on Increments similar to the three other Army core ERPs (GCSS-A, LMP, IPPS-A). Unlike weapon systems, business process re-engineering and data integration never ends.

In my initial six months as PM GFEBS, I have identified three critical areas that cause me concern: (1) the frequent and significant amount of annual changes in statutory and regulatory audit requirements that cause continuous solution updates; (2) the significant expansion of business functions in order to support automated workflow integration of end-to-end business process; and (3) the complexity of cross system/organizational process integration with multiple stakeholders with varying governance.

First, the frequent and significant amount of annual changes in statutory and regulatory audit requirements that cause continuous solution updates. The most important and unnerving point that I have come to understand in my short tenure as PM GFEBS is that the requirements base for a Defense Business System, particularly a financial system, is never final. One would expect some level of change; however, due to the number of processes and external influences across financial processing, in order to remain current and maintain data accuracy and continuity of

operations, fundamental updates are issued and expected to be adopted, particularly as we approach the audit. As you can expect, this comes at a cost and is time consuming to integrate into an existing product. The last release of the Standard Financial Information Structure (SFIS) Version 10, a Department of Treasury and audit mandate, required a multi-year design update with numerous interface partners. This multi-million dollar initiative started over a year and a half ago and has still not concluded due to its complexity. Similar examples of DoD standardization requirements are Real Property Information Model and Standard Line of Accounting. Many of these changes undo or override capabilities that have been customized. I believe that this issue warrants cross-program and cross functional engagement and a more detailed impact analysis before changes are mandated across DoD and OMB.

Second, the significant expansion of business functions in order to support automated workflow integration of end-to-end business processes in Army ERPs is tremendous. The intent of this expansion is to reduce error rates, improve process efficiency, and increase data accuracy and quality. DoD and Army strategic objectives have enabled the implementation of the four core ERP systems to facilitate integrated processing, achieve successful audit assessments, institute internal controls, and provide improved information visibility for leadership decision-making. As the Army has come to understand in its operationalization of these solutions, the effectiveness of ERPs is hampered to the extent that end-to-end process execution is segmented and then cobbled together across a range of systems, many of which are legacy systems without an upgrade path due to pending displacement. To overcome this complex integration challenge, ERPs closely coordinate timelines and capability maturation to ensure process stabilization and continuity. The Army's business management strategy recognizes these integration challenges and process improvement opportunities, and promotes the expansion of the Army core ERP capabilities to realize projected cost efficiencies. This is a major factor in each ERP requiring a new Increment of capability. Given the constrained-resource environment, the PMs require Army and OSD champions to aid in committing to the path forward for follow-on Increments.

Third, my biggest challenge stems from cross-system/organizational process integration with multiple stakeholders with varying governance. Partner integration, particularly in processes that span numerous systems that are two and three steps removed from GFEBS, is cumbersome, costly, and often error-prone. It requires requirements recognition, funding, and schedule alignment through each phase of planning, design, development, and integration. The 47 direct interface partners in GFEBS equates to accounting for over 150 distinct interfaces, dozens more partners, and hundreds more interfaces on the back end of the data exchanges. The orchestration of requirements planning, funding, contracting, synchronized scheduling, design validation, integration, and testing for each release is expansive, but quite impressive. Funding cuts, contracting issues, design misinterpretations, and testing issues with any interface partner can set the entire work effort back weeks, months, or years. I believe that requirements change management and end-to-end process capability consolidation within the ERPs is a necessity. Funding for requirements changes, which is often scant today, must in fact account for the entire

process chain across systems partners. Where OSD can assist is through directing funding prioritization and establishing a single governance structure to drive end-to-end process capability consolidation and common services, thereby eliminating complex multi-system interfaces.

OSD assistance with these three issues would allow me to advance my program, as well as my peer Defense Business System PMs, towards the projected efficiencies stated in the ABMS. Given my established awareness of the above and commitment to financial audit readiness, I have incorporated a steady RDTE and OPA funding stream into future budget requests and am implementing an agile development approach to allow for more timely and continuous updates.

Army Contract Writing System

The ACWS program is currently an ACAT III program; however, it is within 10 percent of the ACAT I MAIS thresholds. Additionally, my team is completing a directed reassessment of our Program Office Estimate. Due to changes in DoD 5000.02 and other risk factors, I believe ACWS will be elevated to an ACAT I program and come under your purview. ACWS is currently in the Materiel Solution Analysis Phase.

I am proposing to apply DoD 5000.02 model 3 for program planning. I plan to implement a tailored acquisition to accelerate product delivery to the user with minimal risk. I will caveat that my tailoring approach, discussed below, is pre-decisional and is not yet an approved Army strategy. I am using this medium to socialize my plan and gather your thoughts in order to better prepare for success.

First, I am proposing to enter the acquisition lifecycle at Milestone (MS) B. Market research indicates that there are several COTS-based contracting software solutions that will meet a significant amount of my requirements "out of the box" with some configuration. I plan to conduct a competitive source selection to procure a COTS-based solution as early in the lifecycle as possible.

Second, although recommending entering at MS B, I plan to conduct a short TMRR phase prior to entering EMD. The Army has mandated this TMRR phase due to similar challenges with other business systems. Although COTS solutions appear very mature and are deployed to numerous agencies across the federal government, a short TMRR phase will verify the "out of the box capability," allow for end-to-end business process re-engineering, and make possible a more thorough system characterization than can be obtained in the Source Selection. This will ensure that the most important programmatic decision (the COTS solution) is thoroughly vetted prior to beginning EMD. At the completion of the TMRR phase, the program will have made a thorough assessment of the selected software solution and will be in an ideal position to finalize and submit all statutory and regulatory program documentation required to support a MS B and award of a follow-on Task Order to begin development.

This short TMRR plan leads to my third tailoring approach. My intent is to move the Developmental RFP to a point prior to the conduct of the TMRR phase and gain MDA approval to award a contract through a Contract Award Decision IPR in lieu of a MS A. This contracting strategy will limit the vendor to the TMRR phase initially with subsequent task order awards for follow-on development efforts. This strategy will require tailoring the required documents for the RFP Release Decision Review and the Contract Award Decision IPR. Because the ACWS program proposes to release the Developmental RFP prior to TMRR phase, there may be gaps in information that make it difficult for the program to produce all the documentation normally associated with the Developmental RFP Release decision. For this reason, the ACWS program proposes to tailor the number and type of documents provided in support of the Developmental RFP. Additional documents will support the Contract Award Decision IPR, and all statutory and regulatory documents will support the MS B decision.

I believe that this tailoring approach will support a low/medium risk program and will result in delivering the ACWS product to the user as quickly and cost-effective as possible. It is in concert with your changes to DoD 5000.02, which gives PMs the flexibility to tailor the structure, content, and decision points to meet a program's circumstances. I have taken your guidance to implementation and am confident that I have a viable Acquisition Strategy.

I look forward to our first engagement and more detailed discussion on my programs.

This assessment is the work of COL William M. Russell and has not been staffed, reviewed, or approved by any other individual in draft or final forms.

Ground/Air Task Oriented Radar

I am the PM for Ground/Air Task Oriented Radar (G/ATOR), an ACAT 1C program that will provide a dominant capability for the Marine Corps as their next generation radar in support of the MAGTF. I am very proud to have the opportunity to manage this program and see it through low rate production, IOC and fielding; and doing so within the given programmatic imperatives.

I have worked in radar since 1985 (with exception of just a couple of years) and attest that G/ATOR will deliver on its requirements and has the inherent capability to pace the threat for years to come. We have figured out the complex and difficult stuff – ambient air-cooled AESA that incorporates digital beamforming and distributed waveform generators to provide state-of-the-art sub-clutter visibility while meeting the expeditionary requirements of the USMC, all in a single common materiel solution. The hardware works, we have demonstrated our KPPs, and are working off the relatively minor (though important to fix) issues that are common to any complex system that is a first of its kind. G/ATOR is being developed in capability blocks, and we have multiple efforts ongoing which I will provide status on below.

We received our MS C ADM from ASN RDA authorizing us to proceed into LRIP in March of 2014. This was followed by LRIP contract award in October of 2014 to Northrop Grumman (NG). We conducted our post-award production kick-off meeting in January 2015. Our IBR is scheduled for April 2015. This initial LRIP buy is for radars that utilize Gallium Arsenide (GaAs) as the semi-conductor for the transmit/receive (T/R) modules. When the Lot 2 option is exercised this month, we will have on contract six GaAs G/ATORs that will deliver in FY 2017 and will utilize them to achieve IOC in FY 2018 for both Block 1 (Air Defense/Air Surveillance) and Block 2 (Counterfire/Target Acquisition) missions. While we are still early into the LRIP effort, we are on track.

In addition, we completed the first part of a three-part effort to improve reliability in August 2014. The results of that effort give confidence that we are aggressively progressing up the reliability growth curve to meet reliability requirements, though further work is required and continued diligence. I anticipate awarding a new reliability improvement contract imminently to continue to progress the system up the reliability curve. While the system is making necessary progress to meet current reliability requirements, Marine Corps Combat Development Directive, who owns the requirement, is looking at providing clarification to be consistent with the Operational Mode Summary/Mission Profile (OMS/OP), as the current requirement is not tied to an operationally relevant timeframe.

My assessment is that, while we are not where we need to be for reliability, we really are not in too bad of shape either when looked at in the context of what it takes to introduce a new radar of this complexity. The fundamental hardware building blocks, which are the crown jewels and typically the most challenging for an AESA to provide the performance it does, all work. In

LRIP, we are not re-architecting or updating any critical active array components due to not meeting performance requirements.

The software is not where it needs to be. That said, my past experience has been that we focus on getting the hardware right first because you cannot overcome basic radar sensitivity and system stability issues in software. So the software typically lags the hardware. G/ATOR is following this model. The technically challenging and critical signal processing, tracking, and real-time software is fundamentally sound with typical problems associated with birthing a new radar system. So while I say we are where one may expect a new radar to be, continued focus and effort is required to ensure we continue to grow the system reliability to meet operational requirements.

I have several procurement actions ongoing, with the highest priority currently being worked being the Block 2 contract to develop the Counterfire and Target Acquisition capability. Riding on top of the Block 1 hardware and base software, we will be developing the search strategy and track filters for detection and tracking of rockets, artillery, and mortars. We received the NG proposal and continue to work through the contractual actions required to get to award. This remains one of my highest priorities and an effort I monitor progress almost daily to ensure we stay on schedule for award.

In parallel, as a "should cost" initiative, we are transitioning to Gallium Nitride (GaN) for our T/R modules. During our initial contract to transition to GaN, we completed a successful system CDR in September 2014 and are continuing system-level risk reduction efforts. At the component level, we have the empirical data to demonstrate that the GaN T/R module and associated power supply, which are form-fit-function replacements, are where they need to be from a reliability, producibility, and affordability perspective. We are currently working to get on contract the follow-on effort to further reduce risk.

The other significant initiative being worked is the TEMP. We are working with the operational test community to update the TEMP to address DOT&E reliability concerns and execute an affordable operational test strategy that supports a limited fielding of our GB1 and GB2 GaAs- based systems for IOC and the DT and IOT&E of GB1 and GB2 GaN-based systems. Nailing down the Design of Experiments has been a struggle to date, but recent progress gives me renewed confidence we are now on the path to move forward successfully. We will be compliant with our ADM to have the TEMP to ASN RDA by September 2015.

As far as areas of concern, I have multiple areas that I am paying close attention to and am sharing two for your awareness but not looking for help as the PEO has me covered. The first is getting our prime contractor under contract in a timely manner to execute the program in front of us. I have a highly competent team that has continued to perform at a high level for a long time. As described above, we are working multiple procurement actions, all in different stages of execution. Through the normal course of retirements, rotations, and promotion opportunities

elsewhere, the PMO has undergone a fairly significant turnover in personnel where we have lost significant experience and institutional knowledge specific to the G/ATOR program in the last year. The PEO and MARCORSYSCOM have been very proactive to backfill my staff, but even with qualified personnel, G/ATOR (like any ACAT 1 program) requires time on station to be fully effective in order to execute efficiently. The net effect is it takes longer to execute as we collectively grow and come up to speed as a team. We may go slow for a while in order to go fast in the long run.

The other concern is with our ability to work effectively with the operational test community to appropriately scope the OT in a timely manner. I am working to build effective working relationships between my PMO, MCOTEA and DOT&E. It appears to me that OT is becoming more DT-like, and getting consensus on how to maximize all the data available to inform the scope of the operational test is still a work in progress. My PEO has been supportive in working this issue, and I am cautiously optimistic this will continue to improve.

Lastly, I wanted to share that everything I do is focused on delivering the required capability to the Warfighter in the most affordable and timely manner possible while meeting our commitments. I am continually seeking to drive cost out of my program and maximize the dollars entrusted to me to execute this program. I am humbled by what has been entrusted to me, proud to be a civil servant, and excited to have the opportunity to ensure our Warfighters get the capabilities they require to protect our great nation.

This assessment is the work of John Karlovich and has not been staffed, reviewed, or approved by any other individual in draft or final form.

MQ-8 Fire Scout Unmanned Aircraft System

The Fire Scout program has emerged from last year's Nunn-McCurdy process as a more stable and executable program. We are on-track for cost and performance, and MQ-8C development is on schedule. Challenges remain in program oversight, program staffing, test schedule, production quantities, and Littoral Combat Ship (LCS) integration. Opportunities include break-out of production phases, introduction of a new Mission Control Station, and a common software baseline for both MQ-8B and MQ-8C. We will need attention to our proposed ACAT designation.

The re-structured Fire Scout program includes RQ-8A (no longer in service), MQ-8B (in sustainment), and MQ-8C (in concurrent development and production), Weapons and radar integration (in development), Mission Control Station hardware (in production), and Unmanned Aerial System (UAS) Common Automatic Recovery System (UCARS) (in production). The Mission Control Stations and UCARS are procured per ship and permanently installed on the ship. The aircraft are procured per aviation detachment and are only embarked for work-ups and deployments. The combined program is an ACAT ID. The MQ-8C production is planned for 40 air vehicles, and 22 will be on contract before the program repeats its MS C in FY 2016. Total MQ-8C RDT&E and procurement funds are at ACAT II levels and will be 80 percent and 50 percent expended respectively by the planned MS C date. We are preparing an acquisition strategy for approval that would break out the MQ-8A/B, MQ-8C, radar, weapons, and future increments as separate programs, and would realign the shipboard equipment to the Tactical Control System program. This would provide clarity to unit cost, schedule, and performance parameters for each program; support shipyard timelines and the transition to a common control station; and keep investment decisions at the lowest level appropriate by designating these programs as ACAT II or III We will be bringing this proposal forward via the Navy CAE as soon as possible in order to gain a decision before significant time and resources are expended preparing for an ACAT 1D MS C instead of one at a lower level in the chain of command.

We have program staffing challenges in the area of contracting. NAVAIR shortages of PCOs and Contract Specialists have put us behind in contract awards and make it difficult to get sufficient contract input early in the procurement planning process. While our existing workforce is hard-working and extremely motivated, there is a shortage of experience and insufficient numbers to produce work of the desired quality and quantity. A second staffing concern is in program management. While current staffing is sufficient, continued pressure on government and CSS manning levels makes me concerned that we will lose some of the billets needed to properly plan and monitor execution of our procurements.

My primary concern in the MQ-8C development program is the availability of a ship to support IOT&E. Since MQ-8C is currently only planned to deploy on LCS, that class is needed to support IOT&E. Current pressures on LCS schedules have made ship availability difficult. While we are working well with the Fleet and PEO(LCS), I expect that IOT&E will be delayed

from its planned Q4 FY 2015-Q1 FY 2016. At this time I do not expect major perturbations in MS C or IOC dates.

In MQ-8C production, our deliveries are proceeding as expected. A Congressional add for additional aircraft in FY 2015 has helped keep unit costs reasonable, but procurement quantities of two aircraft per year in FY 2016 and beyond represent a challenge to the supplier base and a significant unit cost increase. We have undertaken a production line deep dive to evaluate opportunities to break out parts of the production flow with focus on the commercial aircraft modifications.

MQ-8B sustainment is improving as we execute our plans to address the spare part shortfall resulting from the shutdown of the commercial aircraft product line. We are introducing our tech refresh for the Mission Control Station and a common software baseline for both MQ-8B and MQ-8C to enhance system capability and provide cost savings in sustainment. Deployments in FFG and LCS have shown the maturity of the Fire Scout System but have also illuminated issues with LCS network integration that need to be addressed. We are working closely with PEO(LCS) to address those issues

In summary, the re-structured program is on track for cost and performance and has some schedule issues from LCS availability that are being addressed. We intend to present a proposal for ACAT re-designation as soon as possible that, if approved, would enhance our ability to execute the remaining program.

This assessment is the work of CAPT Jeff Dodge and has not been staffed, reviewed, or approved by any other individual in draft or formal form.

Next Generation Jammer

OVERVIEW: The Next Generation Jammer Increment 1 program is approximately 62 percent complete with the current Technology Maturation and Risk Reduction (TMRR) phase. The program is progressing through system design, having completed to-date the System Requirements Review (SRR), at which the system requirements baseline was formally established, and the System Functional Review (SFR), at which the system functional baseline was established, and is scheduled to complete the Preliminary Design Review (PDR), with establishment of the system allocated baseline, in 4Q FY 2015. Additionally, the build-up and test of prototype hardware (arrays, power generation system, common electronics unit (receiver/exciter), wind tunnel models, etc.) is in progress. This prototyping and test activity provides for data to inform the system design process as well as a methodical approach to risk reduction to—and hence increased confidence in—the Engineering and Manufacturing Development (EMD) phase and meeting of system Key Performance Parameters (KPPs) and Key System Attributes (KSAs). The Development RFP Release Decision Point DAB is scheduled on April16, 2015, in support of release of the final RFP for EMD (planned sole source, predicated upon approval of the requisite J&A). MS B and subsequent EMD contract award is planned in 2Q FY 2016, MS C in 4Q FY 2019, IOC in 3Q FY 2021, and FRP decision review in 2Q FY 2022.

RISKS: My principal program-level risks are associated with: NGJ Increment 1 pod weight as part of the EA-18G platform weight in the Suppression of Enemy Air Defense (SEAD) configuration (primary limit being aircraft maximum trap weight on the aircraft carrier); effective isotropic radiated power (EIRP); and EA-18G integration. The weight and EIRP risks are driven by the requirement of the NGJ program to achieve significant capability increases over legacy and current airborne jammers, while operating in a challenging electromagnetic and aero-mechanical environment and packaged in a highly restrictive form factor for carriage on a carrier-based strike-fighter aircraft. The weight and EIRP risks are inherently coupled, neither of which would be as much of a challenge if not driven by the other (i.e., EIRP would not be as significant a challenge if weight were less restrictive, and, conversely, weight would not be as significant of a challenge if not for the high EIRP requirements). In regard to EIRP, one of many challenging elements is that NGJ must generate very high power densities over a very wide bandwidth (greater than two octaves of frequency, four times more than a typical AESA radar, with a duty cycle three times longer (always on)), which requires a new class of semiconductor amplifiers, utilizing Gallium Nitride (GaN)-based High Electron Mobility Transistors (HEMTs), with unprecedented efficiency to manage prime power generation and waste heat management constraints. Risk mitigation plans leverage model performance predictions, informed and updated by numerous knowledge points throughout program execution such as component-level testing (e.g, Transmit/Receive Modules (TRMs), High Power Amplifiers (HPAs), circulators, etc.), individual array testing, combined array testing, Common Electronics Unit (CEU) testing, Ram Air Turbine Generator (RATG) testing, etc. Additional mitigation plans involve

consideration of some GaN transistor design changes, such as shortened source/drain spacing (reduced resistance and capacitance and thus increased gain) as well as potential use of cascode GaN transistors, if necessary, in the HPAs (reduced capacitance and higher gain), which also could potentially facilitate decreased sizing (fewer transistors) in both the HPA first and second (output) stages and hence decreased prime power draw and more optimal output impedance matching (reduced load pull, higher power added efficiency). The weight challenge is significant and has a direct relationship to EIRP. EIRP requirements dictate array cell/element counts (sizing), RATG and cooling system sizing, etc. As such, a higher design HPA power added efficiency, in order to achieve the required EIRP levels, results in a smaller and hence lighter overall system design. My current pod weight estimate, based upon a model which is essentially an indentured parts list with correction factors applied, is within 1 percent of the specification weight, leaving me little to no margin. The weight specification was derived based upon the maximum trap weight of the EA-18G given the delineated SEAD configuration, assuming an EA-18G Lot 37 empty weight as a starting point. While the current EA-18G Lot 37 weight projection is less than was originally assumed, and other funded PMA 265 initiatives also provide for some reduced weight on the EA-18G and hence some overall margin, EA-18G weight growth associated with potential roadmap or Service Life Extension Program initiatives needs to be considered. I continue to closely manage numerous weight "threats" and "opportunities" and have made some progress in terms of some weight reduction initiatives (arrays with integrated array power supplies, removal of the forward heat exchanger, RATG shroud housing integrated with pod structure, etc.), but there is still some distance to go, and continual focus and scrutiny is required. Having stated this, much of the system design is based upon predictions from three key models: EIRP model, thermal model, and prime power model. Future knowledge points, discussed in paragraph 4, will be key in informing these models and hence the design. As such, the current pod weight estimate has an associated error band (probably +/-7 percent). For example, if the prototype array testing planned in July 2015 yields results indicating higher EIRP or lower operating temperatures than predicted by the EIRP and thermal models, respectively, then design modifications in way of reduced array cell/element counts as well as reduced cooling system sizing (perhaps a smaller pump) could result in reduced pod weight. Of course, the reciprocal is also possible, but we do know of some conservatism built into the models. Additionally, if the RATG wind tunnel test planned in June 2015 yields results indicating higher prime power output than predicted by the current prime power model, then the RATG sizing can potentially be reduced and hence a reduction in pod weight.

The EA-18G integration risk is driven by the complexity of the integration and test efforts on the EA-18G. This is far more complex than integration of a typical store on the aircraft and involves multiple onboard aircraft systems hardware and software modifications, such as the ALQ-218 ESM receiver (hardware and software) in support of a complex blanking scheme (since NGJ both transmits and receives and covers a very wide frequency range), additional fiber and two fiber channel network switches in support of a High Speed Data Network (HSDN), pylon connector modification in support of the HSDN and blanking, ALQ-227 communications

countermeasures system software, Electronic Attack Unit software, supporting mission computer and stores management software, and mission planning software. The mitigation plan to address this risk includes early identification of pod-platform functionality through established workings groups (ICWG, Joint Architecture Working Group (JAWG), Jammer Systems Working Group (JSWG)), combined SETR events between pod and platform prime contractors, early ALQ-218 interoperability testing utilizing NGJ power levels in the anechoic chamber, and early integration lab testing. ALQ-218 ESM receiver tests in the anechoic chamber in September 2014 closed my risk associated with NGJ power levels causing damage or reduced reliability to the ALQ-218. There are several potential mitigation options being considered, involving both software and hardware modifications to the ALQ-218. A follow-on ALQ-218 test in the anechoic chamber is scheduled in May 2015, during which baseline tests will be conducted again in order to corroborate results from the September 2014 test, followed by tests to evaluate numerous ALQ-218 prototype software modifications for improvement to background emitter detection performance. Additionally, PMA 265 has identified required upgrades to the ALQ-218 in support of the detection, identification and location of complex, multi-mode threat system emitters. There is significant synergy between the ALQ-218 upgrades required for complex emitter detection/identification/location capability and NGJ/EA-18G interoperability. A joint PMA 234 and PMA 265 team is actively coordinating these efforts to ensure any modifications done to the platform, either hardware or software, are done with a focus on achieving an integrated weapon system solution.

KNOWLEDGE POINTS: Knowledge points to date include flight demonstration pod (FDP) flight on Gulfstream G3, 8 percent scale model high speed wind tunnel testing, and prototype Mid-Band 1 (MB1) and Mid-Band 2 (MB2) array subsystem component level tests (HPAs, TRMs, circulators and arrays), and RATG rig testing. The most significant benefit from the FDP flight test on the G3 was first-time demonstration of operation of a "submerged" RATG, as is the NGJ Increment 1 design approach, during which prime power was generated and controlled from the air stream under varying electrical loads. The 8 percent scale model high speed wind tunnel tests yielded good correlation with, and hence validation of, the computational fluid dynamics (CFD) model and, of significance, verified minimal air mass flow disturbance on the side of the pod adjacent to the inboard 480 gal external fuel tanks as compared to the outboard side (only a 4 percent mass flow difference, hence maintaining fairly symmetric air flow through the pod inlets in support of "submerged" RATG prime power generation). MB1 and MB2 prototype component level testing yielded reasonable correlation with component performance model predictions, meeting flow-down output power and prime power allocations over majority of MB1 and MB2 frequency ranges. Potential shortfalls are being investigated, and design iterations, some of which are discussed in paragraph 2, are being considered. Lastly, RATG testing at Honeywell, with the generator regulator rectifier unit (GRRU), yielded 90.5 KW DC power output from GRRU (derived prime power requirement).

Significant future knowledge points, the benefits of which are largely discussed in paragraph 2, include: 10 percent scale model wind tunnel testing in support of loads and safe separation analysis (March 2015); power generation system wind tunnel testing for power train generation of prime power derived requirement and power quality validation(June 2015) (generator, capacitor bank, APS, element array load simulator); prototype MB1 and MB2 near-field array tests (July 2015), in order to verify control functions and operation as well as to determine output power and TRM calibration coefficients (full MB1 and MB2 frequency bands, full RF power, 5 percent duty cycle pulsed EIRP, scan angles over field-of-regard (FOR), representative power supplies); full combined (co-located) prototype MB1 and MB2 array beamformer and radome far field tests (July 2015) (MB1 and MB2 frequency bands, full RF CW power, scan angles over FOR, representative power supplies).

SUMMARY: NGJ Increment 1 is a highly technical, challenging program with associated risks as described. However, I have a very methodical, build-up prototype testing and risk management approach in support of design/technology maturation in order to minimize risk to EMD and hence increase my confidence in a successful EMD effort leading to production and fielding of this critical capability. The power generation system test (wind tunnel), as well as the array tests planned in June/July 2015, is where "the rubber will meet the road" and much more will be learned.

CERTIFICATION: This assessment is the work of CAPT John W. Bailey and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Offensive Anti-Surface Warfare Increment 1 (Long RangeAnti-Ship Missile)

Background

- Offensive Anti-Surface Warfare (OASuW) Increment 1/ Long Range Anti-Ship Missile (LRASM) program was formally initiated on February 3, 2014. Program completed Knowledge Point 2 review on December 3, 2015. Next program milestone is Knowledge Point 3 scheduled for 2Q FY 2016.
- LRASM will provide the fleet next generation Anti-surface warfare technologies in an accelerated timeframe (FY 2018)
- Navy/DARPA LRASM Deployment Office established to utilize an *innovative, streamlined, and agile* acquisition approach to deliver an OASuW Early Operational Capability.
- Pioneering" DoD 5000.02 Model 4 Accelerated Acquisition program with ASN(RDA) as the SAE.
- Leveraging and expanding on leap-ahead technologies from DARPA prototype and JASSM-ER airframe.
- Program progress is driven by technology maturation, not acquisition process, and is leveraging DARPA speed and efficiency with NAVAIR acquisition rigor.

Requirements: OASuW Increment 1/LRASM requirements are stable. Program Capability Description Document (CDD) was validated by JROC on February 10, 2015. Awaiting receipt of signed CDD.

Technical/Risk

- Overall OASuW/LRASM program schedule risk is assessed to be HIGH due to FY 2015 budget reductions combined with compressed development and test timelines required to meet EOC KPP requirements. Program technical and cost risk is MEDIUM.
- 75 percent of LRASM subsystems have reached Preliminary Design Review level maturity; Interim Technical Maturity Assessment is scheduled for Summer 2015.
- The team flew a successful third flight demonstration event (IFD-2) on February 4, 2015. The event mitigated significant program risks associated with low altitude flight and obstacle avoidance.

Budget

- OASuW Increment 1/LRASM is an accelerated/high risk program that requires a stable funding profile, especially early in the program. The accelerated acquisition construct results in unusual budget and financial execution metrics.
- Minor budget changes/corrections or marks to the program have significant impact due to compressed time for analysis and recovery.

Schedule

- COMOPTEVFOR (COTF) and DOT&E are supportive of a Quick Reaction Assessment (QRA) in lieu of Initial Operational Test & Evaluation (IOT&E) for EOC. Planned QRA timeline is critical to meeting EOC requirements.
- Schedule and budget do not allow for significant correction of deficiencies found in test; QRA will provide a characterization of system capability and assess the risk of fielding OASuW Increment 1 capability as tested.

Process and Organization

- LDO is working within a loosely-defined Model 4 Accelerated Acquisition process for an ACAT 1 program
    - Successes:
        - Program has opportunities to tailor the acquisition process and chart its own course where applicable.
        - Several good examples of unique program decisions/characteristics that support compressed schedule (Extension of DARPA contracts, QRA, Milestone Documentation, SETR, integration with JASSM procurement)
        - Successful merger of personnel and processes from Science & Technology and Acquisition communities.
    - Challenges:
        - Default process is to meet standard requirements; sometimes difficult to determine appropriate tailoring to meet compressed schedule requirements.
        - Acceptance of risk essential in accelerated program is not equally shared between Government and Contractors.
        - LDO presents atypical requirements to all interfacing organizations requiring significant coordination and "startup costs."
        - LDO Leadership transition from DARPA to Navy (2Q-3Q FY 2016) presents unique challenges in infrastructure and program security.

Specific Issues

- Recommendations for Accelerated Acquisition Programs
    - Priority program by default – i.e., Fleet Priority for ranges and assets, DX rating.
    - Congressional engagement to convey Model 4 program urgency and support for a stable budget is critical.

This assessment is the work of CAPT Jaime Engdahl, USN, and Dr. Arthur Mabbett and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Ohio Class Submarine Replacement

I have the advantage of having completed an in-depth review of the OHIO Replacement Program with you on February 4. The program status, issues requiring emphasis, and areas of risk that Steve Landau (SSP), Karen Henneberger (Naval Reactors), and I briefed remain valid today. To restate a couple of key points:

- Program requirements and their relationship to threats have been thoroughly scrubbed (including leveraging the SSBN Security Technology Program), reflected in the Navy approved CDD (R3B completed on February 26) and are in the process of JROC validation.

- The design and system development elements of the program are tightly synchronized between PEO SUB (ship), SSP (Strategic Weapons System), and NR (Propulsion Plant); technical risks are well understood with sound mitigation strategies aligned to earliest retirement prior to lead ship construction. Since achieving lead ship and follow ship "ready for patrol" milestones are paramount to meeting STRATCOM mission requirements (based on the expected decomissionings of the current SSBN 726 Class and no schedule margin for the OHIO Replacement ship deliveries and subsequent testing and preparations for patrols), all parts of the program must execute smartly, and we constantly are examining steps that can reduce schedule risks. The program has the CNO's top priority in part to assure the resources we need to execute the program are not endangered.

- Also discussed in depth at the February 4 review is our ongoing affordability initiatives. While we have made significant gains in driving down Non-Recurring Engineering (NRE), construction, and life cycle sustainment costs by challenging requirements and incentivizing innovative design and production ideas for both shipbuilder (CFE) and government (GFE) systems, the largest to-go affordability opportunity comes with our acquisition strategies. The VIRGINIA Class SSN Program demonstrates >15 percent savings of EOQ material procurements and similar labor savings from optimized modular construction plans. As reported, PEO SUBS will soon review with Mr. Stackley the results of a comprehensive examination of joint VIRGINIA and OHIO Replacement submarine classes construction opportunities. This examination looks at multiple elements of construction, including the best strategy of major ship module construction between EB and Newport News Shipbuilding (NNS) and how to best capitalize on material and component procurements from the industrial base. We are just completing an ASN RDA-directed Independent Review Team (IRT) assessment of my program, which will report to Mr. Stackley within the next month. My understanding is that the IRT is concluding that similar opportunities for non-traditional acquisition of OHIO Replacement and VIRGINIA submarine classes need to be exploited.

- As discussed at the February 4 review, I proposed a tailored set documentation for our upcoming RFP DAB and Milestone B DAB. My intent was to capture your Better Buying Power guidance and achieve the proper balance for a shipbuilding program for statutory compliance, appropriate oversight, and value-added efforts for the program office to generate documents that are useful to our ability to execute. We await the ADM to finalize direction on documentation tailoring.

This assessment is the work of the Mr. John Evans and has not been staffed, reviewed, or approved by any other individual in draft or final form.

T-AO(X) Fleet Replenishment Oiler

Thank you for the opportunity for direct communications of the state of the T-AO(X) Fleet Replenishment Oiler Program per reference (a). As the Program Manager (Acting) for Support Ships, Boats, and Craft, I am responsible for over 160 acquisition programs, including the ACAT I/Pre-MDAP T-AO(X) program, four ACAT III Special Mission Ship programs, approximately 125 Foreign Military Sales cases to include the Egyptian Navy Fast Missile Craft (FMC), and approximately thirty boat, service craft, and seaborne target procurements for U.S. Navy and other Armed Forces.

The current state and health of the T-AO(X) program is good. My overall assessment is that the T-AO(X) program is steady and on track for a 3rd quarter FY 2016 MS B and lead ship Detail Design and Construction (DD&C) contract award. Requirements are stable. Our program documentation is in good shape. The President's Budget is aligned with the Service Cost Position and current program estimates, and ship procurement is fully funded across the FYDP.

As a recapitalization of the T-AO 187 Class Fleet Replenishment Oilers, T-AO(X) is a non-developmental, commercial-based, acquisition program that is assessed as low risk. Accordingly, you approved T-AO(X) to enter the formal Milestone Acquisition Process at MS B via ADM dated April 5, 2013. I applaud this decision, which occurred prior to MS A given the non-developmental nature of the program. Moreover, I believe there should be an opportunity established up-front for all future non-developmental, commercial-based recapitalization programs to make the same decision earlier so as to afford maximum program benefit, including avoidance of unnecessary program efforts and documentation development.

On another positive note, our Phase I acquisition approach to conduct T-AO(X) Industry Studies, including affordability and cost/capability trade-offs, yielded significant positive results for a relatively small investment. We estimate a 10:1 ROI and believe that early engagement with Industry, such as with the conduct of affordability studies, represent an excellent process model that can be leveraged to future shipbuilding programs.

As for concerns, one risk I would cite regarding our program health is the potential for delay in meeting our contract award schedule. The current Acquisition Strategy (AS) reflecting a combined solicitation and limited competition approach for T-AO(X) and LHA 8 ship procurement and engineering support for LX(R) is very innovative. I fully support it, as I believe it will stabilize the industrial base, leverage competition, and drive affordability into our programs. However, it has not been approved to date. Delay in approving the AS is impacting RFP release and supporting activities, including completion of DPAP review, approval of Class Justification & Approval (CJ&A), and approval of detailed Acquisition Plans. Further delay in RFP release will impact and delay proposal preparation and source selection, and could push DD&C contract award later into FY 2016, which would increase program vulnerability to budget cuts. My office, PEO Ships, DASN (Ships and AP)m and NAVSEA 02 are actively engaged

with OSD and ASN (RD&A) leadership and staff to support approval of the AS. All comments provided by OSD and ASN staff to date have been addressed.

Lastly, on the subject of "other topics," I would make the request for T-AO(X) to be designated as an ACAT IC vs. ACAT ID program. You approved T-AO(X) to enter the Milestone Acquisition Process at MS B via ADM dated April 5, 2013, on the basis of no technology development required and the overall low risk. Notwithstanding the added complexity of the planned combined T-AO(X)/LHA solicitation, I believe execution of the T-AO(X) program upon award does not warrant OSD level oversight. I recommend that T-AO(X) be considered for designation as an ACAT IC program, which would enable the program to execute without an additional level of oversight, formal reviews and pre-briefs, and documentation processing and staffing.

I certify this assessment is the work of Michael P. Kosar (Acting PM) and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Chapter 2

Post-Milestone B — Engineering and Manufacturing Development (EMD) Phase Programs

F-22 Increment 3.2B Modernization

It is my privilege to give you a synopsis of the F-22 Raptor's single remaining ACAT 1 program, the Increment 3.2B Modernization effort. I would also like to expand a little further into the Raptor Enterprise to give you a sense of where we are going in the future.

Inc 3.2B – This is the modernization effort to bring AIM-9X, AIM-120D, Geolocation 2, and other Electronic Protection capabilities to the Raptor. Quite honestly, sir, it is a long time coming and the light is finally at the end of the tunnel. This program is progressing in an exemplary fashion and is tracking extremely well to the Milestone B baseline you approved two years ago. To date, we have accomplished numerous critical milestones: All test hardware has been qualified and delivered, two DT aircraft have been modified and have 90+ flight test hours, and we are 65 percent done with software coding, culminating in our 5th of 7 planned iterative software drops, which now have over 2,500 hours of lab testing. All in all, we have made substantial hardware and software development progress since Milestone B, and I have a HIGH level of confidence we will successfully meet Milestone C entrance criteria.

One of the highlights of this effort has been the implementation of SAFE/AGILE iterative software development vs. the traditional waterfall coding that Raptor has implemented in the past. I have verifiable proof this method has allowed us to find show-stopping coding challenges well in advance of our final functional or production software drops, allowing us the time and resources to plan re-work in the middle of this effort and not at the end during operational flight test. Because of this, I am anticipating the most efficient flight test program of any Raptor capability release up to this point.

Bottom line, sir: this effort is proceeding very well, and we have plenty of margin to manage the challenges that still remain. In fact, I am so confident in how this effort is proceeding, you will be seeing a package within the next few weeks requesting a re-delegation of this effort to an ACAT 1C program. OSD oversight has worked, this effort is on track to deliver vital warfighting capability, and I highly recommend this re-delegation prior to our Milestone C.

The Raptor Enterprise – With the achievement of our first operational combat mission in September 2014, the Raptor has entered a brand new world with new challenges to face and overcome. While 3.2B capability is highly anticipated by the field, we are in the midst of planning the next phase of capability to keep the Raptor a vital piece of the Air Superiority conversation. This Tactical Mandates modernization program, or TACMAN, brings capability and interoperability to our Raptor Warfighters that will ensure their air dominance for some time to come. We have briefed Mrs. McFarland, at the appropriate security level, of this effort, and we would be happy to share this incredibly vital story with you as well.

At this time, it is important for me to point out that, while this assessment has spoken solely of modernization of the Raptor, there are numerous operational, reliability, maintainability, and supply chain challenges to tackle every day. We now have a significant presence at our Depot at

Hill AFB after a 2-year consolidation effort, culminating in the standing up of our 13th work station this past month, providing valuable Heavy Modification and Maintenance to our fleet. We have phased out our Palmdale Depot operations, and our last jet will complete there this April. Finally, over the past 5 years, we have reduced the cost of ownership through innovative Public-Private-Partnering opportunities and have increased these workloads (from purely Contractor support) by nearly 800 percent! While we are incredibly proud of this effort and your recognition by awarding us the DoD Performance Based Logistics System Level award for 2014, similar future efforts are severely hampered by the cuts our program took due to sequestration. For example, my FY 2016 budget to affect such partnerships is a mere $2 million vs. the $150 million-plus budgets the program has had in the recent past. Sir, I absolutely know, understand, and appreciate your and Secretary Carter's firm position on sequestration; I merely offer this impact as another example for your use.

Finally, with the breaking of the glass ceiling and the performance of the Raptor in the AOR, we are facing unprecedented demand for the aircraft and its pilots both at home and abroad. This demand for increased flying hours is coming at a particularly challenging time in the program, where we are facing our first major engine overhaul over the next 3 years, completion of our structural repair program to extend the life of the aircraft, as well as Low Observable coating changes to address issues. In addition, we have over 100 reliability and maintainability programs ongoing, in different stages, aimed at increasing the availability of our aircraft to our Warfighter. These all take time to incorporate on the fleet to achieve their effects, and I have found it an interesting dog-chasing-tail exercise to manage all of these variables to maximize combat capability and aircraft availability.

Sir, as you requested, this assessment is solely the work of Col Anthony Genatempo and has not been staffed, reviewed, or approved by any other individual in draft or final form. My first paragraph should be proof of that statement alone! Thanks again for this opportunity to discuss your Combat Raptor with you, and I look forward to any follow-up you would like to address.

MQ-4C Triton Unmanned Aircraft System

The Triton program is on track for Milestone C in the first quarter of FY 2016, with four key areas of focus ahead of us: the System Development and Demonstration (SDD) program, which is about to enter the sensor testing phase of our flight test program; the transition to production, which is underway following the recent award of the LRIP 1 Advanced Acquisition Contract (AAC) for long lead materials; preparations for fleet integration and introduction, which will occur following Initial Operational Test and Evaluation (IOT&E) in 2017; and the initiation of the development effort for our first capability upgrade, which will begin this year to expand our sensor suite to include Signals Intelligence collection in support of the Navy's Intelligence, Surveillance, Reconnaissance, and Targeting (ISR&T) Transition Plan. That transition plan includes the retirement of the EP-3 and Special Projects aircraft and the transition of their manning to Triton squadrons as those systems are fielded.

SDD: The program delivers capability through Integrated Functional Capability (IFC) builds of Hardware and Software (SW), with IFCs 1-3 planned in the SDD program. Each IFC builds from the prior IFC, with IFC-3 being the full capability build for IOT&E and Initial Operational Capability (IOC). The program has completed the Initial Envelope Expansion (IEE) phase of flight test under IFC-1 and ferried all 3 test aircraft from Palmdale, California, to Patuxent River, Maryland, for initial sensor testing with IFC-2. IFC-3 will finish coding by this summer and begin Systems Integration Laboratory (SIL) testing. With the completion of IFC-3, we will have captured the full functionality of the system envisioned at MS B except for the Due Regard Radar, which has been pushed to IFC-4 as part of the first capability upgrade. We have also completed a successful radar risk reduction effort to mature the radar modes and stability using a Gulfstream-2, flying 42 flights in advance of integration and testing on Triton.

The challenges of the SDD program to this point have been in software (SW) development and systems integration. Our execution through development of IFC-1 and IFC-2 has followed that law, and it has made clear to me that one of the initial framing assumptions of the program—that there would be a high degree of HW and SW developmental commonality between the Global Hawk (GH) and Triton—was incorrect. First flight was delayed a year while we worked through discovery of issues with our flight control computer and communications suite in IFC-1, and our IFC-2 ferry flights were delayed 6 months overcoming other issues with functionality in that build. The good news is that our approach to testing, wringing out the HW and SW in the SIL prior to handing an IFC over to flight test, has paid off in flight test, with IFC-1 and IFC-2.1 proving extremely stable in the IEE phase and through the ferry flights. Some of the SW growth that we track is in categories that fleet operators will not see, such as in SIL simulation and emulation tools.

SW integration and maturity remains the primary risk ahead, and we track progress and make decisions related to SW maturity on a daily basis through Deficiency Review Boards (DRB) run by our Navy and Northrop Grumman (NG) Systems Engineering (SE) teams. We will not be

able to correct every deficiency that we uncover across all the categories of deficiencies in the SDD program. I have focused the DRB on prioritizing our deficiency trouble reports, and on aligning that prioritization with their potential to manifest as Part I deficiencies from the test team or as risk to satisfaction of an IOT&E Measure of Effectiveness or Suitability. We will align our IFC-3 build to correct all the deficiencies that we can within the cost and schedule parameters that we have, and will ensure we have a thorough understanding of the risk or work-arounds for those deficiencies we are not able to fix prior to IOT&E.

We manage this through close collaboration between the daily DRBs, our development team's weekly cost and schedule reviews, our test team daily and weekly reviews, and my program management reviews. Each of these elements is a collaborative effort between the Navy and NG teams. Our pressure points are the volume of deficiencies we will have to manage while maximizing functionality and meeting the APB schedule. I have some margin with the schedule, and we work every day to balance discovery that might drive delays with opportunities to accelerate, with emphasis on applying execution reality to our attempts to capture those opportunities.

PRODUCTION: I have two focus areas for production, the first being our manufacturing readiness for MS C and the second our preparation for production contracting.

MS C Readiness: Our contractors have built three Triton aircraft and are in the process of building another two. We delayed entry into production in PB14 and PB15 for good reason, but that delay puts strain on the line. The GH Lot 11 and the NATO Alliance Ground Surveillance (AGS) aircraft builds have helped alleviate some of that strain, but the spotlight the Navy is shining on our suppliers is bright and is revealing areas of risk that we must manage. We are conducting Production Readiness Reviews (PRR) at all of our key suppliers, culminating in an Executive PRR. We know the strengths and weaknesses of each supplier, with metrics to build our understanding.

Production Contracting: Our production team has done an excellent job gaining insight into why our system costs what it does to produce, and we are using that insight to establish the best incentive arrangements for our production contracts. Our focus is on the cost of poor quality, indirect costs, and schedule. We will incentivize quality so that we do not have excessive scrap rates built into supplier costs, we will target indirect costs deep into the supply chain, and we will incentivize NG to reduce the build time to meet our delivery needs and reduce build time cost. We are taking a long-term view, emphasizing that LRIP 1 will set the baseline for future lots, and plan to benefit from economic orders of quantity and breakout of components.

FLEET INTEGRATION AND INTRODUCTION: I am confident that we are preparing well in these areas. We have an excellent relationship with the operational community and have the advantage of being part of the Navy's Patrol and Reconnaissance Group, with their recent relevant experience fielding the P-8A. Our Fleet Introduction Team (FIT) lead is a veteran of the

P-8A FIT, as are a number of the members of his team. The first Triton squadron (VUP-19) has been established, and we are conducting operator and maintainer training for members of the FIT and VUP-19. Fleet personnel are participants in our training, facilities, manning, and Tasking, Collection, Processing, Exploitation, and Dissemination (TCPED) working groups.

Our sustainment team has worked extremely hard to put a lot of thought into our Reliability and Maintainability (R&M) efforts, getting a head start on our understanding of risk areas for R&M by staffing maintenance monitors throughout the testing at Palmdale, by incorporating Supportability Test and Evaluation into our ground test program, and by improving on known R&M cost drivers from the GH program. We are doing Business Case Analyses to identify the optimum sources of depot repair and analyzing how to drive repair of items to the lowest level, understanding that it is less expensive to repair items at an operator level instead of a depot level. We have predicted what our top R&M cost drivers will be and are identifying and implementing opportunities to improve reliability and drive down those costs.

CAPABILITY UPGRADES: We will be developing the Triton Multi-Intelligence (Multi-Int) capability by adding SIGINT to the baseline Triton in our first capability upgrade (IFC-4), integrating Government Furnished Equipment for high and low-band signals detection and incorporating higher than ecret levels of classification into our communication and control station architectures. Integration of the capability is enabled through an open architecture, so our primary risk area for this effort is in the architecture and networking modifications. We are following a tailored SE process, with a requirements review planned in the fall of this year. Contract award for this effort is planned and is dependent on an Above Threshold Re-programming (ATR) to move $25 million from the baseline Triton Program Element (PE) to a newly created modernization PE. Congress directed creation of this PE in the 2015 appropriation to increase visibility in the upgrades efforts, but limited funds to $5 million until JROC review of the requirements document. That review is underway, so we are in the process of submitting the ATR to enable approval coincident with JROC review and the planned contract award.

OTHER ITEMS: I will be working in POM-17 to ensure that the program is funded to support MS C. I have an excellent program team, dedicated to delivering Triton to the fleet and to making sure it is an enduring, capable, and affordable system, and I am excited that you will be able to meet them when you come to Pax River for our program deep dive on March 31.

I do not have any specific help-needed requests. I do have work to be completed that requires your approval, including our Acquisition Strategy and MS C, and my team and I have ongoing efforts to complete that work. Our first step towards that is the deep dive, where we will be describing in detail our plans and activities.

This assessment is the work of Sean J. Burke, and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Small Diameter Bomb Increment II (SDB II)

As SDB II approaches MS C (currently scheduled for May 19), I am confident in the performance of the weapon and in our readiness to produce. Based on the outcome of a March 4, 2015, Functional Configuration Audit and the team's preparation for the upcoming Production Readiness and System Verification Reviews, SDB II is meeting all KPPs with the exception of carrier operability, which will be met based on final qualification and verification of the corrosive atmosphere testing projected to be complete in December 2015. Flight test results validate weapon performance IAW CDD requirements, to include two successful target classification shots and lethality against the hardest target (T-72 surrogate). Additionally, flight testing and our test-analyze-and-fix (TAAF) testing indicate that both free-flight reliability and MTBF are on-track to meet reliability and material availability gates as the system matures. Furthermore, many of the weapons used in flight test were assembled using actual production processes, facilities, and equipment. Production of 87 weapons to support the upcoming Government Confidence Testing and IOT&E will serve as additional validation of our production capability. SDB II is effective, lethal, reliable, and producible.

SDB II has operated using a transparent, events-based approach by which decisions to move forward are more strongly influenced by technical readiness than by schedule. Using that approach, we have avoided compromising performance requirements. However, we are well past our APB threshold for MS C. As the program progresses, I will continue to use an events-based approach but will work to instill increased schedule discipline without being reckless.

Concerns: Corrosive Atmosphere Qualification, Affordability

Corrosive Atmosphere Qualification Testing: This acidic salt-fog test is required to verify the Carrier Operability KPP. Initial results were unsatisfactory and, due to procurement lead times, re-qualification is not projected to complete until December 2015. Therefore, the minor design changes required will not be incorporated in Lot 1. I am tracking performance weekly and have RMS agreement to implement full compliance with the corrosive atmosphere requirement in Lot 2. A 96-hour salt-fog test was added, and successfully passed, to ensure confidence in the corrosion resistance of the 144 weapons to be delivered to the USAF in Lot 1. The Lot 1 weapons will be warranted to the full corrosion requirement.

Future Weapon Affordability: Lots 1-5 were competitively negotiated as part of the August 2010 contract award. The competition worked, and we received great pricing for the first five lots. RMS is highly incentivized to reduce near-term costs. However, with 85 percent of SDB IIs in Lots 6 and beyond, I am also paying attention. I am pursuing multiple should-cost initiatives with cut-ins projected as early as Lot 3. As an additional measure to reduce cost, we are pursuing foreign military sales. SDB II is participating in the Defense Exportability Features

initiative, and we are active in the current activity surrounding foreign releasability of network-enabled weapons (NEW) technology.

Help needed from the Acquisition Chain of Command: Network Enabled Weapons (NEW) Releasability

Part of the SDB II affordability challenge can be addressed via FMS. However, NEW technology is not currently releasable. DoD needs a Network Enabled Weapon (NEW) policy that defines what is required for protection of SDB II and other NEW weapons to be authorized for FMS. I have subject matter experts working with OSD, SAF/IA, and DSCA staffs to ensure they understand the SDB II NEW capabilities and appreciate your continued emphasis to develop a DoD position that enables NEWs to be available to our international partners.

Thank you for the opportunity to provide my assessment of the SDB II program. This assessment is the work of Col Kevin Hickman and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Chapter 3

Post-Milestone C — Production and Deployment Phase Programs

AIM-9X Block II Sidewinder

Overall program is in good shape. Operational Test was completed in January with great results. The program office and the testers are excited to get the missile to the Fleet. We plan to IOC this month for the Navy with CVW-5. Air Force IOC will be later this year. FRP decision is planned for June. Funding can always be better, as I would like to buy more missiles and do more with the software/hardware improvements, but we have had consistent support from our resource sponsor.

The Operational Test events were successful on 15 of 19 shots. 13 of the 15 were direct hits, while the other 2 were proximity fuse kills. Of the 4 misses, I expect 2 of them to be written up as reliability issues and 1 as a bad cue from the aircraft. Those 3 shots were taken again and were successful. This is a great missile! I do not have the final report yet, but RADM Penfield (COTF) has already concurred with moving to IOC before even reviewing the final report.

We are on track with our documentation as an IC program for the FRP decision in June. I would respectfully submit that this is a potential opportunity to "smash bureaucracy." The missile proved itself in test, and Raytheon has already produced 4 LRIP lots of the Block II (as well as 10 lots of Block I). We have also already asked for, and received, approval to purchase time-critical parts for the next lot of missiles. Obviously, the work on the documentation will continue regardless, but we can send a great message to my team and save a lot of staff work if we went straight to an ADM authorizing FRP. I would be happy to answer any questions if this is reasonable. Selfishly, it would have the added benefit of allowing my team to focus on getting our contracts awarded on time in August.

There are 3 contracts that we plan to award this summer. The Program Office has traditionally been awarding single-year contracts for production and sustainment. We are trying to break that cycle this year. The production contract is planned to have a base year with 3 option years. Unfortunately Raytheon has struggled to get the cost data from their suppliers to support this. If we have to, we will award the single year and re-attack, but I have not given up yet. The sustainment contract was originally planned for a 4 year period of performance. This has also run into issues, internal to the government not with Raytheon that will probably pull us back to a 2-year contract. Not ideal, but this would still give us breathing room before negotiating the next one and at least break the single year paradigm. The third contract we are awarding is our next system improvement contract. This could be an interesting negotiation, as we did not receive the funding to support all the hardware and software changes that we had originally planned. We will prioritize accordingly with N98, but there are obviously links and obsolescence issues on the hardware side that I expect will not make it easy to pull out individual pieces.

Related to the Block II program is the un-funding or cancellation of the Block III program. N98 and PMA-259 still believe we have a valid requirement for the increased kinematics that were planned for Block III. However, in the constrained budget environment, the decision was made

to pull the money from the program. This has impacted Block II funding as we determine what changes we need to make to obsolescence planning, software improvements, and hardware upgrades that had been folded into Block III.

Short paragraph on AMRAAM, as I know you will get a full update from the Air Force PM, Col Sobel. Program is very much on the upswing with the recent IOC of the AIM-120D. The two issues moving forward are in capacity and capability. I received a very strong message from the Fleet that they need more of these missiles. The Navy chose not to buy any in FY 2015, and we will need to work to get the inventory built up. In capability, we are funded for software improvements, so no help is needed, but we cannot afford to let that lag.

I am confident that this program is on the right track. I have a number of small worries on the production side that I believe are normal for any program. No help needed. The team is working hard. The Warfighter is happy with the product.

This assessment is the work of CAPT Jim Stoneman and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Ground Based Mid-Course Defense

Thank you for the opportunity to describe the state of the Ground-based Midcourse Defense (GMD) Program. The successful FTG-06b flight test, coupled with adequate funding in the FY 2016 President's budget, set the stage for the GMD Program to deliver significant capability improvements to the Warfighter over the next several years. I will describe the improvements by program increment, then describe some challenges/risks we will need to overcome during execution.

Following the successful FTG-06b flight test, we have resumed interceptor manufacturing, which supports achieving 44 Ground-based Interceptors (GBI) by 2017 for Enhanced Homeland Defense (EHD). We are currently integrating and delivering 8 new CE-II equipped GBIs that are identical to the configuration flown in FTG-06b. The first of these GBIs was accepted by NORTHCOM into the operational fleet earlier this month. Concurrently, we are removing 8 previously delivered CE-II GBIs and modifying them to match the FTG-06b configuration. We will deliver these upgraded GBIs in 2016. We are completing development of the CE-II Block 1 Exo-atmospheric Kill Vehicle (EKV) and the Consolidated Booster Avionics Unit (CBAU) for the C2 Integrated Boost Vehicle. These modifications address parts obsolescence and eliminate several reliability concerns we have found in the older GBIs. We will manufacture 11 of these new GBIs. We will establish confidence with the Block 1 configuration in CTV-02+ and FTG-15 intercept test and then deliver 10 of these GBIs in 2017.

Also included in the EHD Program are the refurbishment of Missile Field 1 at Fort Greely, integrating the In-Flight Interceptor Communications System Data Terminal (IDT) at Fort Drum, upgrades to the GMD Ground System Hardware, improvements to the Fire Control software, and substantial reliability testing and assessments to characterize the reliability and performance of the system. The work on Missile Field 1 began last year. We have cleaned out the rust and mold in the utilidor and upgraded the climate control system to match what we have in MF-2 and MF-3. The old Mechanical Electrical Building (MEB) has been demolished, and we are set to begin construction of the new MEB this spring. The Fort Drum IDT construction is complete, and we will install equipment next month and test to support a December availability date. Our Ground System hardware at Fort Greely and Vandenberg AFB is 1990s technology installed in the early 2000s. The equipment is aged, we have parts obsolescence challenges, and the operating systems are no longer supported by the original manufacturers. We have the plans and funding in place to begin replacing this equipment in 2016. We will complete replacement of Command and Launch Equipment, GMD Fire Control equipment, and IDT equipment by 2017. We will also initiate a longer term effort to replace the GMD Communications Network equipment by 2019. We will deliver two significant upgrades to the GMD Fire Control (GFC) Software. The first, GFC 6B3, enables the Warfighter the capability to operate with 44 GBIs and improves discrimination capability. The second, GFC 7A, provides the Warfighter capability to operate GBIs in either a two or three-stage mode and provides additional interceptor fly out fans. These capabilities will provide additional battlespace for the Warfighter to prosecute

engagements. GFC 7A also improves fail-over between redundant systems to improve system availability.

During 2014, MDA commissioned an Independent Expert Panel (IEP) to review the reliability of the GBI fleet. The IEP identified several areas where urgency drove the GMD Program to deliver systems prior to completing testing and analysis that now contribute to reliability issues found in the fleet. Concurrent with ongoing development activities, the GMD Program is implementing IEP recommendations to perform failure modes and process analyses, reliability testing, short-circuit analysis, grounding analysis, and design verification. We have also augmented the Stockpile Reliability Program. Collectively, these activities will add precision and confidence to our reliability estimates, demonstrate operating life, improve our quality management processes, and inform ongoing development programs.

The next GMD Increment, Robust Homeland Defense (RHD), is centered on the development of a Redesigned Kill Vehicle (RKV) for our GBIs. The primary objective for the RKV is to improve reliability. In addition, we aim to improve producibility, maintainability, and reduce unit cost. We plan to accomplish these goals by employing a modular design that is made up of mature subsystems and components. We will also gain performance improvements by incorporating on-demand communications between the KV and the ground, a wide field of view seeker, improved data processing and discrimination algorithms, and improved survivability for threat-induced environments. We have established a cross-industry team to perform RKV development and will compete production of the RKV equipped GBI all up round. The program schedule includes a first controlled vehicle flight in 2018 and first intercept flight test in 2019.

In order to achieve full capability of the RKV, improvements are needed in other areas of the GMD Program. We will modify the booster so that it can fly in either a three or two-stage mode, match survivability of the RKV, and survive lightning strikes. We will upgrade the GMD Fire Control software to enable mixed engagements with RKV and EKV capabilities, utilize improved Sensor data for on-demand communications, and provide improved situation awareness information to the Warfighter. We will also modify components in the IDTs to enable the on-demand communications. We will design and carefully manage the interfaces so that we have a fully functional system. Finally, we will test the Robust Homeland Defense capability as an integrated system with the Long Range Discrimination Radar, Discrimination Improvements for Homeland Defense, and other elements of the BMDS.

We have initiated planning for a future capability increment that includes multiple kill vehicles on a single booster. The technology development for Multi-Object Kill Vehicle (MOKV) is underway in MDA's Technology Directorate. GMD will assist in requirements development and planning for integration of the MOKV into the GMD Weapon System. We will also prepare for the eventual transition of MOKV to the GMD program.

I am confident that the PB16 funding levels are sufficient to accomplish everything I have addressed about our program plan. Still, it will not be easy, and there are challenges and risks ahead. The two most significant challenges are intercept flights that must be successful in order to meet schedule commitments. The first is FTG-15 (2016 test), which demonstrates the CE-II Block 1 EKV and the C2/CBAU boost vehicle. If this test is not successful, then we will not be able to meet commitments to deliver 44 GBIs by 2017. The second is FTG-17 (2019 test), which demonstrates the RKV and the C3 boost vehicle. If this test is not successful, then we will not be able to meet commitments to initiate deliveries of the RKV in the 2020 timeframe. The whole of the GMD Program Office understands the significance of these flight tests, and we will do everything we can to ensure we are ready.

There are two areas where our track record is not as stellar as I would like. One area is Quality Management. We have a history of quality escapes where vendors have provided noncompliant parts, and our management process did not detect those escapes until after they were installed in subsystems and, in some cases, after we delivered GBIs. We have focused special effort on vendor inspections, first article inspections, and acceptance testing to turn this around. The second area is Cost Management. We are placing equal emphasis on working the EVMS, managing headcounts, and closing work packages aggressively to avoid cost overruns. I have noticed improvement in our January 2015 Cost Performance Reports – but recognize this is a life of program effort and needs continual command emphasis.

One last challenge I will mention is in contracting. Our DSC contract period of performance ends in December 2018, which is mid-stride the development of the RHD system. We are currently war-gaming options that include requesting the extension of critical scope through completion of RHD development while exploring opportunities to compete other parts of the program. These potential competitive opportunities include all up round production, operations and support of the fielded system, system level engineering, test support, and some portions of the ground system. Breaking out these areas for competitive award provides opportunity for future cost savings. We, the government team, will need to step up our game with integrating these functions to maintain a closely coupled system.

I am optimistic about our ability to overcome the challenges and meet expectations. I feel fortunate every day for the opportunity to lead the outstanding individuals that make up the GMD Program Team and for the opportunity to make a difference for the defense of our Nation.

I, Scott M Vickers, certify that this assessment is the work of my own and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Multifunctional Information Distribution System

Background: The Multifunctional Information Distribution System (MIDS) program is an ACAT 1C (post Milestone C) program. MIDS is comprised of 2 primary products, MIDS Low Volume Terminal (MIDS-LVT) and MIDS Joint Tactical Radio System (MIDS JTRS).

MIDS LVT is a five-nation international cooperative development program. The European Partner Nations are France, Italy, Germany, and Spain. As defined by the PMOU, the United States is the host nation and manages the MIDS International Program Office. The MIDS IPO is assigned to PMA/PMW-101 and reports to a Steering Committee chaired by PEO(T). MIDS LVT is a Hardware Defined Radio with over 9000 terminals fielded to over 40 countries. Production on MIDS LVT Block Upgrade 1 (BU-1) terminals is ramping down. Due to U.S. mandates for Crypto Modernization (CM) and Frequency Remapping (FR), MIDS LVT BU2 development is ongoing. MIDS LVT BU2 will be an upgrade kit to all existing MIDS LVT terminals.

MIDS JTRS is a U.S.-only program and is based upon Software Defined Radio (SDR) architecture. MIDS JTRS capabilities already include CM and FR. In direct support of COCOM priorities, MIDS JTRS is also developing critical technologies to enhance Link 16. These enhancements include improving the robustness of Link 16 operating in a denied environment, increasing Link 16 situational awareness and utilization/capacity. MIDS JTRS has currently fielded over 400 terminals and has two FMS customers. With the current Navy and Air Force MIDS JTRS migration plans, MIDS JTRS production estimates are estimated to exceed 3000 additional terminals.

MIDS terminals are competitively procured annually between qualified vendors. The FY 2015 procurement contracts are planned for 3Q with LOT 15 for MIDS LVT and LOT 4 for MIDS JTRS. With approximately 95 percent of all Link 16 terminals currently fielded being a MIDS product, MIDS is the backbone of Link 16 today (all services, all domains).

In 2013, PMA/PMW-101 was assigned as the Naval Integrated Fire Control - Counter Air From the Air Advanced Tactical Data Link (NIFC-CA FTA ATDL) lead and coordinates with associated pillar programs (F/A-18, E-2D, EA-18G) and other platforms to deliver installed FTA ATDL performance to the Warfighter. In 2014, MIDS was also assigned responsibility for the Link 16 waveform (maintenance, sustainment and upgrades). The Link 16 waveform transition from the Joint Tactical Networking Center is nearly complete.

Program Manager Assessment: All components of the program are rated as "Green," with the exception of Production (Yellow) and Funding (Red for MIDS JTRS TTNT).

- MIDS-LVT Block Upgrade 2 (BU2) is a nine-contractor, five-nation collaborative effort. MIDS is currently conducting LVT BU2 Critical Design Reviews (CDRs). Due to the complexity of this collaborative effort, there are 4 CDRs. 3 CDRs have been successfully

completed, with the last one on schedule for the week of March 23, 2015. Current CDR assessment is that the design and development is on track; however, the complexity and interdependency of the contract presents design, cost, and staffing challenges. I have been clear that the MIDS LVT team needs to manage with existing cost and schedule constraints. We are working closely with the MIDS vendors to mitigate these issues.

- MIDS JTRS Concurrent Multi-Netting 4 (CMN-4) greatly improves situational awareness and Link 16 utilization. The CMN-4 development is almost complete, with GFAQT testing underway with the first flight with F/A-18 scheduled for March 20, 2015.
- MIDs Modernization efforts to improve Link 16 robustness are on contract. This initial and rapid acquisition development activity is planned to be completed in 13 months. We are coordinating with the Services, DARPA, and OSD stakeholders for the next increment of this capability.
- MIDS JTRS Tactical Targeting Networking Technology (TTNT) is on schedule for a July 2015 CDR. The TTNT waveform development was completed in November 2014. We had a good plan and were on schedule to deliver a MIDS JTRS TTNT terminal to E-2D by 1Q FY 2017, but this effort has been impacted by a recent funding reduction. The ATDL Program Element (PE) incurred a non-prejudicial HAC-D Congressional Mark of $17.6 million in FY 2015 for under execution of funds. The PE funding reduction allocation to MIDS was $13.25 million. Due to MIDS JTRS CMN-4 nearing completion and that MIDS LVT BU-2 is a complex International Cooperative Development program; the decision was to apply this reduction to MIDS JTRS TTNT development. This reduction is further compounded by recent OSD RMD that shifted $13.8 million from FY 2016 into FY 2017 and FY 2018. The combined financial impact delays MIDS JTRS TTNT terminal delivery to E-2D by one year, missing the E-2D Delta System/ Software Configuration (DSSC) 4 integration window. E-2D DSSC integration efforts are on a 2-year cycle. MIDS JTRS TTNT integration will now be aligned to E-2D DSSC-5. The final result will be a 2-year delay of delivering the MIDS JTRS TTNT/E-2D capability in support of NIFC-CA Increment III. MID program office has submitted an FY 2015 Above Threshold Reprogramming (ATR) to restore necessary funding. It is my understanding that the ATR has not been submitted to Congress. MIDS is on track to meet OSD expenditure benchmarks by the end of this March for FY 2014 funds and by this May for FY 2015 funds. Help needed: Any support to advance the MIDS ATR effort to restore necessary funding by the end of 3Q FY 2015 would be greatly appreciated. It is my understanding that the ATR is still with OSD FMB.
- The production rate for MIDS JTRS terminals has been a concern. The vendor's learning curve has been steep due to the complexity of reliably building SDR terminals. The MIDS JTRS vendors are improving their production rates and are meeting current contract delivery requirements. The vendor's production learning curve needs further improvement to meet projected MIDS JTRS production increasing demand.

Noteworthy Topics:

The Middle Class Tax Relief and Job Creation Act of 2012 directed the auctioning (sell off) of the 1750-1780 MHz and 2155 - 2180 MHz wavebands to commercial industry and the providing of Spectrum Relocation Funds (SRF) to DoD to relocate affected systems. MIDS JTRS TTNT is directly affected by the 1750-1780 MHz and will be relocating to the S-Band (2025-2110 MHz). The MIDS SRF development effort starts in FY 2017 and ends in FY 2019. MIDS JTRS TTNT S-Band production retrofit kits and integration onto affected platforms will start upon completion of platform integration and OT (approximately FY 2021). Our goal is to finalize the current MIDS JTRS TTNT development before the MIDS TTNT SRF development activity begins (trying to avoid parallel development efforts, another important reason to support the ATR).

Due to the critical capabilities being developed in the MIDS JTRS terminal, the Air Force has announced modernization plans to migrate from MIDS LVT to MIDS JTRS. Due to the current OSD RMD, the Air Force migration to MIDS JTRS now includes F-15, F-16, and F-22 platforms.

Your recent letter to the French DGA (January 26, 2015) was greatly appreciated. As enforced in your letter, MIDS JTRS must be provisioned through FMS versus DCS. The other key points involving cooperative restrictions, Link 16 Interoperability, MIDS LVT PMOU utility, and the POC for future SDR activity was excellent.

MIDS has three major development efforts, which are closely monitored with respect to the program controls regarding cost, schedule and performance. My main theme to the entire MIDS team (Government, military, European Partner Nations, contractors, and vendors) team is to execute our current program activity within cost and schedule constraints. The program impact of the HAC-D mark, the OSD RMD (shifting of funding), and the generation and submission of the ATR has been quite disruptive (unplanned activity). With the current MIDS expenditure plans approaching the FY 2014 and FY 2015 benchmarks, it would be a great misfortune if this situation could not be reversed to minimize the impact to MIDS JTRS TTNT, E-2D, and NIFC-CA Increment III.

This assessment is the work of Kurt Reese and has not been staffed, reviewed, or approved by any other individual in draft or final form.

AGM-88E Advanced Anti-Radiation Guided Missile

Overall Program Assessment: Fair and improving. The assessment is based on Fleet feedback, production, development, cost, and sustainment. The fair rating is being driven primarily by the production assessment.

Fleet feedback: Overall Fleet exposure to the system is limited, since we are in FRP1. Aircrew who have had the opportunity to operate the weapon system have provided complimentary comments. They are specifically pleased with the capability of the Anti-Radiation Homing (ARH) seeker, specifically for its use as an aircraft additional sensor. Overall reliability metrics are above the requirement and remain on a positive trend.

Production: In early 2014 at the beginning of FRP1, a number of challenges were adversely impacting missile deliveries. Within six months, the production line was halted twice. After the second time, I directed a production review to ensure that the government/industry team understood the problems. There were a number of positive outcomes and initiatives. With respect to FRP1, the government/industry team developed a recovery plan, implemented the plan, and to date we have executed to the plan. The last seven (7) of 72 U.S. missiles from FRP1 are slated to be delivered by the end of March 2015.

Despite the success in executing to the recovery plan, I need to see continued maturation in Orbital ATK's production processes, as well as improvements in subcontractor and supply chain management. There remain inefficiencies which may impact execution and cost when the production quantities double between FRP5 (FY 2016) and FRP6 (FY 2017). Orbital ATK understands our concerns and is working to improve. We have also increased government engagements with the prime, first, and second-tier vendors. We had reduced our onsite engagements in an effort to control travel costs, but apparently swung the needle too far. We have seen benefit with the increased visits. We also placed pressure on DCMA for improved support. This latter effort had been lacking for some time, but now overall support has been excellent and effective.

Development: We are executing the Block 1 Upgrade (B1U), which is a software-only upgrade to address IOT&E deficiencies and meet a final KPP target set outlined in the CPD. The effort is on track and will enter into the second phase of flight test in mid-April. Initial testing in the Fall of 2014 demonstrated improved performance in critical areas. There are three (3) more phases of test encompassing approximately 18 months and includes nine (9) live fire events. There is a heavy demand on our range infrastructure, so test execution remains a watch item. Scheduling and availability of target assets, some of which require specific parameters for AARGM, have impacted program execution in the past. To mitigate, we continue to engage the appropriate organizations so that they fully understand our requirements. Barring any surprises in test, we will field in 1Q FY 2017. To date, Orbital ATK has met development timelines. Based on our engagement with the Fleet, they are looking forward to delivery of the B1U.

Cost: The unit price has to be reduced substantially. Despite the success, we continue to be watchful of the increasing cost pressures, especially in the near term with a relatively flat production requirement. During the last negotiation period (FRP3), which lasted over 3 months, it was evident that material cost and labor rates were increasing both for U.S. and Italian suppliers. We have been very engaged with AIR-4.2 not just for their cost analysis, but to support an assessment of our industrial base. We had them conduct an initial criticality and fragility analysis and based on the result, the overall base is healthy, but there are four (4) vendors that we monitor closely, three (3) of which are our top cost drivers and two (2) of them have a majority of their business base in AARGM.

Until FRP6 (FY 2017), when the quantity doubles, coupled with the maturation of Orbital ATK's production processes, there will be challenges meeting our targeted cost goals, but as we have in the past, we will let the data lead us to the right deal. Working extensively with AIR-2.4, we have a contracting strategy to award a base plus 1 year in FY 2015 with a goal of realizing savings. At this time, we have Orbital ATK's proposal for FRP4 and 5 and have begun the technical evaluation.

Sustainment—Maintaining Weapon Effectiveness: Unlike a laser weapon or general purpose bomb, which can sit on a shelf for years and maintain its overall effectiveness, ARM weapons require periodic updates to maintain warfighting relevance. The legacy HARM system has remained effective for decades as a result of an ARM Foreign Material Assessment (FMA) Program. Yearly reductions on the budget for this effort have impacted the robustness of the FMA program. As we introduce a new weapon with a dual-mode seeker, I am concerned about our ability to perform the necessary activities to characterize the seekers, update the Electronic Intelligence Files, and inform Tactics, Training, and Procedures (TTPs) development against the current and emerging threat systems. We continue to work with the resource sponsor, who has been very supportive, to establish a strategy that would maintain an appropriate level of FMA to ensure long-term weapon relevance. AARGM and HARM have an in-service life until 2035.

Although I rated the overall assessment fair and improving, I feel the program is in a better state than it was a year ago. There is still work to be done to improve, but the challenges are surmountable. We continue to have excellent support from Navy acquisition and OPNAV leadership, and I am not requesting assistance at this time.

This assessment is the work of CAPT Al Mousseau and has not been staffed, reviewed, or approved by any other individual in draft or final form.

EA-18G Growler Aircraft

BLUF: The EA-18G Program is currently funded for continued production through the FY 2015 procurement year, is well supported for continued Electronic Warfare (EW) capability advancements, and is tied closely to effectiveness of the Next Generation Jammer (NGJ) program.

ACQUISITION SPECIFICS. EA-18G continues production with the addition of up to 15 aircraft funded in the FY 2015 budget. This brings total U.S. planned inventory to 153 aircraft. Australia is the only current and planned FMS customer with 12 EA-18Gs already on contract as part of FY 2014 procurement. The program is experiencing breaches in RDT&E, Procurement, and O&S due to increased funding for capability flight plan advancements and the additional aircraft—NOT due to cost overrun. This has been reported in the Selected Acquisition Report (SAR) for the PB16 budget and drives a revised Acquisition Program Baseline (APB) currently being developed. Contract award for the additional FY 2015 aircraft is anticipated by June 2015. PB16 budget did not include any further procurement of EA-18G, or F/A-18E/F aircraft.

PRODUCTION LINE. EA-18G and F/A-18E/F production are closely tied, being of the same airframe and produced by the same manufacturers (Boeing is prime). EA-18G contains a unique Airborne Electronic Attack (AEA) avionics component not part of the F/A-18E/F. The FY 2015 National Defense Authorization Act (NDAA) stated that the USN should retain the option of procuring more EA-18G aircraft. As such, an MOU between Boeing and PMA/PEO was reached in December 2014 on production line stretch. The line stretch has allowed opportunity to assess testimony and Congressional intent for possible FY 2016 add, along with potential Kuwait F/A-18E/F buy decision this spring without incurring line break costs. Either way, by June of this year, would expect we would know whether FY 2016 production is possibility or not. If not, would expect reacceleration of production line and line shutdown activities to begin. This discussion is germane to any consideration of additional F/A-18E/F fighter aircraft as well. There is no shutdown funding in current budget, funding is an accepted OPNAV liability, and with current POR and final delivery in December of 2017, would require program being on contract to start line shutdown activities in June 2016. Extensive line shutdown planning has occurred, and Program is prepared to execute.

CAPABILITY ADVANCEMENT. USN continues to invest robustly in advancing the EA-18G, as this aircraft represents a singular DOD AEA capability. Additional aircraft and continued capability development have been driven by need and effectiveness of platform in both traditional red kill chain activities in disruption of the enemy, as well as increasing need for blue kill chain involvement, particularly with the Anti-Access Area Denied (A2AD) environment. Increasingly complex adversary emitters, coupled with dense Electromagnetic battle space, required stand-off ranges, and optimization for NGJ integration are central to these efforts. In addition, the EA-18G offers a primary platform option for delivery of cyber effects

and payloads, is being studied and experimented with currently, and will feed POM18 enhancement options.

NGJ INTEROPERABILITY. NGJ integration onto the EA-18G interacts in many areas and is more complex than a typical store integration. As such, this Program Office is tied closely with the NGJ Program Office in effort, execution, and organization. There is significant synergy between NGJ integration and the EA-18G capability upgrades required for complex emitter and A2AD environments mentioned above. As such, focus from both Programs is to achieve an integrated weapons system solution in both performance and cost. EA-18G prioritized efforts will be essential for ultimate assessment of operational effectiveness of NGJ.

This assessment is the work of CAPT Frank Morley and has not been staffed, reviewed, or approved by any other individual in draft or formal form.

Global Combat Support System-Army Increment 1

As the PM AESIP, I am responsible for the Army's logistics Enterprise Resource Planning (ERP) portfolio, which includes two ACAT IAM programs: Global Combat Support System: Army (GCSS-Army) and the Logistics Modernization Program (LMP). This assessment is based on my 18 months as PM AESIP and my responsibilities of integrating and overseeing these programs. I will address the enterprise topics of financial auditability and contracting, as well as the current state of the GCSS-Army and LMP programs.

FINANCIAL AUDITABILITY

GCSS-Army and LMP are integral parts of the Army and DoD strategy to achieve auditability by 2017. In 2012, PM AESIP established a Financial Compliance Division to manage and coordinate financial auditability efforts for GCSS-Army and LMP. While this group has aided the programs' auditability efforts tremendously, challenges remain due to the constantly evolving nature of this requirement. Specifically, new financial compliance requirements flow down from the Treasury, GAO, and OSD Comptroller on an ad-hoc basis, with an expectation of near-term implementation. The requirements are coming in faster than the programs can schedule the activities required for compliance. Additionally, these financial compliance requirements are levied on the programs without funding, causing planned capabilities to be pushed to the right or out of scope completely. If the new financial compliance requirements were bundled and sent out on a scheduled basis with sufficient funding and time to implement, the programs could make the necessary adjustments without negative consequences on program objectives.

ENTERPRISE CONTRACTING INITIATIVE

Over the next several years, three large business single-source Lead System Integrator (LSI) contracts and three Small Business multiple award IDIQ contracts will expire. To address this, we formed an Army ERP Services IPT and embraced Better Buying Power initiatives to the maximum extent possible. The team responded with unprecedented collaboration between the program office and contracting activity, which led to an innovative strategy that includes maximizing competition, increasing prime contracts for small business, reducing indirect costs, utilizing existing contract vehicles, and shortening award cycle times. The Army ERP Services acquisition received DPAP approval of the $3.1 billion Acquisition Strategy on August 1, 2014.

Additionally, I have assembled an Enterprise Contract Management Group (ECMG) to ensure the planned benefits of this acquisition are realized. One of the key outcomes of the new strategy will be a multiple award IDIQ contract set aside for small business with an $846 million ceiling. This is a massive achievement, considering that until 2011 there were no Army ERP small business prime contractors. Unrestricted task orders will be competed on the CIO-SP3 GWAC, which has reserved $2.5 billion in ceiling for the Army ERP programs. The ECMG is also giving back to the acquisition community and has written an article on the Benefits of Early Exchanges with Industry that was posted to the AT&L Magazine page on the DAU website.

GCSS-ARMY

GCSS-Army is the tactical logistics and financial system for the Army. GCSS-Army is an Enterprise Resource Planning (ERP) solution that tracks supplies, spare parts, and organizational equipment. It tracks unit maintenance, total cost of ownership, and other financial transactions related to logistics for all Army units. This modernized application subsumes outdated legacy systems that are not financially compliant and integrates about 40,000 local supply and logistics databases into a single, enterprise-wide authoritative system.

Overall, the GCSS-Army program remains within cost, performance, and schedule thresholds established in its APB. The program's last milestone was the Full Deployment Decision in December 2012, and since then the program has successfully completed 64 percent of its Wave 1 fielding. Limited fielding of initial Wave 2 units has commenced to support operational assessments. Full Wave 2 Fielding will begin following a successful Fielding IPR with you in June 2015. Based on fielding progress to date, Army units are seeing increased information and enhanced visibility as they come to realize the power that an enterprise level system provides.

LMP

The LMP is one of the world's largest, fully-integrated supply chain, maintenance, repair and overhaul, planning, execution, and financial management systems. LMP supports Army Materiel Command's (AMC) National-level logistics mission to develop, acquire, field, and sustain equipment and services; LMP is the Army Working Capital Fund system of record.

Overall, the LMP program remains within cost, performance, and schedule thresholds established in its APB. LMP Increment 1 is in sustainment, and the program has a major Transition of Services (ToS) initiative underway that will move the Army off the large business LSI of 15+ years onto organic Government sustainment at Picatinny Arsenal, augmented with support from small business contractors.

LMP Increment 2 received Milestone B approval on August 27, 2013, and expands capability by further integrating end-to-end logistics and financial processes, adding ERP integration and new functionality to include Non-Army Managed Items (NAMI) and Army Prepositioned Stocks (APS), and Expanded Industrial Base (EIB) functionality to support the industrial base shop floor. The LMP Increment 2 Milestone C is scheduled for June 2015 and also serves as the Wave 3 Limited Fielding Decision, enabling Initial Operational Test & Evaluation (IOT&E) at three AMC pilot sites.

HELP NEEDED

An area where my programs need help is in the cycle time for review and approval of acquisition milestone and contracting documents. Specific concerns include the serial nature of the process, the requirement to include documents that are ancillary and/or premature to the decision point, the

duration of individual reviews, and receiving comments that are not substantive or material. A recent example is my Army ERP Services initiative, where the Acquisition Strategy took 202 calendar days for review and approval, with no substantive comments received. Before we could begin this review cycle, we had to develop 327 pages of additional documents in support of the Acquisition Strategy. It simply does not make sense to require development and review of— for example— a final Performance Work Statement and Source Selection Plan for an acquisition whose strategy is not yet approved.

CERTIFICATION

This assessment is the work of COL Harry Culclasure, PM AESIP, and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Global Combat Support System-Marine Corps

Global Combat Support System–Marine Corps/Logistics Chain Management (GCSS-MC/LCM) Increment 1 consists of two releases: Release 1.1 (Enterprise) and Release 1.1.1 (which enhanced a limited subset of 1.1 functionality). Release 1.1 has been fully deployed to the Marine Corps since March 2013, and Release 1.1.1 is currently being rolled out to the USMC with an anticipated completion date of December 2015.

The program completed Operational Test of Release 1.1.1 in November 2014 and was recommended for a Paper DAB in December 2014 by the Service Acquisition Executive. A formal DAB was subsequently held on February 19, 2015, and the ADM is still pending your signature at this time. The Program Office activities related to Increment 1 that were determined after the Nov OT have not changed. Significant Change occurs if an ADM is not signed by March 31, 2015 (the ADM was signed on March 19, 2015).

My current priorities are fielding of the 1.1.1 enhancement to the USMC and the tech refresh of the Oracle e-Business Suite (which is the underlying commercial software which makes up GCSS-MC) from Version 11 (R11i) that GCSS-MC is currently operating on to Version 12 (R12). This tech refresh is required to maintain system accreditation, as the current R11i version is on extended support from Oracle that ends December 2015. I have several challenges to ensure that R12 is ready to transition in December. The Systems integrator needs to finish doing the technical upgrade to the software and ensure all GCSS-MC customizations from R11i will work in R12. DISA needs to build out an entirely new server/hosting site inside a new enclave, and we must do a new accreditation, Information Assurance scans, etc., in order to "Go Live" no later than December 31, 2015. While these activities are all working towards a current schedule cutover in December, I am looking to address the overall risk to the program by providing an alternative for the current R11i version of GCSS-MC that the Marines will be able to utilize if the R12 upgrade is not on time.

I am also working on addressing Auditability issues in support of the USMC audit requirements that I contribute to and looking towards addressing how to incorporate future, additional capability as described in the GCSS-MC CDD. We have POM'ed for a possible Increment 2 capability to address Tactical Warehouse Management that is pending approval via the Service POM process.

The most impactful assistance that could be provided to my program would be the continued streamlining or elimination of the numerous additional processes, certifications, or approvals that are required just due to the fact that we are an IT program. Obviously, all these processes have their own intent, and all were instituted for a very specific reason. However, from the PMO perspective, many of these processes overlap or do not support an agile/speedy IT procurement strategy.

I, David K. Hansen, certify that this assessment is the work of my own and has not been staffed, reviewed, or approved by any other individual in draft or final form.

MQ-9 Reaper Unmanned Aircraft System

Embracing our agile pedigree, the MQ-9 program continues to develop and field new capabilities across ACC and AFSOC RPA fleets in both the ISR and Hunter-Killer mission sets. This document highlights some of those recent achievements, identifies challenges that continue to plague our efforts, and describes the innovative shift in our strategy that will enable a more responsive acquisition and fielding of combat solutions.

Over the past 18 months, the MQ-9 continued as one of the most involved and successful USAF weapon systems in ongoing combat operations. Combined MQ-1/MQ-9 operations have exceeded 2.3 million flight hours, with over 90 percent in combat operations and an MQ-9 Mission Capable Rate of over 86 percent. The COCOM demand signal for additional assets with an ever-changing array of advanced capabilities continued to increase throughout this period. Keeping pace with this demand signal while attempting to shift to a more traditional acquisition program construct and sustaining a non-homogeneous fleet proved to be a challenging task for the program office. Yet, my team, in partnership with our three prime contractors, marked several successes. The most obvious, of course, are the rapid development and fielding of payloads to address a series JUON mandates. In only 4 months (concept-to-fielding), one effort added a new weapon, an advanced EO/IR sensor, and enhanced interoperability with off-board targeting platforms that went directly into the AOR. Another QRC effort last year mandated 38 MQ-9s be retrofit to boost stand-off distance and/or target area persistence, with delivery by the end of this month. To date, 31 Extended Range aircraft have been delivered, and we are on track to complete production on time. While the MAJCOMs pursue ER crew training, some additional fixes will be made to the software, improving safe and effective operations down range.

Not as obvious, but no less significant, the Program of Record continues to march to our next significant event, MQ-9 Block 5 FOT&E, tracking for a September 2015 start. This will be monumental, given the struggles to wedge into a “traditional” character. Understandably, at the MS-C decision point and subsequent APB breech, my predecessor identified the OEM’s (General Atomics) struggles to maintain schedule, provide reasonable system engineering, and develop adequate Technical Orders (T.O.) to support organic maintenance operations. Although GA’s performance has not holistically improved, through focused attention, open dialogue, and incentives, risks in these areas have been reduced. For example, the T.O. process was overhauled to include physical changes at the production and test facilities and organizational structures for OEM and SPO. Both ACC and AFSOC comment openly about the drastic improvement of the T.O. quality, now operationally suitable. Still, as I stated in our DAES review last April and at the CSB last September, one of the things that concerns me on this program results from our history. The program sprinted for so long, there are bound to be insidious artifacts lurking in the system that we missed; some may be significant. We have encountered/corrected some of these. After loss of an aircraft, for example, we identified seriously flawed logic in the autopilot software, a catastrophic fault that was present since

program development. This was fixed and pushed to the field with applicable T.O. coverage, a noteworthy success. This correction migrated to the NASA and Customs/Border Patrol fleets.

Another issue carried over from the original design is characterized by the degraded capability of the MQ-9 to handle thermal management of avionics and subsystems during hot weather operations. While not as pronounced on the Block 1, Block 5 developmental testing in elevated temperatures proved ground operations were nearly impossible for a standard crew. Until corrected, entry into FOT&E and subsequent fielding would necessarily be halted. GA and SPO engineering rapidly identified the root cause of the issue, crafted/tested a prototype modification, and now stand poised to prove the production design this June (when it gets hot at China Lake). All parties, including AFOTEC and DOT&E, are optimistically confident in this solution. As we approach FOT&E, now six months away, GA, Raytheon, and L3 continue to work through the remaining items identified during the DT activities.

The MQ-9 program carries five high risks that are held at the SAE level, all related to our QRC-type history. Four of these have been with the program since inception: EMI/EMC, human-machine interface/control, software design immaturity, and structural integrity. We are making progress on resolving all of these. The fifth is related to the complete loss of electrical power and possibly the aircraft resulting from failure of the starter-generator while airborne. Beginning at the end of 2013, a dramatic increase in the failure rate was observed across the fleet, including the loss of three aircraft (non-USAF). An exhaustive effort by a joint industry-government team, including GA, Skurka (generator OEM), SPO and AFLCMC engineering, and AFRL, investigated for over a year without a single root cause. But, I am pleased to report that we may have light at the end of this dark tunnel. First, several months ago, the team identified numerous manufacturing quality issues with the generators. GA and Skurka implemented the corrective actions, resulting in initial improvements in the field. But failures reappeared. Separately, AFRL dissected six failed units and reviewed operating procedures and ground power carts used by our maintainers. I was informed this week of their study results, which will lead to corrective actions in the very near term. Finally, we are pursuing a secondary power source that will provide adequate redundancy to permit safe recovery of the aircraft should the main generator fail at any time during a mission.

Another of our big challenges is the continued development of the advanced cockpit, the Block 50 ground control station (GCS). The prototype effort concluded last year with less than stellar results. With intent to improve systems engineering rigor and human factors design, an aggressive, disciplined strategy was put on contract to improve on the prototype design through detailed (testable) requirements, well understood by both the Government and contractor early in the effort. The design specification is informed by ACC and AFSOC aircrew/maintainer participation. This is a new approach for GA and the SPO. While I am confident in the ultimate results, I am very concerned in GA's difficulty to show necessary progress in the initial stages of this effort. This is soon to be compounded by my lack of staffing in the SPO. Due to attempts to drive a solid technical design from the onset, government review of actions and key documents is

essential. I do not have the engineering staff to support the speed that I need to run. I have engaged with my PEO and his functional staff to repopulate my resources. We are working to a solution.

A lack of engineering support is also hampering my FMS efforts. The MQ-9 program currently has three active cases supporting the UK, Italy, and France. While those customers continue to demand additional MQ-9s, GCSs, and capabilities, SPO manpower resources are stretched to support an increasing number of potential new customers, to include the Netherlands, Germany, Poland, and Spain. Given GA's demonstrated performance (captured accurately in CPARs), a technical staff is essential to review contractor work, remain schedule-minded, and fiscally responsive. Again, I have engaged with the PEO and AFSAC and will resolve the issue.

Of course, one of our biggest challenges on the MQ-9 program has been the turbulence in the requirements process and budgetary fluctuations. Yet the program's ability to navigate that turbulence and rapidly drive advanced capability to our combat forces is our greatest strength. Stemming from an ACC and SAF/AQ directive, we are recasting the complexion of the ACAT-1C program to leverage that strength. While the aircraft production and Block 50 aspects of the MQ-9 program will remain unchanged, the strategy by which we add new capabilities is being overhauled. Transitioning from the current path, which historically fields advances on a 4-6 year cycle, we are decoupling technology development from the integration of mature capabilities in a hybrid approach. Extrapolating the model that the SPO uses to support USSOCOM under the Lead-Off Hitter construct, our new strategy blends the technical rigor of a traditional procurement with the agility of a QRC, balancing risk with combat need. More importantly, this approach fields proven capabilities on an 18-24 month cycle. Approved in concept by the CSB last September, the formal strategy has been approved by the PEO and is sequencing through the SAF/AQ staff process for final consideration and direction by the MDA.

This program will continue to challenge me and my team, there is no doubt. My staff remains motivated, aggressively seeking new pathways to responsively support the demand signal from our combat forces. I am always available to discuss any aspect of the MQ-9 program in detail at your request.

This assessment is the work of Col William S. Leister and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Next Generation Enterprise Network Increment 1

Overall, the program is healthy, though with significant challenges ahead. As you know, we completed a major milestone on October 1, 2014, Final Deployment Decision (FDD), with no marked degradation in network performance due to the transition to NGEN. Based on analysis of workload forecast after NGEN transition, we reorganized on March 2 after a year of planning with PEO EIS and my senior staff. I believe the new flattened structure (from 5 divisions to 9) will lead to better focus on the work ahead, more adequately spread the load, and improve our overall speed and agility.

Current State

1. Cost (NGEN is funded through a mix of OMN and OPN)
    a. We are currently working with our resource sponsor organization to assess risks and effects of the proposed reductions and offer alternatives, using our validated 2012 NGEN Manpower Estimate as the basis for deviation.
    b. Delays in OPN obligations were caused by transition, but we are recovering well.
    c. In FY 2014, we returned over $60 million in OMN across the FYDP through a spring budget efficiency review, mainly due to lower than anticipated NGEN fixed costs and DISN rates.
2. Schedule
    a. Past milestones: Final Deployment Decision (FDD) completed on October 1; ADM received delegating MDA to the Navy on January 29; Final Transition Complete (FTC) declared on February 25.
    b. Future milestones: Navy Gate 6 Review (May); final Performance Assessment report (July); Post-Implementation Review (October). I see no obstacles to meeting these milestones.
3. Performance
    a. Two of three technical performance assessments planned for NGEN are complete. No significant issues through February 2015 have been noted. The final assessment will complete in summer of 2015. All KPPs and SLRs continue to be met through February.
    b. New NGEN metrics reports are in the final stages of completion, and I expect to begin reporting outside the program by EOM May.
4. Congress
    a. I briefed HASC/SASC Congressional Staff on March 12; they were generally supportive. Staffers expressed a desire to eliminate NGEN Reports to Congress and a continued interest in applying competitive pressure as provided for in the NGEN contract via segregation of services. They acknowledged inherent difficulties involved due to the integrated nature of network services and the management overhead associated with separating the work into multiple contracts

as complicating factors. HAC/SAC staff briefs are scheduled for the week of April 6.

5. Workforce
    a. The program currently has adequate programmatic and technical support personnel to execute its mission. Program and project management ability of staff is varied, though internal teamwork has markedly increased and formal workforce complaints have decreased significantly over the last year. I have reached out to DAU for a project management assist visit. We are also aggressively seeking out IT talent to fill existing vacancies. Competition with higher-paying jobs in industry limits both our program management and technical support pools of expertise.

Future Concerns

1) **A significant forecast workload**, some of which was not anticipated when the contract was let, combined with significant pressure to reduce manpower starting in FY 2017, threatens the acquisition strategy. In early CY 2014, after my first 90 days on the program, I determined the program was not organized to effectively manage the large workload forecast after the NGEN transition and began planning for the recently executed reorganization. We are preparing alternative offers to our resource sponsors, which will assess the risk of manpower cuts at various levels while also identifying tasks which will not be completed as a result.

2) **The inherent complexity** of coordinating and maturing new processes, executing multiple efforts within the network architecture in a fixed price contract structure, and aligning with our industry, operational and external partners and organizations introduces significant risk of using excessive processes as a preferred control approach by the team. To combat complexity internally and mitigate the risk of process stasis in the new NGEN model, I have issued standing orders to each division lead to eliminate any piece of a process that, in their judgment, does not clearly add value, and I will personally help them do that if needed. HP is onboard with this approach. We will continue to evaluate and streamline all processes over which we have control in an aggressive manner.

Challenges and Steps to Address

1) **Fleet service support.** The transition to NGEN required a pause in Fall 2014 to execution of user equipment moves, installations, and connectivity upgrades, previously running at a volume of 600-700 projects each year and total annual cost of roughly $15-20 million. The associated backlog has proven to be more substantial than anticipated. As each project is reviewed individually, we took action in February to streamline our proposal review process. I also requested and received additional contracts staff. Both actions have had a positive effect to date. We are in process of identifying further corrective measures intended for implementation by

EOM April, to include a potential big data-like approach utilizing historical cost vs. complexity data families as a reference for proposal reviews.

2) **Network security.** Operation ROLLING TIDE execution continues as a top program priority. As part of our reorganization, we created a new Cybersecurity division assisted to include an internal Chief Information Security Officer to lead all future security planning and implementation. We are coordinating efforts closely with the Navy's Task Force Cyber Awakening (TFCA) office.

3) **Global ashore network consolidation.** Significant senior leader attention and direction has been given to internal NGEN data center consolidation, as well as further consolidation of legacy Navy networks into NGEN, to include our OCONUS network, ONE-NET. As part of our reorganization, we created a new Technical Infrastructure division to lead these efforts with our industry partner.

4) **JIE construct and Joint Regional Security Stack (JRSS).** As part of our reorganization, we assigned dedicated leads within both our Strategy and Cybersecurity divisions to lead the planning in this area with HP and work towards our goals of informing the JIE/JRSS architecture planning and implementing the JRSS capability in FY 2018. We are coordinating with the Navy's network operational commander to ensure requirements are addressed, due to the significant change in security architecture.

5) **Mobility/Cloud.** We are introducing current generation mobile phones and tablets into the network in CY 2015, with all authorized mobile users (approximately 25,000) expected to be online by the end of the year. Cloud understanding is in the early stages, and we have begun assessments of the commercial market intended to inform Navy strategy and help develop the business case. As part of our reorganization, we assigned a dedicated lead and resources within my Strategy division to lead these efforts.

6) **Innovation.** We are aligned with the BBP 3.0 innovation approach and recently supported PEO EIS by providing recommendations on the BBP 3.0 innovation focus area. We are also coordinating with the new PEO EIS Innovation Cell, intended to enable a streamlined capability for evaluating and implementing new technologies and solutions. As part of our reorganization, we assigned a dedicated lead and resources within our Strategy division to lead and coordinate all program innovation activity.

7) **Network tech refresh and modernization.** We must continue to leverage industry network solution development to affect technical refresh in a cost effective manner and with adequate lead time to avoid crisis situations similar to the well-known Windows XP upgrade of 2014. In both my Strategy and Service Management divisions, we have started an updated assessment of

all network upgrades required over the next 2-5 years to enable project planning and inform budget formulation and defense.

8) **Re-compete.** The 5-year competition interval is a significant challenge for the program while simultaneously undertaking the above major efforts. We have started planning and are formulating specific recommendations to streamline the process. We are exploring innovative contract strategies to reduce the cost of competition and enable a smoother budget profile over time. To date we have identified one alternative strategy, which may meet these needs and which we continue to flesh out.

Help Needed

1) Support program manpower levels to those required to meet my mission, using the existing 2012 NGEN Manpower Estimate as a basis for deviation, or updates to that document as they are validated.

2) Support special contracts approaches if required to enable faster fielding of equipment and services.

3) Support acquisition streamlining for NGEN re-competition, and limit documentation to only those which are either clearly proven to provide value added to the PM or meet a statutory requirement.

Summary

The program is healthy but faced with significant challenges in the next two years. I believe we have a solid sight picture and approach to the challenges ahead, though retaining sufficient manpower and expertise to overcome them will be a key component of success.

This assessment is the work of Michael N. Abreu and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Chemical Demilitarization-Assembled Chemical Weapons Alternatives

Background: Program is responsible for managing the destruction of the final U.S. Chemical Weapons Stockpile, stored at two locations. Program consists of two projects. First is the Pueblo Chemical Agent Destruction Pilot Plant (PCAPP), Pueblo, Colorado. The Pueblo stockpile consists of over 2,600 tons of mustard agent in over 780,000 projectiles (155mm, 105mm, 4.2" mortar). Second is the Blue Grass Chemical Agent Destruction Pilot Plant (BGCAPP), Richmond, Kentucky. The Blue Grass stockpile consists of over 520 tons in over 101,000 rockets (M55 115mm GB and VX nerve agent rockets) and projectiles (8" GB, 155mm VX and mustard).

Top Level Summary: Overall PEO Assessment: Green, though there are risk areas that will be discussed with each site status.

Current APB Cost Objective is $10.6 billion. Current Program Office Estimate (POE) is $10.9 billion, based on standard 50 percent confidence risk based schedule.

APB schedule for the PCAPP site start of operations objective is December 15. The threshold is December 16. The current working estimate for the Pueblo main plant is January 16, slightly behind the APB objective date.

APB schedule for the BGCAPP site start of operations objective is April 20. The threshold is April 21. The current working estimate for the BGCAPP main plant is October 18, about 1.5 years ahead of the APB with elimination of the mustard stockpile (15 percent of Blue Grass agent) in 2018 before main plant starts.

If the project continues to execute ahead of schedule at BGCAPP, the program should come under the APB Cost Objective.

General Comments/Discussion: The risk management program that was stood up during the Nunn-McCurdy process (December 10-June 11) continues to do great work and is still maturing, while mitigating risks. The good and bad of it is that we continue to identify new risks as we close out old ones. We believe we are beyond any new major unknown-unknowns for the PCAPP site; therefore, I believe we will be more stable as we get ready for operations in the next nine months. But the BGCAPP site has a ways to go, since construction is not done yet. Though the BGCAPP is very good at incorporating PCAPP lessons learned, the BGCAPP still has a lot of unique systems and equipment where unknown-unknowns can still be a problem during the systemization/testing phase before operations.

I believe PEO ACWA has made great strides in adding the correct people with great knowledge and experience to the team. I believe I am making good progress in breaking down the titanium stovepipes of excellence that predominated when I arrived. The ACWA Team now embraces outside input and is much more collaborative and inclusive, eliminating the "not invented here"

attitude. They are embracing good acquisition principles and processes like BBP. I still need them to grow in the "attention to details" arena. But, like LTG Bill Phillips always said, "what the Commander checks, gets done". I do a lot of checking, but more importantly I have brought in a lot of people, including senior contractor resources above the project teams, who help do the checking. Mr. Kendall, thanks for your specific support for allowing me to hire the required government staff to properly manage and oversee this complicated mission. PEO ACWA personnel are in a good place now, but I still have some hiring actions to complete in FY 2015 to fill out the team at BGCAPP as it transitions from construction to systemization. The Corps of Engineers personnel who help manage the construction phase go away and must be replaced with personnel to oversee the Systems Contractor (SC) during operations.

I also added an Anniston, Alabama, field office by retaining some of the baseline project personnel and one destruction system. I brought over from the Chemical Materials Activity (the Army organization that completed destruction of 90 percent of the U.S. stockpile) 6 government personnel with a combined more than 60 years of live chemical agent destruction experience. I also took possession of the Anniston Chemical Demilitarization Static Detonation Chamber (SDC), which is an explosive destruction technology. I am using the SDC as a risk reduction tool to process the uncontaminated energetic material from the PCAPP projectiles. At PCAPP, only the agent and secondary waste are destroyed on site. The energetic materials are shipped offsite. I may use the Anniston SDC to destroy the uncontaminated M55 rocket motors from BGCAPP as well, since uncontaminated rocket motors will probably need to be shipped offsite. Rocket motor testing is now in progress at the Anniston SDC.

PCAPP Project Specifics: Construction is 100 percent complete, and systemization/testing is 75 percent complete. During systemization, three major design/construction issues were discovered. Those problems have delayed systemization but are either corrected now or off the critical path. The first was too much HVAC air infiltration, so the cascade negative pressure ventilation system could not be operated. Second was a disagreement with the State Environmental Regulators over fire wall standards; the State regulators' view prevailed. Third, the tubing material installed for the agent monitoring system (300,000 linear feet) was the wrong kind of Teflon tubing and had to be removed and replaced. Those lessons were passed onto BGCAPP and now are not an issue or being fixed during construction. I also have the SC doing a risk reduction program to insure the bio treatment operations will work. I have brought the community stakeholders into the entire process so no surprises. I will be doing risk mitigation in this area and will use the community as a sounding board. PCAPP is at a low level of risk today. The Explosive Destruction System should start operation the week of March 16, 2015. The United States will begin destroying chemical weapon stockpile for the first time since January 2012. The OPCW Executive Council will be at Pueblo and Washington, D.C., the week of March 23, 2015, for the biennial visit, since the U.S. did not make the treaty date of April 2012.

BGAPP Project Specifics: Construction is 92 percent complete, and systemization/testing is 29 percent complete. Risk areas include finishing construction at or under funding available. A

more significant risk area is the Facility Control System (FCS) to operate the plant. The project team picked Microsoft XP many years ago to build the control system around. Now, many millions of lines of special coding later, XP is not supported by Microsoft. The FCS has been installed and is being tested at BGCAPP today. SC is charged with a risk mitigation program to insure equipment is stockpiled for the life of the plant. We are working with the Test community and the Cyber experts to insure we meet the Risk Management Framework and can operate safely. Gary Bliss of PARCA has supported the program approach (not changing out XP) during the OSD Strategic Governance Board. I have brought the community stakeholders into the entire process so no surprises.

Close out: I am currently using Cost-Plus Award Fee on the PCAPP SC contract, based on the model used at the baseline sites with the NDAA incentive that provided such great results. I will be using the same type Cost-Plus Award Fee tool at BGCAPP once construction is completed. No help is needed from your level at this time. The only potential help in the future would be the XP control system and Cyber/test requirements if project must replace XP. Ms Shyu has been briefed on XP as well and appears comfortable with the plan to keep XP.

I certify that this assessment was written personally by Mr. Conrad Whyne and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Chapter 4

Sustainment—Operations and Support Phase Programs

Bradley Fighting Vehicle

Purpose: The purpose is to provide a concise and candid assessment of the AFV program.

Background: The Armored Fighting Vehicle Project Management Office was created in June of 2014 as part of reorganization within PEO Ground Combat Systems. PM AFV is a portfolio of three product lines: Self Propelled Howitzer Systems (M109A6 and M109A7 PIM, ACAT ID), Bradley Fighting Vehicle (ACAT IC), and the Future Fighting Vehicle (pre-MS A).

Discussion:

- **Paladin PIM**. On the whole, the PIM project is in very good health. The first several M109A7 howitzers are going down the LRIP production line now, and government acceptance expected as early as next week. Although there are some parts shortages that are causing delays and out of station rework, I believe that these are manageable and part of a typical LRIP launch for a complex system. These inefficiencies have contributed to some cost growth, but the growth is about 1.5 percent of the LRIP contract value—a contract that was awarded well below the ICE figure. We do not expect the schedule delays to impact the test events on the critical path yet, and with the FPIF contract structure, BAE is motivated to correct the issues. Finally, parts shortages are on a path to be corrected soon so that later vehicles will be built more efficiently with few or no out of station retrofits.

  FY 2015 RDT&E funding for the PIM program has been reduced by $20 million (all but $3 million of which was rephrased to later years) due largely to low disbursement rates. We have made some adjustments to the schedule to better align with available dollars and at this time, we are still able to execute to plan. However, any additional reductions or rephrasing of RDT&E funding in FY 2015 or FY 2016 will result in a slip to FRP and fielding.

- **Bradley Fighting Vehicle**. The Bradley program has three significant ECPs at different stages of the lifecycle. ECP 1 (track and suspension upgrade for increased survivability and reliability) is in production and will begin fielding in 3Q FY 2015. This effort is on schedule and well below cost. ECP 2 is in development with prototypes being built. ECP 2 is on schedule but has experienced cost growth related to underestimating prototype build cost and the complexity of meeting Information Assurance requirements. The latter is my greater concern. I suspect that IA has grown more complex and challenging for combat vehicles recently, and there is a shortage (both in the PM shops and at the OEM) of personnel with a solid grasp of the field. As a result, I am not fully yet confident that our revised EAC for this activity is accurate. We have recently scheduled more in-depth reviews to better refine our understanding of the risks and how to mitigate them. Finally, ECP 2b is a set of lethality upgrades centered on the integration of the 3rd Generation FLIR (3GF) into the Bradley. The 3GF itself is managed by PM Ground Sensors and underwent a successful MDD in the 4th Quarter, with a developmental RFP expected to be released soon. Our team is working closely with PM Ground Sensors and PM Main Battle Tank Systems (Abrams will also

incorporate the same sensor) to ensure requirements are optimally allocated between the platforms and the sensors to maximize performance and minimize cost.

The Bradley program is also challenged with respect to RDT&E funding. The ECP effort was initiated with a substantial amount of soon-to-expire dollars, which created an annual carryover situation. Deliberate rephrasing was never done, and as a consequence, disbursement rates have been consistently below goal with annual decrements applied. We have deferred some requirements (like training devices) in order to live within the adjusted budget. Though program disbursements should return to health in FY 2016, additional RDT&E decrements (or sequestration) will force a significant schedule slip.

- **Future Fighting Vehicle.** The Future Fighting Vehicle project has General Dynamics Land Systems and BAE Systems working to develop concepts that better inform Army senior leaders of the potential trade space for a future Infantry Fighting Vehicle to replace the Bradley. Both OEMs are also participating in reviews of a number of USG S&T development efforts run by TARDEC as the Combat Vehicle Program. Work to date has focused on investigating the cost and performance implications of varying key requirements from the Ground Combat Vehicle (GCV) program. The program is performing well, but currently has no funding programmed in FY 2017. Additionally, there is a significant debate ongoing within the Army about what combat vehicle capabilities are most needed in the near and mid-term. The wide range of options makes it difficult to provide the OEMs with adequate direction to produce relevant data in time to support the decision.

- **Other Concerns.** Additionally, I am concerned about the rapid pace of electronics obsolescence, particularly when coupled with the increasing density of electronics residing on our vehicles. I believe the best way to manage this problem is with open system standards and architectures that are developed by the government in enough detail to control the critical interfaces between functional components. This should allow the PM to replace some obsolete components through open competition, rather than always being held captive by the prime through their control of the TDP. Migrating from the current status quo will require a change of culture within the combat vehicle community, as well as the development of additional skills with respect to systems architecture.

I certify that this assessment was written personally by COL James Schirmer and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Command and Control, Battle Management, and Communications

The Command Control, Battle Management, and Communications (C2BMC) l Program is MDA's integrating element of the Ballistic Missile Defense System (BMDS), providing a force multiplier that globally and regionally networks, integrates and synchronizes missile defense systems operations, providing an optimized, layered missile defense. The current Spiral 6.4 C2BMC system has been operational since 2011 at NORTHCOM, PACOM, and STRATCOM in support of Homeland Defense and EUCOM and CENTCOM for Regional Defense. Spiral 6.4 allows the Combatant Commander to establish the strategic defense design with the C2BMC planner; provides real-time situational awareness by correlating SBIRS, GMD, Aegis, THAAD, Patriot and coalition sensor ballistic tracks to the decision makers as the fight evolves; provides real-time battle management of the five forward-based AN/TPY-2 radars deployed globally; and provides a secure high reliable communications network for entire BMDS sensors and shooters in partnership with DISA.

As the C2BMC Program Director, I am responsible for all development, testing, fielding, training, operations, sustainment, and decommissioning because the system has no lead service to transition system. Justification for no lead service is C2BMC is a software-intensive system hosted on COTS processors deployed in DISA facilities on Navy bases, Air Force bases and Missile Defense facilities, with Army-provided Sensor Mangers located at various Air Force Air Operations Centers. Several software and network upgrades to address emerging Warfighter needs since Spiral 6.4 were fielded since 2011.

The next major C2BMC Spiral release is Spiral 8.2-1, which is currently in element requirements verification testing for integration into BMDS in FY 2016 in support of the Agency's Improved Homeland Defense Capability delivery in 2017. Spiral 8.2-1 hosts new software on new COTS processors and integrates DSP and SBIRS GEO and HEO space sensors into the C2BMC Fire Control algorithms, providing improved precision cueing of AN/TPY-2 forward based radars, improved raid handling, and Space Situational Awareness tasking of the AN/TPY-2 forward based radars in support of Air Force Space Command. C2BMC's contribution for EPAA-3 is Spiral 8.2-3 that allows the Aegis Weapon System to execute Engage on Remote engagements with SM-3 IB and IIA interceptors using only tracks from AN/TPY-2 forward based sensors, which significantly increases the Aegis defended area of Europe.

Program Manager Concerns About Expected Events of The Next 1-2 Years

Sustaining the current operational Spiral 6.4 is my number one priority, followed by future spiral developments and fieldings. With the "sunsetting" of the current operational COTS hardware and COTS software, continual cyber security assessment and protection improvements must be accomplished. Funding instability over the past three years (Sequestration in 2013 and Congressional Reductions in 2014 and 2015 to the President's submitted budgets) resulted in an unplanned stop of the Spiral 8.2-3 software development program in 2014. Spiral 8.2-3 is

equally important for meeting the stated EPAA-3 required capability as the 2nd Aegis Ashore Site in Poland and the SM-3 IIA interceptor but fails to draw the same respect/attention as the other two EPAA-3 components with regards to Congress.

Steps Being Taken To Address Concerns:

To improve C2BMC's cyber defense posture, I teamed with DOT&E in 2014 and continuing in 2015 in collaborating on a series of experiments that exposed our C2BMC laboratory testbed with the Army's ATEC Red Team's cyber staff and tools, along with Cyber Command's newly established Cyber Protection Team assigned to BMDS. Initially, we started with just a C2BMC testbed, but the last two expanded to include Sensor and GMD testbeds. By conducting these experiments, we have found vulnerabilities that have been implemented operationally and the Cyber teams broaden their knowledge and exposure to operational capabilities for further refinement of their attack tactics, tools and procedures. The program continues to review external connections to C2BMC to harden the boundaries. We also collaborate with individual Combatant Commands, Services, and Agencies to improve the protection of the BMDS network.

With regards to the budget instability, we slowed down the S8.2-1 development program for the last two years and changed our fielding plan to only field S8.2-1 for Homeland Defense in 2017 and then upgrade EUCOM and CENTCOM processors in late calendar year 2018 when the Spiral 8.2-3 software is completed. The capability of Spiral 8.2-3 was de-scoped to meet the minimum EPAA-3 requirements to reduce cost and schedule risks. In January 2015, I presented to VADM Syring and obtained his approval to establish the initial baseline of Spiral 8.2-3 and to re-baseline the Spiral 8.2-1 deliveries. In 2014 and 2015, Congressional marks on C2BMC program their justification reduction was for lack of established baseline for future developments. During the recent PB 2016 MDA Congressional Staffer brief, the staffers clearly received my message that the Spiral 8.2-3 is baselined.

Help Needed From the Acquisition Chain of Command:

Department's continued support and recognition of the need for spiral development of software intensive programs, as captured in the recently published DoD 5000 instructions during communications with Congressional and GAO Staff.

This assessment is the work of John Bier and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Distributed Common Ground System-Navy Increment 1

BLUF: DCGS-N Increment 1 and Increment 2 are succeeding with respect to cost, schedule, and performance targets. Our overall program risk is low. We are openly engaging and partnering across the DoD and IC to deliver the best possible product for the least total ownership cost. With few exceptions, I am pleased with the support and guidance from the entire team up through your office. Our engagement is proactive, open, and largely stress-free as we work through the normal cross-organizational friction of delivering a complex system in DoD.

There are a few areas where additional attention and/or insight could significantly improve our product, should cost efforts, and further reduce program friction. For context, PMW 120 has 24 projects and programs. DCGS-N includes two increments that are relatively small ACAT 1 efforts. Inc 1 achieved a Full Deployment Decision on December 4, 2014, and will continue to field technical refreshes until replaced by Inc 2 starting in 2018 through approximately 2024. Technical refreshes include Inc 1 Blk 2, which is the version of DCGS-N integrated with and dependent on CANES. Inc 1 Blk 1 has two versions, one of which is standalone and one hosted on the Early Adaptors version of ISNS fielded as a risk reduction for CANES. Inc 1 Blk 2 will execute FOT&E afloat led by COTF and DOT&E aligned with CANES later this year. The timing of the test is a current issue being worked, but anticipated no later than the end of CY 2015. Previous versions of the ISR tools in Inc 1 Blk 2 were found suitable and effective in Inc 1 Blk 1, and no further milestone decisions are dependent on the FOT&E.

DCGS-N Inc 2 is the Navy's ISR, multi-INT, fusion capability for the next 15-20 years. We do not build the sensors, we make sense of the data gathered by the IC and DoD sensor platforms built with hundreds of billions of investment dollars to provide battlespace awareness to Navy leadership and share with the DCGS Family of Systems. Inc 2 is being designed to bring automation and advanced analytics that scale to handle the explosion of NTM, airborne, ashore, afloat, and subsurface sensors without an increase in DCGS-N manning. Inc 2 is essential for the Navy to leverage the vast network of sensors fielded by the IC and the Navy. Our ability to create a solution set that scales to meet the data demands is dependent on leveraging file system and search technology spearheaded by Google, Amazon, RedHat, Cloudera, and other commercial companies and being actively tailored and used today by the IC. We are leveraging the IC and commercial investment to reduce our risk. PEO C4I is leading a risk reduction prototyping effort that incorporates these technologies and serves as a common platform for our next generation command and control, ISR, and METOC applications built on ONR's S&T effort to deliver the first instantiation of a Navy Tactical Cloud afloat.

Possible Items for Engagement:

1. Pressure from GAO to baseline sooner (this was a main focus area of a recent GAO MAIS report). Creating a program baseline prior to having a signed requirements document and a service cost position has the risk of creating unrealistic expectations.

Every program is different; recommend avoiding a "one size fits all" approach, such as "all programs need to be baselined within 2 years of any arbitrary date."

2. Shortened Operational Testing timelines of an IT Box program. For DCGS-N Inc 2, we are leveraging the IT Box Acquisition strategy and building a government-led team that is using Agile software development methodologies. The end result will be annual releases fielded to afloat and ashore platforms with multiple/incremental testing opportunities incorporating users during each 12-month developmental cycle. Aligning existing operational testing processes with annual releases is new for our test community and does not synch well with existing policy and processes. Our DOT&E staff has been supportive, but there are many details remaining. A key concept is: The collection of test data needs to be in parallel and continuous during the development of the system, and the report informing a fielding decision for each annual release (if required by RALOT) needs to take very few weeks to staff vice 3-5 months. Creating the construct where the OTD is able to collect usable data throughout the agile development process and assist in feeding findings into our learning process should be a policy focus. Our testers on the deck plates understand this but are unsure of how much top cover they will get for greatly shortening report timelines by working in parallel with the development team vice completely serial. Written leadership tailoring would help align the test community. We are piloting these processes in partnership with COTF on NITES Next, an ACAT III METOC software intensive program.

3. IC ITE Governance is focusing almost exclusively on NIP-funded activities. The macro trend in the IC and Services is to increasingly team on solutions and operations. Having policy largely ignore MIP-funded activities, especially those in the unique maritime environment, does not help with this teaming. It introduces middle management decision paralysis and exceptional legal review at all levels that is hard to push through. Every review required significant education and engagement at a cost. One negative impact of weak utilization guidance is that we are much slower than desired in leveraging the cloud services under C2S, an IC vehicle for cloud services. C2S is a great opportunity to team with the IC and realize significant should cost savings, but it has taken over 6 months to get close to being able to get on a contract vehicle already competitively awarded by an IC organization. The slow moving approvals stem from an abundance of caution concerning teaming across Title 10 and Title 50 lines. Top cover and explicit guidance telling the Services how to proceed would help speed this effort. The reason we are excited about the ability to leverage C2S services for JWICS is, once we are able to get on a task order, we can provision our storage needs and compute needs for approximately $50,000 per year vice $8 million to create our own infrastructure. This is not unique to the Title 10/Title 50 seam.

   Similarly, for Sensitive But Unclassified (SBU) cloud services, the DoD does not have a clear and efficient path to success yet. There are two pilots (DISA and SSC LANT) creating points of presence through which we can access Amazon Cloud Services (AWS) via NIPRNET, but both are experiencing growing pains as we work to identify a solution set that enables the DoD's cyber defense needs to be met while leveraging the existing, secure, Amazon infrastructure. The architectures and processes being developed are

adding a cost multiple of 2-3 times and a delay in turning on the services of 6 or more months. Our processes are maturing but so far are failing to align with the reason we want to leverage commercial cloud services in the first place: near instant provisioning at just the right level, dramatic cost savings, and a secure infrastructure environment. Clear and efficient processes to leverage these services will result in a much faster adoption rate and earlier realization of the cost, security, and schedule benefits.

4. The AoA process for DCGS-N Inc 2 was exceptionally delayed at multiple levels. This is one of the reasons we volunteered to have DAU instrument our processes, reporting, and the cost impacts of oversight. It is our hope that data will drive improved behavior. A recommended best practice would be to identify a fixed timeline for review. We welcome constructive criticism if it is timely, but little in our AoA experience was timely nor provided by reviewers technically deep in software design. As the study matures, DAU will report out on their findings.

5. The 5 Year Clock was not created considering the Navy acquisition environment. Two years prior to an OT report, we need to fix our afloat baselines to meet SHIPMAIN processes. This means our 5 Year Clock becomes a 3 Year Clock if everything works perfectly.

As noted with the few exceptions above, we are on track, appreciative of the assistance and alignment of DoD and the Navy staffs. Considering the breadth of effort across multiple domains, agencies, and services required delivering an ISR solution, the number of current issues we are experiencing is exceptionally low. Hopefully, this generates some useful ideas and positive change.

This assessment is the work of Captain Scott D. Heller and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Joint Primary Aircraft Training System (JPATS)

The JPATS program is currently a “non-reporting" ACAT IC program supporting Air Force and Navy basic pilot training requirements using the T-6 aircraft. It is in the final stage of Production and Deployment and well into sustainment (Operations and Support).

BACKGROUND

JPATS was designated as a Contractor Logistics Support (CLS) “for life” program under acquisition reform in the 1990s. It was competitively awarded in 1996 to the Raytheon Aircraft Company (RAC), of which Beechcraft Defense Company (BDC) was a subsidiary, to build the T-6 aircraft and the supporting Ground Based Training – simulators – System (GBTS). Raytheon bought the rights to produce the Swiss Pilatus PC-9 and reverse engineered it to realize cost savings to meet a “low cost, commercial (FAA certified), off the shelf” strategy. Development was minimal— just enough to satisfy FAA certification requirements. The program started under FAR Part 15 (development-lot 1/Low Rate Initial Production-lots 2-7/Full Rate Production-lot 8), modified to a FAR Part 12 “Commercial Item” for Lots 9-13, then reverting back again to FAR Part 15 in 2007 for all remaining lots.

To date, production for the Air Force is complete, having received 452 T-6A aircraft, currently 445 TAI (7 aircraft have been lost over the last 15 years). The Navy has received 42 T-6A and 224 T-6Bs (glass cockpit). The last Navy lot is on contract for their remaining 29 aircraft, completing delivery in July 2016 (total fleet = 295). The Army procured 4 T-6D (glass cockpit and wing pylons), which were delivered May 2015.

Under CLS, BDC provided all the supply chain needs under a Contractor-Operated Main Base Supply (COMBS) concept. Except for initial spares procured with each lot, BDC owned all of the consumables/reparables needed to support the fleet. They did not provide operational aircraft maintenance. Due to excessive costs with COMBS under BDC, and to promote competition, in 2009 the USG elected to procure the remaining contractor-owned spares and compete the COMBS. That award was made to Dyncorp International (DI) in June 2012.

PROGRAM ASSESSMENT

The T-6 aircraft meets the need for a primary trainer: it is simple and easy to fly. However, it has experienced ongoing technical issues, possibly due to its being a commercially-derivative design applied to military use: higher supply chain throughput for repairs and needed spares than originally estimated, increased maintenance hours per flying hour, and a growing safety concern by the using command due to technical issues that are being continuously discovered.

<u>Technical/Performance Assessment</u>:

Since the JPATS T-6 aircraft was acquired under a commercial FAA-certified procurement strategy, many of the integrity programs required for military aircraft were not imposed. In the

wake of that strategy, the Program Office (PO) has dealt with a growing number of engine, flight control, other mechanical system, and escape system issues that have been directly related to production quality and design deficiencies. The accumulation of these ongoing technical issues drove a request from the using command to assess overall system safety and risk associated with operating the T-6. An Independent Review Team (IRT) subsequently recommended a more rigorous Mechanical Systems Integrity Program (MecSIP) and Propulsion Structural Integrity Program (PSIP) to help anticipate future issues. In addition, they recognized that the program's engineering and logistics manpower levels and competency mix, originally sized to a CLS model, are inadequate to address the program's ongoing issues.

In contrast, the GBTS portion of this training system has been performing well. All 126 simulators and procedural trainers (86 AF, 40 Navy) were delivered on time. Flight Safety, the producer and only CLS provider to this point, has been successful in keeping them maintained and available. Obsolescence upgrades to the visual systems and other modifications have been on-time, keeping the trainers' configuration in line with the aircraft.

Logistics/Sustainment Assessment:

The PO has the continuing responsibility for overseeing a supply chain management service contract supporting the fleet. The T-6 supply chain has over 466,000 parts, with approximately 14,000 parts issued per month across the fleet. As stated above, until 2012 BDC was the sole source supply chain provider for this program. They executed this responsibility under the previously-mentioned COMBS contract approach. In 2009, the PO attempted to reduce costs through competition. A source selection was pursued in 2010, and in June 2012 resulted in contract award to DynCorp, International (DI). The projected savings realized through that competition was estimated to be $140 million.

Unfortunately, the lengthy source selection resulted in contract award with no period of time to facilitate smooth transition between BDC and DI. Late transfer of government-furnished property, delayed contractor-owned spares procurement between the two companies, and significant data licensing issues caused delays getting reparables through vendor pipelines. Fleet readiness suffered due to Non-Mission Capable Supply (NMSC) rates soaring as high as 34 percent. It took over a year to recover from this initial setback.

Further problems surfaced in 2014, when DI's periodic engine overhaul inductions and returns process slowed to a point where aircraft were grounded. To meet user needs, the PO was forced to find an alternative contract to perform overhauls, while at the same time it pursued remedy with DI. The issue remains in contention today.

Besides engines, other top NMCS drivers included higher-than-predicted failure rate parts. One example is the Electronic Instrument Display (EID); there are 10 in each aircraft. This part alone accounts for a third of the NMCS rate. Multiple approaches to solving the problem have been pursued to include improved repair procedures and qualification of a replacement part. The

combination of approaches is expected to fully resolve the backlog of parts requests by April of 2016.

The PO has documented many lessons learned under the competed COMBS acquisition strategy, which itself was an attempt to improve upon the original program's "for life" strategy - errors in initial approach, imprecise contract language, process improvements associated with data deliverables, metrics definitions, etc. They are being incorporated into the current re-compete plan for the next COMBS source selection with award planned in Oct 2017.

OEM Assessment:

As mentioned above, RAC was awarded the JPATS contract in 1996. They owned BDC at the time. BDC was sold in 2008 to Onyx and Goldman Sachs, and, when the recession hit in 2009, BDC's commercial side lost significant money that eventually led to bankruptcy in 2012. They came out of bankruptcy in early 2013 under the management of "multiple debt holders," who eventually sold the company to Textron Aviation in March 2014. During the period from 2009 through 2014, BDC suffered significant layoffs, mostly on the commercial side, but the defense side of the company was also affected. Effects of bankruptcy slowed down BDC's support of the JPATS program, not in production, but in program support— primarily in program management and engineering. With the significant number of technical issues that have escalated over time, BDC struggles to support them all in a timely manner due to limited resources across their competencies. In 2007, the USG went from a FAR Part 12 to FAR Part 15 strategy; BDC has struggled to meet the requirements under FAR Part 15, as evidenced through engineering contract modification proposal inadequacies and lengthy negotiations complicated by inconsistent/non-compliant disclosures and rate structures as determined by government audits. On the positive side, the relationship between the USG and BDC, which was poor historically at the senior leadership levels, has improved since the Textron purchase of BDC. The company has made progress in resolving some outstanding contractual and audit non-compliance issues. There is now a more "customer focused" approach, which has improved the overall climate.

Resource Assessment:

The PO consists of a dedicated team of people (Navy and Air Force); morale is strong. But our manning structure does not support an increasing workload. This is manifested in struggling to meeting schedules and constantly re-prioritizing work to ensure we do not lose money, exceed proposal validity dates, etc. The current composition (numbers and skills) was designed to support the original "CLS for life" strategy, where heavy reliance was placed on the OEM for support and resolution of issues with PO oversight. Over the past 6-7 years, we have seen a steady increase in technical issues and wear and tear on the aircraft that exceeds what would be expected for an AF fleet that has an average age of 9+ years (Navy 3+ years).

The program will be transferring to Tinker AFB as part of commitments established when the Air Force Materiel Command "Five Center Construct" was put in place. That move starts October 1, 2015, with the System Program Manager (SPM) and a small staff being established at Tinker. The end state has the SPM, Product Support Manager (PSM), and logistics/sustainment functions at Tinker with the Development System Manager (DSM) located at WPAFB; this should all be completed by end of FY 2017. However, during this time frame, the PO will be engaged in 3 significant source selections (all awards will occur in FY 2017), which will add a degree of complexity to that transfer and stretch an already thin team. We and senior leadership are working to mitigate the risks associated with the program transfer and successful outcomes of those source selections.

Joint Tactical Networks

The following assessment is my personal view of the current state of the program with the concerns and challenges that my program team is addressing, as well as areas where assistance is needed.

Current State of Joint Tactical Networks (JTN) Program

JTN is the former JPEO Joint Tactical Radio Systems - Network Enterprise Domain (NED) Program: a portfolio of Government Purpose Rights software-only products (14 "legacy" waveforms, 3 networking waveforms, and supporting networking services) that serve as common baseline source code for vendors to compile and integrate (or "port") into their software-defined radio hardware. Since the JTN program is a portfolio of only software, Milestone C decisions for the new networking waveforms and supporting network manager are inherited through the first fielding decisions of the radio system employing each waveform. Specifically:

- Soldier Radio Waveform (SRW) on HMS Rifleman Radio w/ SRW Net Manager -done 2012
- SRW on HMS Manpack w/ Joint Enterprise Network Manager (JENM) -done 2013

Remaining fielding decisions:

- Wideband Networking Waveform (WNW) on MNVR Radio w/ JENM -operational test 2016
- Mobile User Objective System (MUOS) on HMS Manpack w/ JENM –op tests 2015-2017

A program in transition.
Reference (b) directed JTN to (continue) development and sustainment of JENM and specified the transition of development and sustainment of waveforms to the Military Services by 4th Quarter FY 2015. In addition, PEO C3T directed transition of the JTN program to be re-aligned within other existing programs. The transition of products, services, personnel, and supporting resources is underway between my office and the gaining programs. I will formally turnover authority, accountability, and responsibility of the following products with respective Program Managers by June 25, 2015.

Product / Service	Gaining Office	Version for JTNC Waveform Repository	Status of formal submission to DoD CIO for JTNC Waveform Repository
MUOS	Navy Satellite Communications PMW-146	MUOS v3.1.3	Pending delivery from developer (LM/GD); on track for June 2015 submit to CIO
Link-16	Navy MIDS	L-16 v1.09	L-16 v1.08 is near completion and

	PMA/W-101		will be assessed and provided to MIDS. MIDS decided to include CNM-4 capability via L-16 v1.09 and then submit to CIO/JTNC
SRW	PM Tactical Radios (TR)	SRW v1.2.1	Delivered January 2015
WNW	PM TR	WNW v4.2	Pending delivery from developer (GD), on track for June 2015 submit to CIO
SINCGARS	PM TR	SINC v2.0	Delivered December 2014
JENM	PM WIN-T	JENM v3.3	Early FY 2016 following integration into J-TNT laptop and acceptance into NIE 16.2
Information Repository	JTNC	"as is" turnover of all other GPR source code and files	Hardware servers form basis of JTNC Waveform Repository; includes all previous legacy waveforms and products (many don't have current sponsors)

All of the waveforms and network manager functions are assessed to be sufficiently mature to meet the needs of upcoming hardware operational tests (i.e., MUOS MOT&E – November 2015, MNVR OT – May 2016, MUOS FOT&E – November 2016). In both cases of MNVR radio running WNW and HMS Manpack running MUOS, end-to-end integration testing is in progress, with emphasis upon call reliability and ensuring all required capabilities are tested. Each radio vendor is still uncovering and resolving challenges, specifically tailored to their implementation of the waveform. This is an overall YELLOW RISK to each product line within PM TR. My team (program office, government lab support, and waveform sustaining contractors) is fully engaged and supporting the MNVR and HMS Manpack test cycles.

Immediate Challenges and Concerns.

1. May 2016 will be a significant testing period for MNVR OT and will demonstrate the interoperability between WNW networks and SRW subnets. It will also be the first Army NIE (16.2) after Navy declares MUOS "operational" following the November 2015 MOT&E. Army will be under pressure to demonstrate the HMS Manpack running MUOS at the same venue—demonstrating the interoperability between MUOS and SRW subnets. The combined tactical network management tasks must be done by a single version of JENM (ver. 3.1.3). Per the request and subsequent meetings with Mr. Daly (DOT&E), this version of JENM will undergo its own OT, running on J-TNT laptops, simultaneously supporting WNW, SRW, and MUOS waveforms, concurrently instantiated on HMS Rifleman Radios, HMS Manpacks, and MNVR radios. This will be a dynamic and challenging test environment. This is an overall YELLOW RISK. A draft TEMP has been submitted and is still in staffing; completion of the TEMP is also YELLOW RISK. Our team has been diligently working with the Army user

representatives (TRADOC TCM TR and ARSTRAT for MUOS), who are actively engaged to ensure the CONOPS are understood and sufficiently covered by the existing (JTRS ORD) requirements. This is also a YELLOW RISK, as the Army's ITNE is maturing from a CDD and may introduce new (unfunded) requirements. On the positive, side, May 2016 also represents culmination in delivery of the JTRS architecture.

2. Insufficient resourcing for testing and sustainment. Commencing FY2 016, Navy has zeroed out all funding support to JENM. Army and Air Force each are providing $6.5 million. This is a critical period (as described above) to complete final development and testing of JENM. This resourcing issue is a RED RISK. In addition, current Army resourcing of their waveforms does not cover all of the critical defects (IEEE Severity 1 and 2 defects). Not insurmountable; just a YELLOW RISK, as defects are prioritized for resolution with some critical fixes deferred until future funds are available.

Help Needed

An Army Component Cost Estimate is being finalized for JTN. The total funds estimate by the CCE is on track with my program office estimate; the type of funds needed is transitioning from RDT&E to O&M. The previous lack of the Army CCE was justification by Navy to pull their support for FY 2016 and beyond (above RED RISK item). Help may be needed for re-insertion of their funding commitment ($6.5 million for FY 2016 with diminishing tail afterwards) to achieve completion of the JENM product.

Other Topics

During the past four years, we have witnessed the maturation and producibility of software defined radios. They are no longer just a product only capable of being developed through a dedicated program office via cost-plus contracts. All of the traditional tactical radio vendors know how to build software defined radios. In addition, the three JTRS networking waveforms (WNW, SRW, and MUOS) will soon be operational in an integrated architecture, and we have proven that multiple hardware vendors' products are interoperable within the same subnet. The original JTRS vision is about to be realized.

These radio nodes and networks truly form a system-of-systems network that requires careful and thorough management. We (DoD) need skilled and sufficient systems engineers to refine the interfaces, protocols, and open standards to deploy these networks, improve their performance in tactical (and contested) environments, and achieve the efficiencies for the incorporation of future (lower cost) wireless networking devices (i.e. BBP 3.0 tenets for open standards). We must not short-change our significant investments with penny-pinching savings against our technical expertise. The future force structure is being reshaped with distributed sensors, smart munitions, and autonomous platforms. The future force structure will be critically dependent upon the networking communications protocols and interfaces (e.g., waveforms) employed. We need the technical leadership of a credible network chief architect. These networks are susceptible to both RF and cyber threats. We need to be actively breaking these

systems (and then fixing them) before our soldiers do, and especially before a potential adversary does. We cannot rely upon IAVA updates to guarantee protection against these vulnerabilities.

These are the concerns that keep me up at night.

This assessment is entirely mine, Kevin R. Peterson, and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Mobile User Objective System

BLUF: MUOS is moving forward on all fronts (Satellite, Ground, Waveform, End to End, MOT&E). End to end (E2E) call performance with Army MANPACK continues to improve and mature. MOT&E-2 for WCDMA is planned for November 2015, and, assuming success, MUOS can be operational in 2016, supporting a transition from legacy UHF. MUOS 3 was successfully launched in January 2015, and MUOS 4 and 5 are scheduled for August 2015 and May 2016, respectively. Challenges remain, but I believe are manageable and are summarized below.

Mobile User Objective System (MUOS) Program Progress and Status:

- Satellites:
  - MUOS-1 is in orbit over the Pacific and providing Legacy UHF SATCOM service since November 2012
  - MUOS-2 is in orbit over CONUS providing Legacy UHF SATCOM service since July 2014
  - MUOS-3 successfully launched on January 20, 2015, and is undergoing on orbit test
  - MUOS-4 successfully completed satellite thermal vacuum (TVAC) and scheduled for August 2015 launch
  - MUOS-5 successfully completed satellite TVAC and planned for May 2016 launch
- System:
  - Satellite Control primary and backup facilities are complete and fully operational.
  - All four ground sites are completed and three are operational. The last site in Italy was accepted by Navy as of March 2015 and information assurance (IA) approvals are in progress.
- End to End Integration and Multi-Service Operational Test (MOT&E):
  - Satellite Control and Legacy UHF SATCOM found "Suitable and Effective" at MOT&E-1 in 2012
  - Integration with Army HMS Man-pack and JENM has progressed well, and cooperation is excellent
  - E2E WCDMA performance continues to mature and is on track for MOT&E-2, scheduled for November 2015
- MUOS Waveform (WF) and Other Terminals:
  - The MUOS WF has been available in the repository since 2012 for terminal vendors development
  - MUOS ground labs have been utilized for terminal vendor testing and development since 2014
  - MUOS MILSTD has been published and terminal test and certification procedures are in development

MUOS Program Key Challenges:

- Satellites
  - All on-orbit observations must be cleared prior to the next launch, and there is little time. Contractor and Government teams are fully engaged. However, if issues cannot be exonerated satisfactorily, there may be a launch delay. We will not proceed to launch until ready and confident.
- End to End Integration
  - While End to End call performance is good, occasional new issues are still emerging as integration continues. Some small number of MUOS capabilities may not be mature enough for MOT&E. I will request deferment for those few functions not ready, and delta test may be required.
- Sustainment of MUOS
  - Integration with addition terminals, platforms, and applications is accelerating, while simultaneously waveform and ground including IA sustainment must be addressed. Tackling these challenges will require smart ways to meet requirements while carefully balancing funding realities.

Program Manager's Assessment of MUOS by categories:

- **Cost is GREEN**: Program cost estimate aligns with the 2012 APB. With Fixed Price Incentive Fee Award Fee contracts for satellites #3-5, schedule delays have not impacted overall program unit cost. Expect this area to remain GREEN.
- **Schedule is YELLOW**: Current on orbit observations resulted in liens to ship for MUOS 4, which has only two weeks schedule margin to its planned August 2015 launch and four weeks to Ready to Ship (RTS) milestone of June 30, 2015. Once the RTS milestone is met, assessment will be updated to GREEN.
- **System Performance is GREEN**: Legacy performance in use on MUOS-1, and MUOS-2 are meeting requirements. Day in the Life Testing (DITL) continues to show improving WCDMA performance, as have various demonstrations, including in the Arctic and Antarctic. Expect this area to remain GREEN.
- **Contract Performance is GREEN**: Options for production of satellites 3, 4, and 5 are exercised and fully funded. Contract incentives align with current contract schedules and satellite ship and on-orbit handover milestones. Contracts are in place for the remaining two production satellite RTS deliveries, launches, and on orbit testing. This assessment is expected to remain GREEN.
- **Funding is YELLOW**: Projected out year funding shortfalls with IA, sustainment, ground obsolescence, and replenishment satellite (MUOS-6). IA shortfalls pose a risk for an ATO, while obsolescence shortfalls may impact readiness. The replenishment satellite is required for end of life constellation availability. Shortfalls are addressed in the POM process and the

YELLOW rating will remain until funding is received. If funding is not received, impacts to the program will be reassessed each budget year.

- **Test and Evaluation is YELLOW**: MOT&E 2 was delayed, and integration of MUOS ground, waveform, and HMS terminal continues for TECHEVAL-2 and MOT&E 2, now scheduled in June and October 2015. While End to End call performance is good, occasional new issues are still emerging. Some small number of MUOS capabilities may not be mature enough for MOT&E. If deferment is needed, a delta test may be required. Once TECHEVAL-2 results are satisfactory, this rating may be updated to GREEN.
- **Sustainment is assessed GREEN**: Program is currently supporting sustainment activities, but additional funding will be required to remain GREEN. USD(AT&L) ADM dated January 20, 2014, established a new MUOS requirement to transition responsibility of waveform sustainment to the Navy by the end of FY 2015. The program is not fully funded to address the ADM or emerging IA issues. If additional funding is not received, this rating will likely be downgraded.
- **Interoperability/Information Security (IS) is assessed GREEN**: MUOS design has been validated to meet all tenets of Net-Centric compliance and has a JROC-approved CPD and ISP that represent compliance to the Ne-Ready KPP. MUOS has an Interim Authority to Operate (IATO); however, projected out year funding shortfalls pose a risk in receiving an Authority to Operate (ATO). MUOS is working with Fleet Cyber Command, OPNAV, and STRATCOM to address IA vulnerabilities via mitigation or seeking relief where appropriate. This rating will remain GREEN unless the risk of receiving an IATO or ATO increases.
- **Production is assessed GREEN**: Production of satellites and ground is complete with exception of two fixed priced satellites, which have both successfully completed satellite TVAC. However, if reach back is found from on orbit observations requiring significant rework, this assessment will be downgraded.
- **International Program Aspects is not assessed**: Not applicable at this time, as MUOS is not currently a formal International Program. Multiple Allies are interested in MUOS, and three courses of action are currently being staffed by Navy and OSD in conjunction with the National Security Agency to determine a way ahead.

This assessment is the work of CAPT Joseph Kan and has not been staffed, reviewed, or approved by any other individual.

Stryker Armored Vehicle

Double V Hull (DVH) Fleet: CONUS fielding of the 1st DVH BDE is now complete at Fort Carson. Fielding of the 2nd DVH BDE will begin in June at Fort Hood. The 3rd DVH BDE is in production at Anniston Army Depot (ANAD) via a cooperative Depot/GDLS exchange process. Through the exchange process, select FBH components are removed, refurbished, and then assembled onto a new DVH structure. Since inception, this process has continually saved approximately 30 percent off the cost of a new DVH. Monthly production remains on schedule, and overall program risk is low.

Engineering Change Proposal (ECP): Stryker ECP1 includes a 450 hp engine, 910a alternator, suspension upgrade, and in-vehicle network/smart display upgrade. The ECP1 program is currently in the prototype build and test phase. Based on a successful production decision scheduled for FY 2016, ECP1 will be integrated into 4th DVH BDE production on the Depot assembly line. ECP1 remains on schedule, while some details of government testing continue to evolve.

Network Capability Set (CS) Upgrades: Blue Force Tracker -2 (BFT-2) and Warfighter Information Network – Tactical (WIN-T) were successfully integrated into 2 Stryker Brigades in FY 2014 and 1 BDE ongoing in FY 2015. Current CS design activities include vehicle integration of HMS-MP, MNVR, Nett Warrior, VIC-5, D3, and MFoCS. Army Interoperability Certification (AIC) for CS upgrades is required for all Stryker configurations (25 combinations of variant type and mission role). The PM Office continues to work with the certifying agency, emphasizing base case testing and then testing of reasonable differences from the base case as configurations dictate.

Readiness: Stryker has transitioned from full Contractor Logistics Support (CLS) to its current state of soldiers requisitioning parts and performing scheduled and unscheduled maintenance. Readiness has been maintained during this transition. Recent FBH issues as referenced above are Sustainment Level repairs being accomplished at ANAD with depot labor and GDLS engineering support. The Army does not own the TDP but does have access to technical data for repair through GDLS.

Budget Execution: The Stryker program tracked with budget execution goals for FY 2014 and is also on track for FY 2015. Close coordination with the contractor and associated government agencies is required to ensure timely disbursements. A separate but related issue is that the demand for government cost estimating personnel continues to exceed supply.

Leadership: The PEO religiously stresses, and continually discusses: Better Buying Power, performance to plan, “what should it cost,” establishment of baselines, smart management by metrics, and strategic thinking.

This assessment is the work of David Dopp and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Theater High Altitude Area Defense

The Terminal High Altitude Area Defense (THAAD) is a mature DoD acquisition program with an average budget of $800 million per year, utilizing three major appropriations (Production, O&M and RDT&E). THAAD has a Foreign Military Service (FMS) Program with the United Arab Emirates (UAE) to deliver two THAAD Batteries with supporting equipment. My overall assessment of the current state of the THAAD Program is good but facing several challenges in the near term that must be mitigated in order to meet the Army's main priorities for THAAD. My assessment is based on these three aspects: (1) Current State of the Program; (2) Program Challenges; and (3) Mitigation Efforts.

Current State of the Program:

a. Development: I rate the THAAD development program as green. We are working with the Aviation and Missile Command (AMCOM), Army Test and Evaluation Command (ATEC), and other organizations in the materiel release community for approval of THAAD Configuration 2 (Config 2). We have a Conditional Materiel Release (CMR) with 39 liens that was approved in February 2012 for the THAAD Config 1 System. My current materiel release Get Well Plan projects THAAD Batteries 1 and 2 are Config 1 Systems that were built in 2007 and 2008, respectively, and have undergone several obsolescence changes/updates since that time. Batteries 3 through 7 are Config 2 Systems and require another materiel release. To meet Warfighter needs, we received approval for Urgent Materiel Release (UMR) for the first two Config 2 Batteries, Batteries 3 and 4, in December 2014. We are on track to receive materiel release approval for THAAD Config 2 in 2Q FY 2016. The remaining development efforts over the next few years will be software capability upgrades. These upgrades are on track to meet need dates.

b. Production: I rate the THAAD Interceptor production program as amber, due to a Mission Computer issue that caused me to stop the Mission Computer and Interceptor production line. During missile segment testing at the Interceptor Production Facility, the Mission Computer's Static Random Access Memory (SRAM) failed an Acceptance Test Procedure (ATP). This was a new device on the memory card. After a Failure Review Board (FRB) completed a lengthy analysis, a root cause was identified, and a suitable corrective action/solution will be implemented. I have resumed delivery of Mission Computers to the THAAD Interceptor production facility and project to resume interceptor deliveries in mid-May 2015. The halt of the Interceptor production line has caused a 7-month gap, resulting in delivering 35 less Interceptors in FY15. The recovery plan projects August 2017 to regain the 35 Interceptors that were not delivered in FY 2015.

c. Test Program: I rate the THAAD Test Program as green. Currently, THAAD is 11-for-11 in successful flight test intercepts dating from 2006 to present. I have two flight tests scheduled in 4Q FY 2015. One of those tests, FTT-18, will be a first-time flight test against an intermediate-range ballistic missile (IRBM).

d. Fielding and Logistics: I rate THAAD Fielding and Logistics Support to the Warfighter as green. The forward-deployed Battery's performance has been excellent. In fact, it has exceeded my expectations on performing in austere environments over an extended period of time.

e. FMS: In December 2011, UAE signed letter of Acceptance (LOA) for two THAAD Batteries and associated support equipment. We are on schedule to begin fielding and New Equipment Training (NET) of the first UAE THAAD Battery in April 2015 at Fort Bliss and White Sands Missile Range (WSMR). Follow-on fielding in-country will occur 1Q FY 2016.

Program Challenges: The biggest challenges facing the THAAD Program are meeting the Army's priorities for THAAD and continuous reduction in THAAD Interceptor quantities. In the October 2014 memorandum from Army G3 to the Director, Missile Defense Agency (MDA), it listed four main priorities for THAAD. The priorities are as follows: (1) full combat load of Interceptors for 7th Battery no later than FY 2020; (2) THAAD Extended Range (ER) Missile capability no later than 2025; (3) Battery 8 with radar, ground equipment, and combat load of Interceptors, and; (4) THAAD interoperable with Integrated Air and Missile Defense Battle Command System (IBCS). To date, requirements and funding for THAAD ER and THAAD- IBCS integration only remain topics of discussion that have not been added to THAAD Program Baseline/Program of Record. There are two reasons why these priorities are not part of the THAAD Program Baseline/Program of Record: (1) requirements are not clearly defined or have not been given to THAAD Program, and (2) necessary funding to execute these priorities does not exist. The second challenge is reduction of THAAD Interceptor quantities. Starting in 2011, THAAD Interceptor quantity has been reduced significantly due to budget cuts or higher DoD priorities. Initially, in 2011, THAAD's fiscal year procurements for Interceptors went from 72 to 48, to 36 to 30, and now PB 16 projects 18 in FY 2017-2018 and 17 Interceptors in FY 2019-2020. That does not meet the Army's priorities 1 and 3 listed above.

Mitigation Efforts: The current plan to integrate THAAD – IBCS is not clearly defined, understood, and very costly. MDA is working with the Fires Center of Excellence (FCOE) at Fort Sill, Oklahoma, Program Executive Office Missiles and Space (PEO M&S), and Lockheed Martin and Northrop Grumman to get clearly-defined requirements, objectives and agreed-to strategy/concept for THAAD – IBCS integration. MDA will propose a financially and technically-feasible solution to FCOE and PEO M&S on THAAD – IBCS integration. We believe this solution meets the main objective of hosting THAAD software displaying a common picture in the IBCS Engagement Operations Center (EOC). If the MDA solution is agreed upon,

we can begin development work in FY 2017 or earlier. The approach I am taking to help mitigate reduction in Interceptor quantities is to get lower-cost Interceptors through synergy/combined buys of fiscal year procurements and reducing unsubstantiated costs. In a sole-source environment, cost reduction is a simple but hard to implement concept and combining fiscal year buys has some risks, but is very much achievable. As quantities have decreased, the cost of interceptors has increased. From an economies of scale viewpoint, that all makes sense. However, the overhead rates unsubstantiated costs can be drastically reduced. A recent deep dive with THAAD Interceptor's top 5 sub-vendors yielded areas where cost could be reduced. For example, FY 2015 Interceptor procurement will be the THAAD Program's 7th buy. The efficiency, learning curves and reduced risk we should be seeing have not materialized in cost savings. From a cost standpoint, several of the sub-vendors risks and learning curves had not improved much from the 1st Lot contract award in December 2006 to the 7th Lot proposals we received in January 2015. I categorized that as fluff and not risks. Combining of fiscal year procurement allows me to receive the cost reduction and efficiencies of a larger quantity, while still executing contract award in the appropriate fiscal year. For example, FY 2015 and FY 2016 THAAD procurement quantities are 31 and 30 Interceptors, respectively. Awarding the FY 2015 contract late in 4Q FY 2015 and the FY 2016 contract in 1Q FY 2016 gives me the synergy on one large buy (61 Interceptors). The FY 2015 contract would have a downward adjustment clause allowing the contracting officer to get the same price for Lot 7 FY 2015 (31 quantities) that you received for Lot 8 in FY 2016 (30 quantities). In other words, your price for both lots would lower due to synergy and rate effects of a larger quantity. This will allow me to buy additional Interceptors. The risks are not receiving enough FY 2016 procurement funds in 1Q FY 2016 to award the Lot 8 contract within the synergy window because of another prolonged continuing resolution act (ACT). Awarding a contract after synergy window has closed would result in higher cost and procuring fewer interceptors. If enough funding is not received in 1Q FY 2016, I would award Lot 8 contract as a standalone and not procure additional interceptors, due to high cost and lost effects of combined buy synergy.

Other Topics of Interest: RMD on proposed THAAD Transfer to the Army. MDA received an RMD to fund an independent business case analysis (BCA) to explore transferring the THAAD Program to the Army. We are working with the Army on establishing a team to conduct the BCA. I think the transfer should be event-driven. Key events like completion of THAAD- IBCS integration and completion of THAAD ER are two events that come to mind. Other factors, such as who maintains configuration control responsibilities and maintaining BMDS Specification requirements, need to be clearly defined.

This assessment is the work of COL Anthony T. Brown and has not been staffed, reviewed, or approved by any other individual in draft or final form.

Thermal Weapon Sight (Army)

Purpose: Provide direct information to the Acquisition chain of command regarding the TWS Program.

Current State of the Program: GREEN. This program of record is accomplishing well in all areas of performance, cost, and schedule. Imperative to mission success is the PM's ability to speak directly and openly about all issues (good/bad) with his/her PEO and respective staff—this is a tremendous strength in PEO Soldier. On occasion, the TWS manufacturers encountered several quality/production issues, mainly due to the qualification of alternate suppliers and/or subs. This trend of managing a relatively fragile electronic component U.S. Industrial Base requires intense management for the TWS POR and all other PM Soldier Sensors and Lasers PORs. The final production deliveries of Thermal Weapon Sights (TWS) are on track to be delivered at the end of FY 2015, followed immediately by fielding and new equipment training which is, of course, already ongoing.

Facts:

1. **Description:** The TWS POR consists of a family of low-cost, man-portable, weapon-mountable, passive infrared imaging devices. Three variants were designed, developed, tested, and fielded to meet the Warfighter's respective range requirements: Light Weapon Thermal Sight (LWTS) for: M4/M16, M136; Medium Weapon Thermal Sight (MWTS) for: M240B, M249; and the Heavy Weapon Thermal Sight (HWTS) for: M4/M16, M2HB, MK19, M24, M107. This capability enables combat forces to detect, acquire, and engage targets with small arms, conduct surveillance, and provide precision engagements under day/night, obscured (smoke/fog/foliage), no-light (indoor/subterranean), and adverse weather conditions.

2. **Procurement Overview for three (3) variants:**
    a. TWS I (50 micron): 1995-2004, total quantity of 22,377: Hughes/Raytheon
    b. TWS II (25/28 micron): 2005-2011, total quantity of 187,646: BAE, DRS, Raytheon
    c. TWS III (17 micron): 2012-present, total quantity of 27,765. Note that 5,388 complete AAO procurement. The remaining 22,377 are replacing the older, unsustainable TWS I

3. **Average Unit Cost for TWS I / TWS II / TWS III:**
    a. LWTS $12,000 / $7,100 / $5,380
    b. MWTS $31,000 / $10,400 / $5,264
    c. HWTS $32,000 / $11,300 / $5,900

4. **Proponent, MDA, Authorization, AAO**: The Maneuver Center of Excellence is the Proponent, the AAE is the MDA (as per OSD memo dated March 25, 2011), the TWS ORD was approved April 14, 1998, and the AAO is 215,411.

   My thoughts for senior acquisition leaders:

   a. The TWS program represented the first Soldier-borne thermal imaging capability and was developed in collaboration with Industry, Night Vision Electronic Sensors Directorate (NVESD) and the Program Manager. This RDEC/PM synergy must continue. Recommend DAE/AAE continue to encourage the leveraging of PM/RDEC/S&T expertise for systems being developed and improved upon. Electro-optical, Night Vision, Thermal, and Communications expertise provided by CERDEC's NVESD is critical to this PMO's continued success.

   b. Continuous investments in technology-specifically 25 micron uncooled focal plane arrays (FPA)-improved performance in smaller, lighter, and less expensive systems that required less battery power (cost). The second generation (TWS II) contained uncooled technology and were 33 percent lighter, significantly less expensive, and required 60 percent less power. TWS and other PORs with highly technical and electronic chips/components must have agile acquisition procedures and long-term investment strategies in order to continue to develop the most advanced technologies at rapid paces.

   c. Continued technology developments to develop smaller FPAs (17 micron), enable production, and fielding of more capable systems that weigh less, cost less, use less power, and perform better. Potential DAE/AAE help: the PMO achieved unprecedented savings and/or avoidance ($219.3 million) on this program (BBP described below) and was able to return this money to the Army. While this was an incredible win for the Army, I recommend that the DAE/AAE consider developing methods, means, and procedures for PMs to retain a percentage of their BBP savings in order to convert those dollars to S&T dollars and/or RDTE dollars that could be used to rapidly develop technologies to immediately benefit Warfighters. This would incentivize both the Government and Industry while preventing costly (time and money) program new starts.

   d. Even before Better Buying Powers (BBP) was introduced, the TWS PMO exercised, and continues to exercise, BBP initiatives:

      i. Control Costs Throughout the Program Lifecycle: Transitions from TWS I to TWS II and now to TWS III consistently represent improved

performance, reduced SWaP, and reduced costs. Contracts have emphasized Fair Opportunity IDIQ to yield lower costs while maintaining superior performing systems.

ii. Incentivize Productivity and Innovation in Industry and Government: The TWS POR worked closely with S&T partners to develop technology solutions that could and would be applied to Soldier-borne applications. Once developed, the TWS POR leveraged MANTECH efforts to improve production processes and ensured large volumes could be produced.

iii. Promote Effective Competition: TWS procurements were Full and Open Competitive events with multiple vendors participating in Industry Days through RFP development and release. By competing multiple vendors throughout the life of the program, the PM has promoted effective competition and has controlled costs. Note: There are associated costs (test, program oversight, QA, etc.) required when managing several OEMs for a single product.

In closing: As the threat rapidly evolves and we face an extremely uncertain and dynamic security environment, our Soldiers must be outfitted with the latest and best equipment. The need (requirement) for the most advanced day/night/subterranean capabilities will only increase in the future. The Soldier Sensors and Lasers PMO continues to leverage the NVESD and PMO expertise in developing break-through technologies in electro-optical devices, night vision devices, and thermal devices to ensure all programs in the PMO portfolio leverage technologies developed for all 20 programs of record. The continued need for competition also increases the need for world-class quality assurance engineers in support of the PMO offices. The PMO will continue to seek, maintain, and train quality engineers to ensure these highly complex systems—potentially developed by several manufacturers—function in all operational environments. One key way to rapidly develop systems for Warfighters is to Eliminate Unproductive Processes and Bureaucracy—delegating MDA authority to PEOs certainly is one way to achieve efficiencies and savings. Recommend sustaining this initiative whenever possible.

Thanks for the opportunity to talk TWS. This assessment is the work of COL Michael E. Sloane, Project Manager Soldier Sensors and Lasers (PEO Soldier), and has not been staffed, reviewed or approved by any other individual in draft or final form.

Trident II (D-5) Sea-Launched Ballistic Missile UGM 133A

As Director, Strategic Systems Programs (DIRSSP) and Direct Reporting Program Manager (DRPM) for the TRIDENT II (D5) Strategic Weapons System, I would assess my program as technically sound, on schedule, but resource challenged.

My resource concerns stem from the continual generic adjustments that do not recognize or take into consideration my unique technology requirements: reentry materials, stellar inertial guidance, strategic propulsion and nuclear radiation hardness; TRIDENT II's cradle to grave life cycle responsibility; or the fact that I am required to maintain extremely high reliability, accuracy and safety requirements for the life of the program. As you are aware, strategic nuclear assets cannot be managed in the same manner as tactical assets. Yet, "the system" constantly attempts to budget and control them in the same manner. I attribute these actions to the constantly decaying experience of those who have directly dealt with nuclear assets in their careers.

I would like to highlight the technical successes our program has experienced recently. In June 2014 for life extension efforts, the USS WEST VIRGINIA (SSBN 736) successfully conducted her Demonstration and Shakedown Operation (DASO 25). We launched two missiles from the USS West Virginia. These missiles marked the third successful flight test of the D5 Life Extension (D5LE) guidance system, the second and third flight test of the D5LE Command Sequencer, and the first flight of the D5LE Flight Controls Electronics Assembly (FCEA) and Interlocks Suite. The LE Suite development and production was accelerated over a year in order to be flown on this flight test opportunity. We have now flown all three missile electronic packages and guidance set in various configurations. The acceleration of the LE suite to test on DASO 25 was critical to mitigating risk to the D5LE Initial Fleet Introduction in FY 2017, as opportunities to conduct flight tests have been complicated by delays in SSBN Extended Refit schedules. Our next DASO opportunity this year will flight-test all of the new life extension packages together for the first time. D5LE remains on schedule for initial fleet introduction in FY 2017.

From an operational perspective, TRIDENT II (D5) has achieved an unprecedented level of sustained operational readiness and reliability. In February 2015, we conducted FCET 51. This was a two missile flight test of operational assets that represented the 154th and 155th successful flight test out of 157 D5 missiles tested. One FCET 51 missile had the oldest 1st stage solid rocket motor flown to date, over 26 years old. That flight also had 2nd and 3rd stage rocket motors that were 22 years old. The other missile flown had a 1st stage rocket motor over 15 years old and had 2nd and 3rd stage rocket motors over 24 years old. In comparison to TRIDENT I (C4), we flight tested motors as old as 22 years and only deployed them to 27 years, partially due to age related performance concerns. As D5's design life was initially established at 25 years, we are carefully monitoring the effects of age on our strategic weapons system and continue to perform life extension and maintenance efforts to ensure reliability.

Every sub-system (launcher, navigation, fire control, missile, guidance and reentry) in the TRIDENT II system is either undergoing or has recently completed some form of life extension effort to ensure the long-term reliability and success of the program.

For shipboard systems, we are undertaking a phased approach to life extension utilizing commercial off the shelf (COTS) products known as Shipboard Systems Integration (SSI). In FY 2014, we completed the installation of the first phase of SSI (SSI Increment #1) in the U.S. and UK fleets, where we integrated the launcher subs-system electronics into the fire control sub-system. We are currently working on SSI increment #4 (navigation electronics) and SSI increment #8 (Inertial Navigation replacement for the ESGNs). These updates will strike the baseline to be utilized on the OHIO Replacement SSBN and are critical to meeting the schedules of both the U.S. OHIO Replacement and the UK Successor SSBN. As you are aware, my program represents 100 percent of the UK's strategic deterrent.

In addition to shipboard systems, we are extending the life of the W76 reentry system through a refurbishment program known as the W76-1. This program is being executed in partnership with the Department of Energy, National Nuclear Security Administration (NNSA). The W76-1 refurbishment maintains the military capability of the original W76 for an additional thirty years. We have exceeded the 50 percent point in production, and this program is stable.

Further, we have begun the design/development work to refurbish the aging electronics in the Mk5 W88 reentry system. We are collaborating with the Air Force to reduce costs through shared subsystems suitable for the W88/MK5 and the W87/MK21 reentry systems. The ALT 370 program is on cost and schedule, and the recent NWC decision to refurbish the CHE will keep the W88 a viable asset until approximately 2040. This effort will IOC in 2019.

We are constructing new facilities at both SWFLANT and SWFPAC to improve our security posture. In addition, we are constructing the Explosive Handling Wharf (EHW) #2 at Bangor to facilitate the added workload driven by SSBN shifts to the Pacific AOR and to support load outs of OHIO and OHIO Replacement SSBNs as we modernize the fleet. This effort remains on schedule, and we have significantly reduced the cost of this program over time.

I am the Program Manager and technical warrant authority for all Navy Nuclear Weapons Safety and Security, as well as recently being designated as the Navy's Nuclear Deterrent Mission Regulator. I have been DIRSSP for ~5 years and believe I will be in this billet for ~3 more years. I am the single Navy Flag Officer accountable for all nuclear weapons issues. I believe this consolidated mission responsibility-accountability-authority and billet longevity are key factors in the Navy's mission success.

Having said all that, I do not execute alone. The success of my program must be attributed in large part to our culture and our long-standing disciplines. Our success is also attributable to the continued long-term service of people (civilians and contractors) who have ensured program continuity, long-term program stability, technical expertise, and the retention of corporate

knowledge which are critical to the program's successes. I have sustained a unique arrangement with industry, which has supported the U.S. and UK deterrent over the Program's 60 years. I watch, with some concern, the over-standardization of government business and acquisition rules that may not apply to this program. If I need exceptions, I will bring them forward with my justification.

To continue to ensure the success of my program, I must be properly resourced. I am constantly battling for resources to offset the "loss of buying power" that is the direct result of the aerospace industry inflation rates being consistently higher than the standard DoD inflation rates. I continually take actions to address this gap, but I am consistently falling behind the curve.

I spent a significant amount of time this past year working with the Nuclear Deterrence Enterprise Review (NDER) teams, explaining why aerospace industry inflation rates run 3 percent to 4 percent higher than generic DoD inflation rates. I was fortunate enough to convince the CAPE and the NDER team to add a total of $85 million across the FYDP to my operational and engineering support (OES) effort. OES is the industrial engineering support that allows me, the Program Manager, to continue to certify and maintain the weapons system as safe, reliable, and accurate. Unfortunately, this additional funding did not even survive the first round of OSD reviews, as $54 million of the $85 million was reduced from the program baseline. The inflation adjustment was directed as a 0.3 percent adjustment, but after protected programs were exempted, the reduction resulted in a 1 percent program reduction to SSP. I am currently in the process of trying to secure inflation categories directly associated with the unique aerospace industry so that I will not be subjected to the generic inflation reductions in the future.

I could also use your help by influencing DCMA to use some fiscal constraint when certifying contractor rates. As I am bound in negotiations to fund to the approved rates established by DCMA, I have to fund the annual growth approved by DCMA. Some influence over DCMA to constrain rates in-line with the generic DoD inflation rates would create alignment between programs and resources and eliminate the loss of buying power that results when the Aerospace industry rates are continually higher than generic rates.

In summary, my life extension efforts are technically sound and delivering on schedule. However, I have increasing concerns in my long-term ability to sustain the reliability and accuracy of the TRIDENT Strategic Weapons System. Without assurance that I will have some protection from generic budget reductions that reduce my buying power and compromise my ability to continue to certify and maintain a nuclear capable strategic deterrent weapon system as safe and reliable, I will eventually reach a point where I will be unable to do so.

This assessment is the work of VADM Terry Benedict and has not been staffed, reviewed, or approved by any other individual.