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Report to Congress Defense Exportability Features Pilot Program December 2014

In accordance with the Section 243 of the Ike Skelton
National Defense Authorization Act for Fiscal Year 2011
(Public Law 111-383), as Amended

Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics



The estimated cost of this report/study for the Department of Defense is approximately \$5,950 in Fiscal Years 2014-2015. This includes \$0 in expenses and \$5,950 in DoD labor.

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(U) Background:

(U) Section 243 of the Ike Skelton National Defense Authorization Act for Fiscal Year (FY) 2011 (NDAA for FY 2011) (Public Law 111-383), as amended, provides that the Secretary of Defense shall “carry out a pilot program to develop and incorporate technology protection features in a designated system during the research and development phase of such system.” Section 243 defines “designated system” as any system that the Under Secretary of Defense (Acquisition, Technology, and Logistics) designates for inclusion in the pilot program. Section 243 was amended by Section 252 of the NDAA for FY 2012 (Public Law 112-81) to include a cost-sharing provision with the contractor. Section 243 was further amended by Section 264 of the NDAA for FY 2014 (Public Law 113-66) to extend the duration of the pilot program for five additional years, from October 1, 2015, to October 1, 2020. Sections 243, 252, and 264 are included in Appendices A, B, and C. Appendix D is a classified appendix with descriptions of each of the designated DEF pilot programs, the DEF assessment results, and projected assessments for FY 2015.

(U) Purpose:

(U) Consistent with Sections 243, 252, and 264, and in support of and in coordination with broader Technology Security and Foreign Disclosure (TSFD) process reform, the Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics) (OUSD(AT&L)) has implemented the Defense Exportability Features (DEF) pilot program. The DEF program is a top priority for OUSD (AT&L), as it is one of the Better Buying Power (BBP) 2.0 initiatives to control costs. The DEF pilot program will be continued under BBP 3.0. The DEF pilot program is also intended to prepare warfighting systems more effectively for non-U.S. use. During FY 2014, the program involved 15 major defense acquisition programs (MDAPs)¹ and one non-MDAP program that have anticipated significant export demand and whose technical aspects are amenable to DEF. These 16 programs were selected between FY 2012-2014 to be DEF pilot program “designated systems,” which made them candidates to conduct DEF assessments. See classified Appendix D for detailed descriptions of these DEF pilot program designated systems and the DEF work completed and planned. Table 1 below lists these 16 programs by Military Department:

¹ The statutory definition of an MDAP is found at 10 U.S.C. 2430(a). An MDAP is a DoD acquisition program that is not a highly sensitive classified program and is either designated by the USD (AT&L) as an MDAP, or estimated by the USD (AT&L) to require an eventual total expenditure for research, development, test, and evaluation of more than \$300 million in FY 1990 constant dollars, or more than \$1.8B in procurement in FY 1990 constant dollars.

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(U) Table 1 – OSD DEF Pilot Program Designated Systems

Military Department	DEF Pilot Program Designated Systems
Air Force	Three-Dimensional Expeditionary Long-Range Radar (3DELRR)
	Small Diameter Bomb II (SDB II)
	Joint Air-to-Surface Standoff Missile (JASSM)
	MQ-9 Reaper Unmanned Aircraft System (UAS)
Army	Army Integrated Air and Missile Defense (AIAMD)
	Common Infrared Countermeasures (CIRCM)
	Common Joint Proximity Height-of-Burst Fuzing (HOBF)
	Indirect Fires Protection Capability Increment 2 (Intercept) (IFPC Inc 2-I)
	Joint Air-to-Ground Missile (JAGM)
	Ground Combat Vehicle (GCV)
	Armed Aerial Scout (AAS)
Navy	MQ-4C Triton (formerly Broad Area Maritime Surveillance (BAMS))
	P-8A Poseidon
	Air and Missile Defense Radar (AMDR)
	Next Generation Jammer (NGJ)
	E-2D Advanced Hawkeye (AHE)

(U) Of these 16 DEF pilot program designated systems, two (MQ-4C and AIAMD) were at development stages where DEF assessments continued into FY 2014 with FY 2013 funding. In FY 2014, four additional designated systems (HOBF, P-8A, SDB II, and 3DELRR) also received funding to conduct initial or follow-on DEF assessments. It is anticipated that at least four of these six programs, along with several other designated systems, will request additional DEF funding in FY 2015 to conduct follow-on DEF design work.

(U) Each of the six designated systems mentioned above has conducted feasibility studies of potential exportability design features and anti-tamper measures in various phases of the acquisition process. These DEF feasibility studies identify areas of potential DEF investment that may reduce overall acquisition costs for both the Department of Defense (DoD) and partner/customer nations while maintaining (or even enhancing) program protection. Targeted DEF investments in systems with high foreign sales potential will increase the probability of establishing development partnerships or making early foreign sales, resulting in more competitive U.S. exports. The net effect of such investments may be lower U.S. DoD and foreign development, production, and sustainment costs through affordable exportability measures that lead to mid-to-long term economic order quantity benefits. Moreover, such investments will further strengthen U.S. political-military relationships with allied and partner nations, as well as improve interoperability among these nations.

(U) The OUSD (AT&L), other DoD exportability and program protection subject matter experts, prime contractors, and selected DEF pilot program management teams conducted multiple

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interim progress reviews (IPRs) to monitor progress on the DEF-funded efforts. Features being assessed included, but were not limited to, international market analysis, technology and engineering design activities such as capability differentials and program protection measures, cost and cost avoidance, and return on DEF investment. These assessments looked into the development of program protection strategies for the systems; the design and incorporation of exportability features; the implementation of contracts to assess exportability requirements; and research, development, test, and evaluation (RDT&E) activities.

(U) Early DEF feasibility study results indicate that there could be significant return on RDT&E investment from the DEF pilot program through reduced overall development costs of exportable system configurations, as well as economies of scale in production and sustainment from foreign sales. Increasing the sample size of MDAPs in the DEF pilot program is providing a greater opportunity to validate DEF concepts prior to the implementation of more broadly based defense exportability features in U.S. DoD acquisition policy. The NDAA for FY 2014 authorized an additional \$1.9 million to increase the number of DEF assessments. Additionally, Section 264 of the NDAA for FY 2014 extended the DEF program for an additional five years, until October 1, 2020, to enable the DoD to demonstrate further returns on investment achieved through the incorporation of exportability design features in both new and ongoing programs.

(U) The DoD's ultimate goal is to evolve the DEF pilot program concept into a fundamental aspect of defense acquisition, establishing policy, resources, and legal authorities to implement DEF design effectively and early in those DoD acquisition programs with a reasonable probability of future armaments cooperation, Foreign Military Sales, Direct Commercial Sales, or other U.S. Government exports or transfers. The anticipated benefits of early incorporation of DEF into system designs include: enhanced program protection; cost avoidance; increased availability for early foreign sales resulting in more competitive U.S. exports; and lower U.S. and partner/customer production and sustainment costs through economic order quantity benefits.

(U) Designing exportability and anti-tamper measures into a system from the start may reduce the time required for government review of future export requests. Incorporating exportability earlier in the design cycle for defense programs would allow prime contractors, critical to the Department, to begin marketing their systems to foreign governments earlier, and potentially deliver their variants sooner, rather than waiting until post-production to design the exportable variant. Earlier exportability designs may allow contractors to reduce their production costs by taking advantage of learning curve efficiencies associated with greater quantities, resulting in a more cost competitive product when compared to their international competitors.

(U) The DEF pilot program may play a key role in U.S. Government and DoD efforts to build partner capacity. Funds support building joint and coalition environments by enabling the export of DoD systems to a wider range of partner nations, resulting in improved security and interoperability. In addition to the operational benefits, by providing these resources up front, then collecting "fair share" non-recurring cost recoupments, the United States and partner

nations will potentially save significant resources thanks to the more efficient design and production of exportable U.S. systems.

(U) Candidate Selection Process

(U) The FY 2014 candidate selection process for DEF pilot program designated systems included consideration of the potential for export, as well as the feasibility of developing DEF, as an integral part of a program's early RDT&E phase. The OUSD (AT&L) reviewed pre-milestone² (MS) A, MS B, and MS C programs as potential DEF pilot program candidates according to the following criteria:

- Likelihood of foreign cooperation/sales;
- Programmatic/technical aspects of the proposed system's key attributes – including anti-tamper, capability differential, and other “trusted system” program protection aspects -- that may require exportability design and development efforts; and
- Program stability.

(U) The OSD selected the Army's Armored Multi-Purpose Vehicle (AMPV) as a DEF pilot program designated system for FY 2015. Work accomplished on FY 2014 DEF pilot program systems and work planned for FY 2015 are described in the classified Appendix D to this report. DEF pilot program designated systems currently projected to receive OSD DEF pilot program funding in FY 2015 DEF include:

- Height of Burst Fuzing (HOBf)
- Army Integrated Air and Missile Defense (AIAMD)
- Small Diameter Bomb (SDB II)
- Three-Dimensional Expeditionary Long-Range Radar (3DELRR)
- Joint Air-to-Ground Missile (JAGM)
- Armored Multi-Purpose Vehicle (AMPV)
- MQ-4C Triton

(U) FY 2014 Actions

(U) Over the course of FY 2014, OUSD (AT&L) undertook the following DEF pilot program activities:

² The point at which a recommendation is made and approval sought for starting or continuing an acquisition program, i.e., proceeding to the next phase. Milestones (MS) established by the new Interim DoD Instruction 5000.02 are: MS A that approves entry into the Technology Maturation and Risk Reduction (TMRR) phase (formerly known as Technology Development (TD) phase); MS B that approves entry into the Engineering and Manufacturing Development (EMD) phase; and MS C that approves entry into the Production and Development phase.

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- Conducted a review of all MDAPs for DEF pilot program applicability, resulting in the designation by OSD of one additional MDAP as a candidate to conduct DEF pilot program assessments (AMPV);
- Reviewed DEF pilot program designated systems' acquisition status to determine FY 2014 funding allocation; two of the candidates (HOBf and 3DELRR) that received funding in FY 2013 received additional funding in FY 2014. In addition to these two programs, two of the remaining candidates (P-8A and SDB II) received DEF pilot program funding for the first time in FY 2014; two other programs (MQ-4C and AIAMD) that received funding in FY 2013 continued their studies into FY 2014;
- Attended multiple DEF pilot program Interim Progress Reviews (IPRs) for each of the six ongoing DEF pilot program assessments to review progress towards their statements of work, provide OSD guidance, and provide stakeholders the opportunity to gain lessons learned and provide feedback to the program;
- Provided input into the Department of Defense Instruction (DoDI) 5000.02 revision process to incorporate DEF processes and procedures across the acquisition cycle;
- Provided an updated International Programs section for the Defense Acquisition Guidebook (DAG) (retitled the International Acquisition and Exportability section) that incorporated DEF and exportability guidelines;
- Developed and executed program manager and contractor engagement plans;
- Oversaw and tracked the spend plans and monthly expenditure reports for six ongoing DEF pilot program assessments;
- As provided in Section 243 (b) of the NDAA for FY 2011, coordinated with program managers and contractors to implement industry cost-sharing in the DEF program;
- Requested and received FY 2015 DEF pilot program candidate nominations from the Military Departments; and
- Conducted a review, in coordination with Military Departments, of DEF pilot program designated systems to identify candidates for FY 2015 DEF pilot program funding.

(U) Funding

(U) Funding requests for FY 2016 include \$3.282 million in RDT&E for the DEF pilot program. Table 2 below lists the AT&L DEF pilot program funding through FY 2020.

(U) Table 2 - DEF Program Element 0605022D8Z (\$ millions)

FY	2015	2016	2017	2018	2019	2020
Total Program Element	3.244	3.282	3.383	3.263	3.140	3.183

(U) FY 2015 Planned Actions

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(U) In FY 2015, the DEF pilot program focus will be on the execution of DEF feasibility studies for FY 2014 pilot program designated systems that have yet to receive DEF funding, and to execute the next design phases for those FY 2014 DEF pilot program designated systems ready to receive AT&L DEF pilot program funding. As with the FY 2014 programs, FY 2015 DEF pilot program feasibility and/or design assessments will define and/or develop the required actions for implementing DEF and will assess the potential costs of those actions. The OUSD (AT&L) will engage with program offices through the Military Departments, and serve as a liaison among the program offices, the Military Departments, and other Technology Security and Foreign Disclosure offices to facilitate these feasibility studies. For all systems (pre-MS A through MS C), the DEF feasibility studies or design and development assessments will be addressed in their Acquisition Strategies and the Program Protection Plans (PPP). For those systems where there is already a contract in place, the OUSD (AT&L) will work with program managers and contracting officers to implement the necessary contractual modifications to ensure that the feasibility studies or design development are executed. Depending on the maturity of each program and where it is in the acquisition life cycle, the feasibility studies or design development may be addressed in the Requests for Proposals (RFPs).

(U) The OUSD (AT&L) will continue to develop recommended procedures and guidance to be incorporated in the DAG, as well as procedures to cost share DEF pilot program implementation with industry and recoupment of these costs through foreign sales. The OUSD (AT&L) will also draft and publish an overarching DEF Policy Implementation Memorandum and Guidelines to provide further guidance to the Military Departments.

(U) Appendix A – Public Law 111-383, the Ike Skelton National Defense Authorization Act for Fiscal Year 2011.

SEC. 243. PILOT PROGRAM TO INCLUDE TECHNOLOGY PROTECTION FEATURES DURING RESEARCH AND DEVELOPMENT OF DEFENSE SYSTEMS.

(a) PILOT PROGRAM.—The Secretary of Defense shall carry out a pilot program to develop and incorporate technology protection features in a designated system during the research and development phase of such system.

(b) ANNUAL REPORTS.—Not later than December 31 of each year in which the Secretary carries out the pilot program established under this section, the Secretary shall submit to the congressional defense committees a report on the pilot program, including a list of each designated system included in the program.

(c) TERMINATION.—The pilot program established under this section shall terminate on October 1, 2015.

(d) DEFINITIONS.—In this section:

(1) The term “designated system” means any system (including a major system, as defined in section 2302(5) of title 10, United States Code) that the Under Secretary of Defense for Acquisition, Technology, and Logistics designates as being included in the pilot program established under this section.

(2) The term “technology protection features” means the technical modifications necessary to protect critical program information, including anti-tamper technologies and other systems engineering activities intended to prevent or delay exploitation of critical technologies in a designated system.

(U) Appendix B – Public Law 112-81, National Defense Authorization Act for Fiscal Year 2012.

SEC. 252. CONTRACTOR COST-SHARING IN PILOT PROGRAM TO INCLUDE TECHNOLOGY PROTECTION FEATURES DURING RESEARCH AND DEVELOPMENT OF CERTAIN DEFENSE SYSTEMS.

Section 243 of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011 (Public Law 111-383; 124 Stat. 4178; 10 U.S.C. 2358 note) is amended—

(1) by re-designating subsections (b), (c), and (d) as subsections (c), (d), and (e), respectively; and

(2) by inserting after subsection (a) the following new subsection (b):

“(b) COST-SHARING.—Any contract for the design or development of a system resulting from activities under subsection (a) for the purpose of enhancing or enabling the exportability of the system either—

(1) for the development of program protection strategies for the system;
or

(2) for the design and incorporation of exportability features into the system,

shall include a cost-sharing provision that requires the contractor to bear at least one-half of the cost of such activities.”

(U) Appendix C – Public Law 113-66, National Defense Authorization Act for Fiscal Year 2014.

SEC. 264. FIVE-YEAR EXTENSION OF PILOT PROGRAM TO INCLUDE TECHNOLOGY PROTECTION FEATURES DURING RESEARCH AND DEVELOPMENT OF CERTAIN DEFENSE SYSTEMS.

Section 243 of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011 (Public Law 111–383; 10 U.S.C. 2358 note) is amended—

- (1) by striking “October 1, 2015”; and
- (2) by inserting “October 1, 2020”.