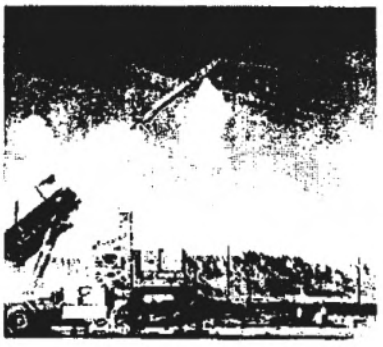
A-19 PATRIOT PAC-3

*** SECRET ***

SELECTED ACQUISITION REPORT (RCS: DD-A&T(Q&A)823-148)
PROGRAM: PATRIOT PAC-3

AS OF DATE: December 31, 2006

INDEX



1. (U) **Designation and Nomenclature (Popular Name):** Guided Missile System, Air Defense PATRIOT Advanced Capability - 3 (PAC-3) Program

2. (U) **DoD Component:** Army

   Joint Participants:
   Missile Defense Agency

3. (U) **Responsible Office and Telephone Number:**

Project Manager	COL John K. Vaughn
Lower Tier Project Office	Assigned: October 31, 2003
PO Box 1500	DSN 645-3240; COMM (256) 955-3240
Huntsville, AL 35807-3801	john.vaughn@msl.army.mil

4. (U) **Program Elements/Procurement Line Items:**

RDT&E:
(U) APPN 2040 BA 07 PE 0203801A (Army) (Shared) Project 036
(U) APPN 0400 BA 03 PE 0603216C (DoD) Project 2207, 2208
(U) APPN 0400 BA 05 PE 0604225C (DoD) Project 2207
(U) APPN 2040 BA 05 PE 0604865A (Army) Project 01C
(U) APPN 0400 BA 05 PE 0604865C (DoD) Project 2014, 2207, 2257
(U) APPN 0400 BA 05 PE 0604866C (DoD) Project 2257

PROCUREMENT:
(U) APPN 0300 BA 02 ICN 0208060C (DoD) (Sunk)
(U) APPN 0300 BA 01 ICN 0208865C (DoD) (Sunk)
(U) APPN 2032 BA 02 ICN C49200 (Army)

Classified by: [redacted] Security Classification Guide dated April 23, 2003
Downgrade instructions: Reclassified UNCLASS when separated from CLASS sections
Declassify On: April 23, 2028

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07-C-0615

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Production	Approved APB	Demon-strated	Current
(b)(1)				

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Production Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
		ground / ground clutter / clutter and ECM / and ECM		intense ground clutter
(b)(1)				

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Production Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(b)(1)				

(U) Acronyms:
ABT - Air Breathing Threat
AGL - Above Ground Level
AMD - Air and Missile Defense
ASCIET - All Services Combat Identification and Evaluation Team
Bn - Battalion
ECM - Electronic Countermeasure
EMP - Electromagnetic Pulse
HWIL - Hardware In The Loop
JCIET - Joint Combat Identification and Evaluation Team
km - kilometer
kv/m - kilovolts/meter
MSL - Mean Sea Level
TADIL-J - Tactical Data Link-Joint
TBM - Tactical Ballistic Missile

(b)(1)

(U) All performance parameters are PAC-3 system parameters.

(b)(1)

10a. (S) Performance Characteristics (Cont'd):

(b)(1)

(U) System Effectiveness = P(DET) x [1-(1-P(SSK))^n], where n=number of shots, and SSK=Single Shot Kill.

(U) Missile Reliability is based on the Reliability Growth Curve. This is a technical parameter which supports the key JROC validated characteristics.

(U) The Fire Unit Mean Time Between Failure parameter supports the key JROC validated characteristics.

b. Current Change Explanations -- None

N-8 CVN 68

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-161)
PROGRAM: CVN 68 Class

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: CVN-68 Class/Carrier Replacement Program (Nuclear Aircraft Carriers)

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

Program Executive Officer
Aircraft Carriers
614 Sicard Street SE Stop 7007
Washington, DC 20376-7007

CAPT Thomas Moore
Assigned: June 5, 2003
DSN 326-0470; COMM (202) 781-0470
thomas.j.moore5@navy.mil

[redacted]

Derived from: ERDA-DOD Classification Guide CG-RN-1 Dated 1 Jan 1977
Downgrade instructions: Not Subject to Automatic Downgrade)
Declassify On: Originating Agency Determination Required (OADR)

(THIS PAGE IS UNCLASSIFIED)

*** [redacted] ***

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold		Demonstrated Perf	Current Estimate
Length Overall	1092	1092	/ 1092	1092	1092
Beam	134	134	/ 134	134	134
Maximum Width	252	252	/ 252	252	252
Draft (Combat Load) (ft)	40.4	39.0	/ 40.4	40.4	40.4
Displacement (tons)	(b)(1)				
Propulsion					
Shaft Horsepower					
Trial Speed (kts)					
Endurance (at 20 kts) Store (days)					
Close in Weapons Systems	4	4	/ 4	4	4
NATO Sea Sparrow Missile Systems	3	3	/ 3	3	3
Aviation Strike Ordnance (Long Tons)	2451	2400	/ 2400	2451	2451
Average Fuel (gals)	(b)(1)				
Operational Number of Aircraft (Deck Multiple in A4 Equivalents)	151	151	/ 151	151	151
Core Life (yrs)	15	N/A	/ N/A	TBD	20
Number of Reactors	2	N/A	/ N/A	2	2
Crew (Including Air Wing)	6048	N/A	/ N/A	6040	6048

(U) Acronyms:

A4	A-4, Skyhawk attack aircraft
CVN	nuclear aircraft carrier
ft	feet
gals	gallons
K	thousands
kts	knots
NATO	North Atlantic Treaty Organization
yrs	years

10b. (U) **Performance Characteristics (Cont'd)**:

b. Current Change Explanations -- None

N-35 TRIDENT II MSL

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-178)
PROGRAM: TRIDENT II MISSILE

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: Sea Launched Ballistic Missile-UGM 133A TRIDENT II (D-5) Missile

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

STRATEGIC SYSTEMS PROGRAMS	RADM STEPHEN JOHNSON
NATIONAL CENTER 2	Assigned: May 10, 2006
2521 S. CLARK STREET, SUITE 1000	DSN 329-9000; COMM (703) 601-9000
ARLINGTON, VA 22202-3930	SPCO@SSP.NAVY.MIL

No Security Objection to Open Publication (AS AMENDED)
07-C-0107
MAR 21 2007
Office of the Chief of Naval Operations Dept. of the Navy

Derived from: [redacted] 5513.5A - (27)
Downgrade instructions:
Declassify on: X2

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*** [redacted] ***

07-C-0646

10. (U) **Performance Characteristics**:

a. Performance --

	SAR Production	Approved APB	Demon-strated	Current Estimate
[redacted] Max Range Full Payload (nm)	(b)(1)			
[redacted] System Circular Error Probable (CEP) (ft)				(Ch-1)
[redacted] System Reliability				
[redacted] Max Payload - Yield				

(U) Acronyms:
KT = kiloton
nm = nautical mile

b. Current Change Explanations --
[redacted] (Ch-1) System Circular Error Probable (CEP) changed from (b)(1) based on current TRIDENT submarine launch data and other representative data sources.

11. (U) **Total Program Cost and Quantity (Dollars in Millions):**

	SAR Production Estimate	Approved APB Obj/Threshold	Current Estimate
a. (U) Cost --			
Development (RDT&E)	8434.9	8414.8/9256.3	8525.3
Procurement	17588.5	17155.2/18870.7	17303.9
Total Flyaway	14471.2		13383.2
Other weapon systems	(3082.9)		(3896.7)
Peculiar Support	(0.0)		(0.0)
Initial Spares	(34.4)		(23.6)
Total Support	3117.3		3920.3
Construction (MILCON)	532.9	373.7/411.1	596.7
Acquisition O&M	0.0	0.0/0.0	0.0
Total FY 1983 Base-Year $	26556.3	25943.7/ N/A	26425.5
Escalation	8962.2	11600.2	12477.0
Development (RDT&E)	(1018.3)	(996.5)	(1052.3)
Procurement	(7808.4)	(10528.5)	(11119.6)
Construction (MILCON)	(135.5)	(75.2)	(305.1)
Acquisition O&M	(0.0)	(0.0)	(0.0)
Total Then-Year $	35518.5	37543.9	38902.9
b. (U) Quantity --			
Development (RDT&E)	30	28	28
Procurement	815	540	533
Total	845	568	561

(U) At Milestone II of October 1983 a Low Rate Initial Production (LRIP) quantity of 21 was approved for the TRIDENT Missile Program. This quantity was executed in FY 1987.

c. Foreign Military Sales -- None

(b)(1) [redacted] (Then-Year $).

A-1 ARH

*** SECRET ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-179)
PROGRAM: ARH-70A

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name):** Armed Reconnaissance Helicopter (ARH)

2. (U) **DoD Component:** Army

3. (U) **Responsible Office and Telephone Number:**

SFAE-AV-ARH
Room 126, Bldg 5681
Wood Road
Redstone Arsenal, AL 35898-5000

LTC Carl Higgs
Assigned: June 1, 2006
DSN 897-4460; COMM 256-313-4460
Carl.Higgs@us.army.mil

Classified by: ARH Security Classification Guide
Downgrade instructions: cannot be downgraded per ARH Security Classification Guide
Declassify on: 23 August 2029

*** SECRET ***

07-C-0613

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Net Ready Interfaces, services, policy-enforcement controls, information exchange correctness, availability and processing requirements in the Joint Integrated architecture	100%	100% / Enterprise / level or / critical	TBD	100%
Deployability: No. of aircraft in C-130, fightable within 15 min per aircraft upon arrival	Three	Three / Two	TBD	Two
Aircraft Performance			TBD	
HOGE	6K/95°F	6K/95°F / 4K/95°F	TBD	4K/95°F
Range	424 km	424 km / 212 km	TBD	343 km (Ch-1)
Endurance	3.0 hrs	3.0 hrs / 2.2 hrs	TBD	2.26 hrs (Ch-1)
Mission Reliability	90%	90% / 70%	TBD	76.7%

(b)(1)

[redacted]

AS AMENDED

TBD - To Be Determined
No. - Number
HOGE - Hover Out of Ground Effect
km - kilometers
m - meters
IR - Infra-Red

b. Current Change Explanations --
(U) (Ch-1) - Revised estimates based on updated weight and engine performance projections.

N-10 DDG 51

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-180)

PROGRAM: DDG 51 Destroyer

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: DDG 51 Destroyer

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

PEO SHIPS
1333 ISAAC HULL AVENUE SE
WASHINGTON, DC 20376-2301

CAPT J.D. INGRAM, USN
Assigned: August 25, 2004
DSN 336 2177; COMM (202) 781 2177
john.d.ingram@navy.mil

Derived from: [redacted]
Downgrade instruction: [redacted] SECNAVINST S5513.3B(3C)
Declassify On: X4

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*** [redacted] ***

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
SHIP:				
Length (ft)	466	N/A / N/A	471	471
Beam (ft)	59	N/A / N/A	59	59
Navigational Draft (ft)	30.6	N/A / N/A	31.7	31.7
Displacement (long tons)	8300	N/A / N/A	9300	9300
Propulsion HM (Gas Turbine)	2500	N/A / N/A	2500	2500
Accommodations	341	N/A / N/A	380	380
MOBILITY:				
Speed (knots)	(b)(1)			
Endurance (@ 20 Knots) (nm)				
ANTI-AIR WARFARE:				
CONDUCT SUCCESSFUL AAW ENGAGEMENT:				
Probability of Successful Engagement-ESSM	N/A	TBD	(b)(1)	
ANTI-SURFACE WARFARE:				
CONDUCT SUCCESSFUL ASUW ENGAGEMENT:				
Probability of Successful Engagement HELO	N/A		(b)(1)	
NAVAL SURFACE FIRE SUPPORT				
Probability of Successful Engagement HELO	N/A			
ANTI-SUBMARINE WARFARE:				
CONDUCT SUCCESSFUL ASW ENGAGEMENT:				
Figure of Merit:				
Probability of Achieving Attack Criteria	N/A			
Number VLS Missiles	N/A			
MINE WARFARE:				
Detection Range of Moored/Floating Mine (YDS)	N/A			
SIGNATURE:				

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Production Estimate	Approved APB		Demonstrated	Current
Radar Cross section (dbsm)	N/A	(b)(1)			
SURVIVABILITY/ VULNERABILITY:					
Nuclear					
Airblast Overpressure (psi)	N/A				
Armament					
Anti-Submarine Warfare					
ASW System	AN/SQQ-89	N/A	/ N/A	AN/SQQ-89(V)10	AN/SQQ-89(V)10
ASROC	VLA	N/A	/ N/A	VLA	VLA
Helo	SEAHAWK; LAMPS	2 EMBARKED/ HELOS	/ 2 EMBARKED / HELOS	2 EMBARKED HELOS	2 EMBARKED HELOS
Anti-Air Warfare					
Launchers	MK 41 VLS	N/A	/ N/A	MK 41 VLS	MK 41 VLS
Missiles	SM-2 MR	N/A	/ N/A	SM-2 MR	SM-2 MR
Missile Fire Control System	3 MK 99	N/A	/ N/A	3 MK 99	3 MK 99
Guns	2 PHALANX	N/A	/ N/A	2 PHALANX	2 PHALANX/ ESSM
Anti-Surface/Strike Warfare					
Guns	1 5"/54	N/A	/ N/A	1 5"54	1 5"54
Gunfire Control System	MK 160	N/A	/ N/A	MK 160	MK 160
Anti-Ship Cruise Missile	HARPOON	N/A	/ N/A	N/A	N/A
Cruise Missile	TOMAHAWK	N/A	/ N/A	TOMAHAWK	TOMAHAWK
Electronic Warfare	SLQ-32 SRBOC	N/A	/ N/A	SLQ-32 (V)3, SRBOC, COMBAT DF	SLQ-32 (V)3, SRBOC, Combat DF
Radars					
Surface	SPS-67	N/A	/ N/A	SPS-67	SPS-67
3D	SPY-1D	N/A	/ N/A	SPY-1D	SPY-1D

(U) Acronyms:
AAW = Anti-Air Warfare
ASROC = Anti-Submarine Rocket
ASUW = Anti-Surface Warfare

10a. (U) **Performance Characteristics (Cont'd)**:

ASW = Anti Submarine Warfare
dbsm = decibels per square inch
ESSM = Evolved Sea Sparrow Missile
nm = nautical mile
psi = pounds per square inch
VLS = Vertical Launching System
VLA = Vertical Launching ASROC (Anti-Submarine Rocket)
SM2 = Standard Missile 2
HELO = Helicopter

[redacted]*/ General Note: Approved Program, Demonstrated Performance, and Current Estimate are for the Flight IIA configuration.
Production Estimates are for the Flight I configuration.
Demonstrated Performance characteristics reflect testing through the TEMP 801-CT-IIIH report dated July 20, 2006.
(U) 1/ Probability of Kill, Single Shot (PKSS)
[redacted] 2/ (b)(1)
(b)(1)
(U) 3/ JBSM reduction from conventionally constructed ships of similar displacement, e.g. CG 47 Class ship.
(U) 4/ For structure and developmental systems.

b. Current Change Explanations -- None

AF-2 AMRAAM

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-185)
PROGRAM: AMRAAM (AIM-120)

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name):** AIM-120 Advanced Medium Range Air-to-Air Missile (AMRAAM)

2. (U) **DoD Component:** USAF

   Joint Participants:
   Navy

3. (U) **Responsible Office and Telephone Number:**

328 Armament Systems Group
328 ARSG/CC
Eglin AFB, FL 32542-6844

COL SCOTT L. RUMPH
Assigned: August 4, 2005
DSN 875-0343; COMM (850) 883-0343
scott.rumph@eglin.af.mil

(U) Navy Program Director
328 Armament Systems Wing
328 ARSG/CD
Eglin AFB, FL 32542-6844

GS-15 PASQUALE D. GAMBATESE
Assigned: January 26, 2003
DSN 872-2412, COMM(850)882-2412
pasquale.gambatese@eglin.af.mil

[redacted]
Classified by: AMRAAM SECURITY CLASSIFICATION GUIDE, 21 Dec 05
Downgrade instructions:
Declassify on: 31 Dec 2030

*** [redacted] ***

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold		Demonstrated Perf	Current Estimate	
Weight (lbs)	327	327	/ 350	344	345	
Reliability						
Ready Storage (hrs) (mature msl - 90K operational flight hours)	60000	60000	/ 45000	N/A	45000	
Availability (%)	86	86	/ 82	N/A	85.8	(Ch-1)
Captive-Carry (MTBM-Type I) (hrs)	600	600	/ 450	1126	1173	(Ch-2)
(b)(1) [redacted]						
Aircraft Configure/ Load - 3 Man Load Crew						
Install 4 Rail Launchers (mins)	20	20	/ 25	21	21	
Load 4 Missiles from trailer (mins)	15	15	/ 20	18	18	
Load 4 Missiles from container (mins)	20	20	/ 30	22	22	
Missile checks (mins)	1	1	/ 5	1	1	
All Weather Capability	Day, Night, Rain,	Day, Night, Rain,	/ Day, / Night, / Rain,	Day, Night, Rain,	Day, Night, Rain,	
(b)(1) [redacted]						
Aircraft Compatibility	F-15, F-16, F-14, F/A-18 .	F-15, F-16, F-14, F/A-18	/ F-15, / F-16, / F-14, / F/A-18	F-15, F-16, F/A-18	F-15, F-16, F/A-18 F-22	

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Production Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
All-Up Round	Control Surfaces field in-	Control / Control Surfaces/ Surfaces field / field in- / in-	Control Surfaces field in-	Control Surfaces field in-

(b)(1)

[redacted]

(U) Acronyms:
A-Pole - The distance between the shooter and the target when the missile goes active.
ECCM - Electronic Counter Counter Measure
ECM - Electronic Counter Measure
F-Pole - The distance between the shooter and the target when the missile intercepts the target.
Mins - Minutes
Msl - Missile

10a. (U) **Performance Characteristics (Cont'd)**:

MTBM - Mean Time Between Maintenance
NM - Nautical Mile
Pk - Probability of Kill

b. Current Change Explanations --
(U) (Ch-1) Potential safety of flight concerns with Aerojet rocket motors resulted in J-coding (suspended from use) 832 missiles. As a result, availability fell below Air Combat Command (ACC) standard of 90%. The AIM-120A availability changed from 87.2% to 95.5%, the AIM-120B availability changed from 69.4% to 59.4%, and the AIM-120C availability changed from 91.5% to 89.4%. Overall, the AIM-120 availability changed from 87.2% to 85.8%. A service life limiting aging factor has been identified with Aerojet rocket motors (RMs) resulting in a 11 year service life limitation. The System Program Manager (SPM), ACC, and Air Logistics Center (ALC) have concurred with a plan to permanently remove from inventory all AIM-120A missiles with Aerojet RMs. AIM-120B/C missiles will be re-motored with ATK/Alliant RMs. Theses motors will be acquired through cannibalization of serviceable AIM-120As with ATK/Alliant RMs by September 30, 2007. As a result of this contract, availability will increase to over 91% by the end of the contract period.

(Ch-2) The Field Captive Carry Mean Time Between Maintenance (MTBM) is changed from an estimate of 1,166 hours to 1,173 hours cumulative actuals to date for the USAF which are: From 1,190 to 1,285 hours for the AIM-120A, from 974 to 980 hours for the AIM-120B, from 1,279 to 1,285 hours for the AIM-120C missile. Field Captive Carry MTBM actuals for the USN are: 732 hours for the AIM-120A, from 452 to 453 hours for the AIM-120B, and from 1025 to 1088 hours for the AIM-120C missile. The Joint Service Operational Requirements (JSOR) for the missile is 450 hours.

11. (U) Total Program Cost and Quantity (Dollars in Millions):

	SAR Production Estimate	Approved APB Obj/Threshold	Current Estimate
a. (U) Cost --			
Development (RDT&E)	1725.7	2097.2/2411.8	2357.5
Procurement	10552.5	10205.7/10716.0	10687.6
Flyaway	(10038.5)		(8006.4)
Non Recurring			(2126.0)
Total Flyaway	10038.5		10132.4
Other Weapon Cost	(0.0)		(0.0)
Peculiar Support	(378.0)		(465.6)
Initial Spares	(136.0)		(89.6)
Total Support	514.0		555.2
Construction (MILCON)	0.0	0.0/0.0	0.0
Acquisition O&M	0.0	0.0/0.0	0.0
Total FY 1992 Base-Year $	12278.2	12302.9/ N/A	13045.1
Escalation	834.2	1025.0	1746.8
Development (RDT&E)	(-375.1)	(-275.7)	(-209.3)
Procurement	(1209.3)	(1300.7)	(1956.1)
Construction (MILCON)	(0.0)	(0.0)	(0.0)
Acquisition O&M	(0.0)	(0.0)	(0.0)
Total Then-Year $	13112.4	13327.9	14791.9
b. (U) Quantity --			
Development (RDT&E)	0	0	0
Procurement	15450	13038	14209
Total	15450	13038	14209

(U) The Advanced Medium Range Air-to-Air Missile (AMRAAM) received a favorable Low Rate Initial Production (LRIP) decision during the Milestone IIIA review by the Defense Acquisition Board (DAB) in June 1987. The original plan was to procure 810 LRIP missiles or 3.3% of the total planned quantity of 24,320. However, LRIP was extended from FY87 through FY92 with a quantity of 4,159 missiles (27% of the Production Estimate total quantity). This resulted from two actions: (1) the planned total procurement decreased from 24,320 missile at Milestone IIIA to 15,450 missiles at Milestone IIIB, and (2) Milestone IIIB authorized the program to continue LRIP through FY92, adding 3,349 missiles to the LRIP quantities.

(b)(1) [redacted]

(U) BAHRAIN (BA-D-YBI) Case signed November 13, 1999
$25.8M PURPOSE: 26 AMRAAMs (Lot 14), support, and integration.

(U) BELGIUM (BE-D-YCD) Case signed December 22, 1995
$31.1M PURPOSE: 72 AMRAAMs (Lot 11), and spares.

(b)(1) [redacted]

(U) CANADA (CN-D-YAE) Case signed July 10, 2003
$60.0M PURPOSE: 69 AMRAAMs (Lot 17), 38 AMRAAMs (Lot 14) and support.

(U) CZECH REPUBLIC (EZ-D-YAB) Case signed April 06, 2005
$15.5M PURPOSE: 24 AMRAAMs (Lot 19) and associated support.

(U) CHILE (CI-D-SGB) Case signed February 28, 2005
$5.6M PURPOSE: 8 AMRAAMs (Lot 14) and support.

(U) DENMARK (DE-D-QBB) Case signed October 22, 2003
$2.0M PURPOSE: AMRAAM support and software updates.

(U) DENMARK (DE-D-QBJ) Case signed August 10, 2004
$1.0M PURPOSE: AMRAAM software upgrade.

(U) DENMARK (DE-D-QBN) Case signed December 12, 2004
$2.2M PURPOSE: 2006 software Upgrade (SWUP).

(U) FINLAND (FI-D-YAA) Missile procurement is FMS administered direct commercial sale. Case signed November 4, 1994
$106.3M PURPOSE: 312 AMRAAMs (Lots 10, 11, 12, and 13), and software updates.

(U) FINLAND (FI-D-QAB) Case signed February 21, 2006
$6.5M PURPOSE: Software and Follow-on Support.

(U) GERMANY (GY-D-QAP) Case signed November 12, 2001
$1.3M PURPOSE: AMRAAM Software Upgrade Program of AIM-120B.

(U) GERMANY (GY-D-QWV) Case signed January 03, 2003
$4.9M PURPOSE: AMRAAM Test Firing.

(U) GREECE (GR-D-SBD) Case signed September 26, 1996
$107.2 PURPOSE: 240 AMRAAMs (Lots 11, 12, and 17).

(U) GREECE (GR-D-YDT) Case signed December 05, 2001
$37.3M PURPOSE: 100 AMRAAMs (Lot 15), and support.

(U) HUNGARY (HU-D-YDT) Case signed February 17, 2005
$24.5M PURPOSE: 40 AMRAAMs (Lot 19, support, and testing.

(U) ITALY (IT-D-YAC) Case signed December 01, 1997
$110.3M PURPOSE: 233 AMRAAMs (Lots 12, 13, and 16), support, and software updates.

(b)(1) [redacted]

(b)(1) [redacted]

software updates.

(U) ISREAL (IS-D-YES) Case signed July 01, 2001
$25.3M PURPOSE: 48 AMRAAMs (Lot 15), support, and integration testing.

(U) JAPAN (JA-D-YCL) Case signed March 21, 2001
$9.3M PURPOSE: 21 AMRAAMs (Lot 15), support, and software updates.

(U) JAPAN (JA-D-YYZ) Case signed January 30, 2002
$10.7M PURPOSE: 21 AMRAAMs (Lot 16), and support.

(U) JAPAN (JA-D-YZA) Case signed March 20, 2003
$8.7M PURPOSE: 16 AMRAAMs (Lot 17), and support.

(U) JORDAN (JO-D-YJD) Case signed April 15, 2005
$13.0M PURPOSE: 15 AMRAAMs (Lot 19), and support.

(U) KOREA (KS-D-YGY) Case signed December 27, 1999
$66.0M PURPOSE: 159 AMRAAMs (Lot 14), support, and software updates.

(U) KOREA (KS-D-SIR) Case signed June 12, 2002
$80.8M PURPOSE: 157 AMRAAMs (Lot 16), spares, and support.

(U) MALAYSIA (MF-D-YBD) Case signed May 26, 2005
$14.6M PURPOSE: 20 AMRAAMs (Lot 20) and support.

(U) NATO EF-2000 and Tornado Development, Production, and Logistics Management Agency (NETMA) (M1-D-YAA) Case signed November 05, 1991
$11.9M PURPOSE: 8 AMRAAMs (Lots 7, and 17).

(U) NETHERLANDS (NE-D-QCL) Case signed March 18, 2005
$4.3M PURPOSE: AMRAAM 2002 Software Upgrade and AMRAAM 2006 Software Upgrade.

(U) NORWAY (NO-D-QBI) Case signed December 20, 2000
$1.3M PURPOSE: AMRAAM support.

(U) NORWAY (NO-D-YDA) Case signed April 01, 1996
$100.3M PURPOSE: 250 AMRAAMs (Lot 11), 228 MRLs, (Lot 11), and software updates.

(U) OMAN (MU-D-YEI) Case signed May 02, 2002
$27.7M PURPOSE: 50 AMRAAMs (Lot 16), spares, and support.

(U) PAKISTAN (PK-D-YAD) Case signed September 30, 2006
$351.2M PURPOSE: 500 AMRAAMs (Lot 19), and support.

(U) POLAND (PL-D-SAC) Case signed April 18, 2003
$21.1M PURPOSE: 50 AMRAAMs (Lot 17), and support.

(b)(1) [redacted]

(U) PORTUGAL (PT-D-YAP) Case signed June 27, 2002
$8.7M PURPOSE: 12 AMRAAMs (Lot 16), spares, and support.

(U) SAUDI ARABIA (SR-D-YPY) Case signed March 10, 2002
$84.1M PURPOSE: 160 AMRAAMs (Lot 16), spares, and support.

(U) SAUDI ARABIA (SR-YQA) Case signed April 5, 2006
$27.0M PURPOSE: 42 AMRAAMs (Lot 19), spares, and support.

(U) SINGAPORE (SN-D-YAD) Case signed March 27, 2001
$59.2M PURPOSE: 100 AMRAAMs (Lot 15), and support.

(U) SINAPORE (SN-D-SAA) Case signed February 24, 2006
$47.0M PURPOSE: 72 AMRAAMs (Lot 19), spares, and support.

(U) SPAIN (SP-D-YAF) Case signed March 05, 1999
$43.6M PURPOSE: 100 AMRAAMs (Lot 13), and support.

(U) SPAIN (SP-D-YDI) Case signed September 30, 2002
$16.7M PURPOSE: 37 AMRAAMs (Lot 16 and Lot 17), program management support, and logistics support.

(U) SWEDEN (SW-D-YCD) Missile procurement is FMS administered direct commercial sale. Case signed September 01, 1994
$44.2M PURPOSE: 110 AMRAAMs (Lots 10, and 12), and support.

(U) SWEDEN (SW-D-YCE) Case signed December 27, 2003
$3.3M PURPOSE: 2 AMRAAMs (Lot 17), and support.

(U) SWITZERLAND (SZ-D-NAV) Case signed October 16, 2000
$2.1M PURPOSE: Software updates.

(U) SWITZERLAND (SZ-D-QAF) Case signed September 05, 2005
$2.9M PURPOSE: Purchase of 5 NDI-AIU Field Kits for the AIM-120B AMRAAM and services in support of AIM-120B AMRAAMs.

(U) TAIWAN (TW-D-SKA) Case signed December 13, 2000
$68.8M PURPOSE: 120 AMRAAMs (Lot 15), support, and software updates.

(U) THAILAND (TH-D-YJK) case signed June 28, 2001
$2.5M PURPOSE: 4 AMRAAMs (Lot 15).

(U) THAILAND (TH-D-YJL) Case signed July 13, 2001
$3.6M PURPOSE: 4 AMRAAMs (Lot 15), and support.

(U) TURKEY (TK-D-YDV) Case signed November 24 1997
$51.0M PURPOSE: 138 AMRAAMs (Lot 12), support, and software updates.

(U) TURKEY (TK-D-MNR) Case signed September 11, 2002

*** [redacted] ***

(b)(1)

[redacted]

$1.0M PURPOSE: Repair/Return in support of AIM-120 AMRAAM.

(U) TURKEY (TK-D-GQP) Case signed December 25 2003
$0.3M PURPOSE: Manning and tracking the AMRAAM support system.

(U) TURKEY (TK-D-QOJ) Case signed December 08, 2004
$4.6M: PURPOSE: 2006 Software Upgrade (SWUP).

(U) UNITED ARAB EMIRATS (AE-D-SAA) Case signed August 08, 2000
$4.5M PURPOSE: 2 AMRAAMs (Lot 14), support, software updates, and integration.

(U) UNITED ARAB EMIRATES (AE-D-YAB) Case signed August 20, 2002
$52.0M PURPOSE: 100 AMRAAMs (Lot 16), support equipment, and software.

(U) UNITED KINGDOM (UK-D-QBV) Case signed May 31, 2002
$13.1M PURPOSE: Integration and testing of AMRAAM.

(U) UNITED KINGDOM (UK-D-QBW) Case signed May 31, 2002
$0.6M PURPOSE: Integration and testing of AMRAAM.

(U) UNITED KINGDOM (UK-D-QCJ) Case signed December 11, 2003
$1.4M PURPOSE: Support and Program Management

(U) Inactive Foreign Military Sales (FMS) cases.

(U) DENMARK (DE-D-YAS) Case signed December 08, 1994
$23.6M PURPOSE: 150 AMRAAMs (Lots 9 and 10) and support

(U) GERMANY (GY-D-YEK) Case signed June 28, 1995
$38.7M PURPOSE: 96 AMRAAMs (Lots 9, and 10)

(U) GREECE (GR-D-YDR) Case signed June 30, 1995
$32.5M PURPOSE: 100 AMRAAMs (Lot 10) and support.

(U) ISREAL (IS-D-YEO) Case signed February 06, 1997
$49.4M PURPOSE: 125 AMRAAMs (Lots 10, 11, 12, and 13), support, and software updates.

(U) JAPAN (JA-D-YCJ) Case signed February 19, 1999
$20.3M PURPOSE: 40 AMRAAMs (Lot 13).

(U) JAPAN (JA-D-YCK) Case signed March 21, 2001
$8.7M PURPOSE: 21 AMRAAMs (Lot 14), support, and software updates.

(U) JAPAN (JA-D-YCL) Case signed December 27, 1999
$9.3M PURPOSE: 21 AMRAAMs (Lot 15), support, and software updates.

(b)(1) [redacted]

(U) JAPAN (JA-D-YYZ) Case signed January 30, 2002
$10.7M PURPOSE: 21 AMRAAMs (Lot 16), and support.

(U) KOREA (KS-D-YGN) Case signed December 30, 1993
$81.1M PURPOSE: 190 AMRAAMs (Lot 10).

(U) KOREA (KS-D-YGQ) Missile procurement is FMS administered direct commercial sale. Case signed March 13, 1997
$9.2M PURPOSE: 100 AMRAAMs (Lot 12), and software updates.

(U) KOREA (KS-D-YGP) Missile procurement is FMS administered direct commercial sales. Case signed August 28, 1995
$8.9M PURPOSE: 100 AMRAAMs (Lot 12).

(U) KOREA (KS-D-YGY) Case signed December 27, 1999
$66.0M PURPOSE: 159 AMRAAMs (Lot 14), support, and software updates.

(U) NAMA (4-D-GAH) Case signed March 17, 2001
$0.1M PURPOSE: To provide technical support.

(U) NETHERLANDS (NE-D-YME) Case Signed September 29, 1995
$77.0M PURPOSE: 200 AMRAAMs (Lot 10, and 11) and support.

(U) NORWAY (NO-D-YCY) Case signed October 07, 1992
$53.6M PURPOSE: 100 AMRAAMs (Lots 8, and 9) and support.

(U) NORWAY (NO-D-YCZ) Case signed August 31, 1994
$68.3M PURPOSE: 228 AMRAAMs (Lots 9, and 10) and support.

(U) NORWAY (NO-D-YDA) Case signed April 01, 1996
$100.3M PURPOSE: 250 AMRAAMs (Lot 11), 228 MRLs, (Lot 11), and software updates.

(U) SPAIN (SP-D-YDH) Case signed July 11, 1996
$12.6M PURPOSE: 32 AMRAAMs (Lot 11) and support.

(U) SWEDEN (SW-D-YCE) Case signed December 27, 2003
$3.3M PURPOSE: 2 AMRAAMs (Lot 17), and support.

(U) SWITZERLAND (SZ-D-YBB) Missile procurement is FMS administered as direct commercial sale. Case signed August 05, 1994
$1.4M PURPOSE: Support.

(U) SWITZERLAND (SZ-D-NAV) Case signed October 16, 2000
$2.1M PURPOSE: Software updates.

(U) TURKEY (TK-D-YDT) Case signed October 25, 1993
$17.1M PURPOSE: 60 AMRAAMs (Lots 9, and 10)

(U) TURKEY (TK-D-YDU) Case signed December 01, 1994

(b)(1) [redacted]

$22.7M PURPOSE: 80 AMRAAMs (Lots 9, and 10)

(U) TURKEY (TK-D-YDV) Case signed November 24, 1997
$51.0M PURPOSE: 138 AMRAAMs (Lot 17), support, and software updates.

(U) TURKEY (TK-D-GQP) Case signed December 25, 2003
$0.3M PURPOSE: Managing and Tracking the AMRAAM missile and support systems.

(U) TURKEY (TK-D-MNR) Case signed September 11, 2002
$1.0M PURPOSE: Repair/Return in support of AIM-120 AMRAAM.

(U) UNITED KINGDOM (UK-D-YDR) Case signed March 03, 1992
$100.1M PURPOSE: 210 AMRAAMs (Lots 7, and 8), support, and software updates.

(U) UNITED KINGDOM (UK-D-NST) Case signed April 11, 1996
$9.6M PURPOSE: Integration and testing of AMRAAM.

d. (U) Nuclear Costs --
None

N-22 MH-60R

*** SECRET ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-191)
PROGRAM: MH-60R

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: MH-60R Multi-Mission Helicopter

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

Air ASW, Assault and Special Mission Programs (PMA-299) 47123 Buse Rd Unit IPT, Suite 156 Patuxent River, MD 20670-1547

CAPT Paul Grosklags
Assigned: July 26, 2004
DSN 757-5409; COMM 301-757-5409
Paul.Grosklags@navy.mil

No Security Objection to Open Publication (AS AMENDED)
07-C-0115
MAR 22 2007
Office of the Chief of Naval Operations
Dept. of the Navy

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Downgrade instructions: OPNAVINST 5513.2B
Declassify on: X3

AS AMENDED
For Open Publication
MAR 23 2007

Directorate for Freedom of Information and Security Review
1155 Defense Pentagon
Washington, DC 20301-1155

DFOISR 07-C-0037

*** SECRET ***

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Multi-Mode Radar				
(b)(1) Range to Detect a 10000 Sq Meter Target				
Using ISAR Classify a Surface Combatant at a percentage of the Target's Maximum Detectable Range				
Electronic Support Measures				
Detectable Frequency Bandwidth (GHz)				
Availability (%): Mission Capable	82	82 / 70	82.3%	82%

AS AMENDED
SECURITY

(U) Acronyms:

ALFS - Airborne Low Frequency Sonar
AOU - Area of Uncertainty
ASUW - Anti-Surface Warfare
ASW - Anti-Submarine Warfare
Db - Decibel
GHZ - GigaHertz
HRS - Hours
IER - Information Exchange Requirements
ISAR - Inverse Synthetic Aperature Radar
KHZ - KiloHertz
MCBCF - Mean Cycles Between Critical Failure(s)
MFHBCF - Mean Flight Hours Between Critical Failure(s)
MTBF - Mean Time Between Failure(s)
MTBMCF - Mean Time Between Mission Critical Failure(s)
MTTR - Mean Time To Repair
Pd - Probability of detection
SEC - Second
SQ - Square
sqnm - Square nautical miles

(U) The ALFS, originally a separate ACAT II program, was incorporated into the MH-60R baseline in 1999 and performance objectives are tracked with the MH-60R program.

Demonstrated Performance and Current estimate updates are the results of OT-IIB (OPEVAL).

10b. (U) **Performance Characteristics (Cont'd)**:

b. Current Change Explanations -- None

N-9 DDG 1000

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-197)

PROGRAM: DDG 1000 Destroyer

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: DDG 1000 Destroyer

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

PEO Ships (PMS 500)
1333 Isaac Hull Ave. S.E. Stop 2202
Washington, DC 20376-2202

CAPT J. D. Syring
Assigned: September 23, 2005
DSN 326-2532; COMM (202) 781-2532
james.syring@navy.mil

Derived from: [redacted] Sources
Downgrade instructions: Not subject to automatic downgrade
Declassify on: X1, X3

(THIS PAGE IS UNCLASSIFIED)

*** [redacted] ***

07-C-0650

10. (U) **Performance Characteristics**:

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold		Demonstrated Perf	Current Estimate
Signature Reduction: Radar Cross Section (RCS) X dBsm median, C-360 degs azimuth, 0-2 degs elevation, (2-4 GHz) 0-6 degs elevation (8-18 Ghz) (plus ship's motion), RCS smoothly distrib-uted over the length of	(b)(1) [redacted]			TBD	(b)(1) [redacted]
Number of Advanced Gun Systems	2	2	/ 2	TBD	2
Number of Advanced Vertical Launch Cells	128	128	/ 80	TBD	128
Total Ship Advanced Gun System Magazine Capacity	1200 rounds (600 rounds per maga-zine)	1200 rounds (600 rounds per maga-zine)	/ 600 / rounds / total / ship / magazine / capacity /	TBD	1200 rounds (600 rounds per maga-zine)
Number of ship's company personnel (helicopter detachment included)	125	125	/ 175	TBD	125
Operational Availability (Ao) for mission critical systems:					
Ao for 120-day wartime profile	0.95	0.95	/ 0.90	TBD	0.95
Ao for 18 month extended forward deployment	0.95	0.95	/ 0.90	TBD	0.95
Interoperability: All top-level IERs will be satisfied to the standards specified in the Threshold and	Achieve 100% of top-level inform-	Achieve 100% of top-level inform-	/ Achieve / 100% / top-level / Informa-	TBD	Achieve 100% of top-level Inform-

AS AMENDED

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Objective values.	ation Exchange Requirements. DD(X) joint tactical battle management and command and control computer programs shall conform to the Single Integrated Air Picture (SIAP) System Engineer's Integrated Architecture and Integrated Architecture Behavior Model now being developed. DD(X) will remain in compliance with	ation / tion Exchange/ change Exchange Require-/ Requirements. / ments DD(X) / designjoint / ated as tactical/ critial. battle / DD(X) manage- / joint ment and/ tactical command / battle and / mangagecontrol / ment and computer/ command programs/ and shall / control conform / computer to the / programs Single / shall Integr- / conform ated Air/ to the Picture / Single (SIAP) / Integr- System / ated Air Engine- / Picture er's / (SIAP) Integr- / System ated / Engineer's / Integrated / ed Archi- / Architecture / tecture and / and Integr- / Integrated / ated Archi- / tecture Architecture / and Integrated Behavior/ Archi- Model / techture now / Behavior being / Model develop- / for oped. / Track DD(X) / Manage- will / ment now remain / being in / developed. compli- / DD(X) ance / will with		ation Exchange Requirements. DD(X) joint tactical battle management and command and control computer programs shall conform to the Single Integrated Air Picture (SIAP) System Engineer's Integrated Architecture and Integrated Architecture Behavior Model now being developed. DD(X) will remain in compliance with

10a. (U) **Performance Characteristics (Cont'd)**:

SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
CJCSI 6212.01 (Series), Interoperability and Supportability of Information Technology and National Security Systems (IT and NSS), including future updates.	CJCSI 6212.01 (Series), Interoperability and Supportability of Information Technology and National Security Systems (IT and NSS), including future updates. / remain in compliance with CJCSI 6212.0 (Series), Interoperability and Supportability of Information Technology and National Security Systems (IT and NSS), Including future updates.		CJCSI 6212.01 (Series), Interoperability and Supportability of Information Technology and National Security Systems (IT and NSS), including future updates.

(U) Acronyms:

AFATDS	Advanced Field Artillery Tactical Data System
BGIXS	Battle Group Information Exchange System
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
CEC	Cooperative Engagement Capability
CEP	Circular Error of Probability
CJCSI	Chairman, Joint Chiefs of Staff Instruction
cm2	square centimeters
dBsm	decibel square meters
GHz	gigahertz
IERs	Information Exchange Rates
JSTARS	Joint Surveillance and Target Attack Radar System
JTIDS	Joint Tactical Information Distribution System
kts	knots
m	meter
mm	millimeter
MK	Mark

10a. (U) **Performance Characteristics (Cont'd):**

nm	nautical mile
RCS	Radar Cross Section
um	micrometers
uW	microwatts
W	Watts
UAV	Unmanned Aerial Vehicle

(U) * The chart depicting the acoustics Objective / Threshold can be found in the DD(X) Operational Requirements Document (ORD).

The JROC approved the DD(X) ORD on February 23, 2004.

b. Current Change Explanations -- None

AF-24 SBIRS HIGH

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-210)
PROGRAM: SBIRS High

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: Space Based Infrared System (SBIRS) High Program

2. (U) **DoD Component**: USAF

3. (U) **Responsible Office and Telephone Number**:

SMC/IS
483 N Aviation Blvd Bldg 271
LOS ANGELES AIR FORCE BASE (LAAFB)
El Segundo, CA 90245-2808

Col Randall S. Weidenheimer
Assigned: February 3, 2004
DSN 633-3018; COMM (310) 653-3018
randall.weidenheimer@losangeles.af.mil

Classified by: DoDR 5500.7, October 1, 1997
Downgrade instructions: Not subject to automatic downgrade
Declassify On: October 1, 2007

*** [redacted] ***

FAX 07-C-0238
07-C-0594

10. (U) **Performance Characteristics:**

a. Performance --

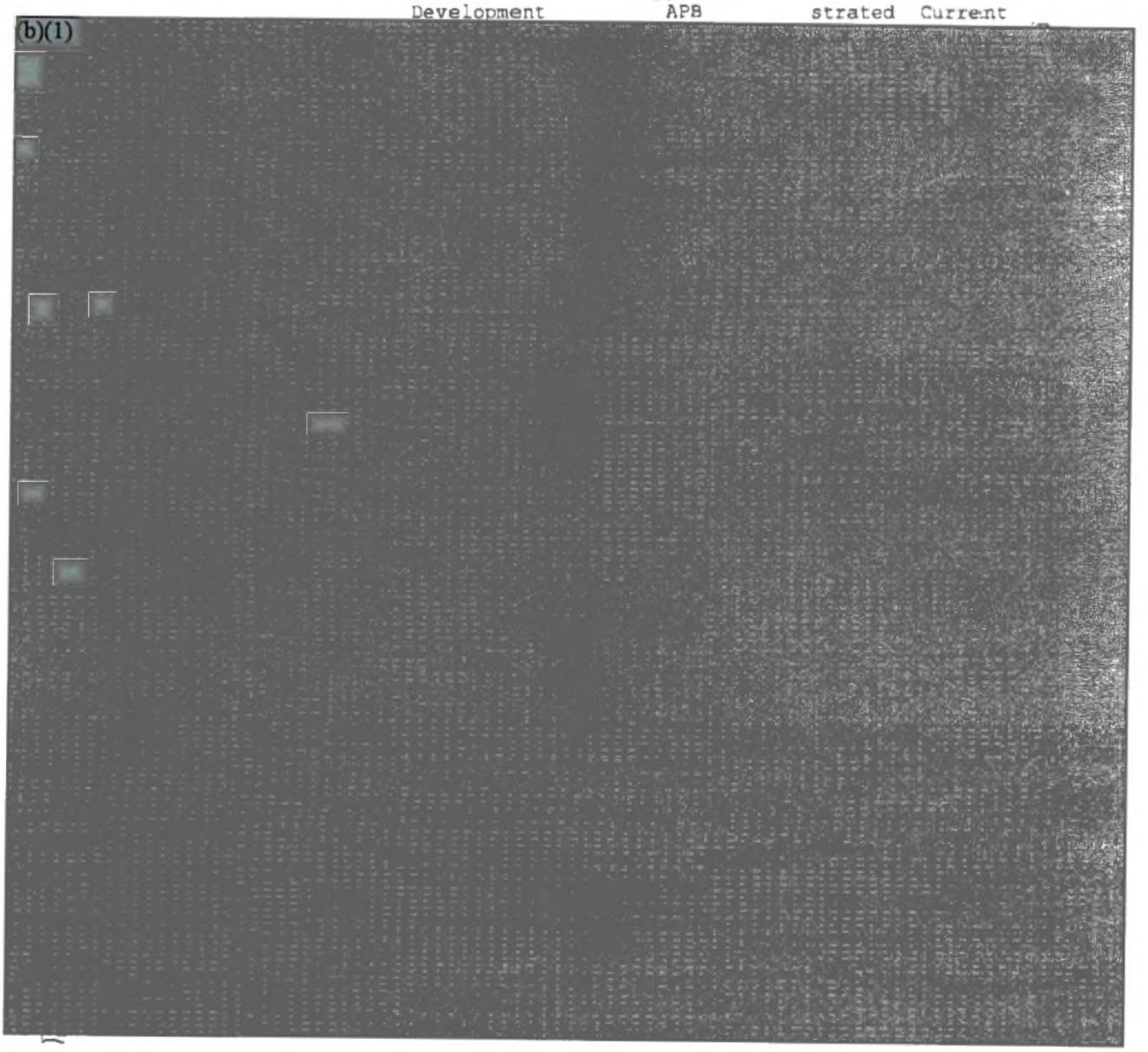
	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(b)(1)				

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development	Approved APB	Demon-strated	Current Estimate
(b)(1)				

10a. (U) **Performance Characteristics (Cont'd):**

(b)(1)



	SAR Development	Approved APB	Demon-strated	Current

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development	Approved APB	Demon-strated	Current Estimate
(b)(1)				

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development	Approved APB	Demonstrated	Current
(b)(1)	[redacted]			

(U) Acronyms:
AIRCRF - Aircraft
CFLOS - Cloud-free Line of Sight
COMM - Communication

10a. (U) **Performance Characteristics (Cont'd):**

FA	- Focused Area
LAT	- Latitude
MRC	- Major Regional Conflict
MSL	- Missile
MTR	- Major Threat Region
N	- North
NLT	- Not Later Than
Pc	- Probability of Collection
Pw	- Probability of Warning
RV	- Re-entry Vehicle
S	- South
TBD	- To Be Determined

b. Current Change Explanations -- None

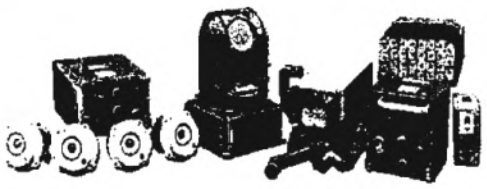
A-2 ATIRCM/CMWS

*** SECRET ***

SELECTED ACQUISITION REPORT (RCS: DD-A&T(Q&A)823-219)
PROGRAM: ATIRCM/CMWS

AS OF DATE: December 31, 2006

INDEX



1. (U) **Designation and Nomenclature (Popular Name):** ATIRCM/CMWS

2. (U) **DoD Component:** Army

   Joint Participants:
   United States Special Operations Command

3. (U) **Responsible Office and Telephone Number:**

PM Infrared Countermeasures	COL Philip J. Carey
ATTN: SFAE-IEW&S-ASE	Assigned: November 2, 2004
Redstone Arsenal, Bldg 5300	DSN 746-7167; COMM 256-876-7167
Huntsville, AL 35898-5000	philip.carey@us.army.mil

4. (U) **Program Elements/Procurement Line Items:**

   RDT&E:
   (U) APPN 2040 BA PE 0604270A (Army) Project L20
   (U) APPN 3600 BA PE 0604270F (Air Force) (Shared) (Sunk)
   (U) APPN 1319 BA PE 0604270N (Navy) (Shared) (Sunk)
   PROCUREMENT:
   (U) APPN 0300 BA ICN 20430000 (DoD) (Shared) (Sunk)
   (U) APPN 2031 BA 05 ICN AZ3507 (Army)

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MAR 28 2007
Office of Security Review
Department of Defense

8

Classified by: SCG for ATIRCM/CMWS dated May 23, 2003
Downgrade instructions: cannot be downgraded per the Security Classification Guide
Declassify on: X-3

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- 1 -

*** SECRET ***

07-C-0614

9. (U) Schedule:

a. Milestones --

	SAR Production Estimate	Approved APB Obj/Threshold	Current Estimate
DEMVAL Contract Award	SEP 1991	SEP 1991/MAR 1992	SEP 1991
Technical Test			
Start	JUL 1994	JUL 1994/JAN 1995	JAN 1994
Complete	DEC 1995	DEC 1995/JUN 1996	JUN 1994
Milestone I/II	JUN 1995	JUN 1995/DEC 1995	JUN 1995
EMD Contract Award	SEP 1995	SEP 1995/MAR 1996	SEP 1995
Preliminary Design Review Complete	JUN 1996	JUN 1996/MAR 1997	JUN 1996
Critical Design Review Complete	SEP 1996	SEP 1996/MAR 1997	FEB 1997
First Prototype Delivery	JUN 1998	JUN 1998/DEC 1998	APR 1998
Developmental Testing			
Start	NOV 2000	NOV 2000/MAY 2001	NOV 2000
Complete	JAN 2002	JAN 2002/JUL 2002	JAN 2002
Limited Production Urgent (LPU) CMWS	FEB 2002	FEB 2002/FEB 2002	FEB 2002
LPU CMWS Contract Award	MAR 2002	MAR 2002/MAR 2002	MAR 2002
Milestone C (LRIP) ATIRCM	NOV 2003	NOV 2003/NOV 2003	NOV 2003
User Test Complete CMWS	NOV 2003	NOV 2003/NOV 2003	NOV 2003
LRIP Contract Award ATIRCM	MAR 2004	FEB 2004/FEB 2004	FEB 2004
First Unit Equipped CMWS	MAR 2004	MAR 2004/MAR 2004	MAR 2004

(b)(1)

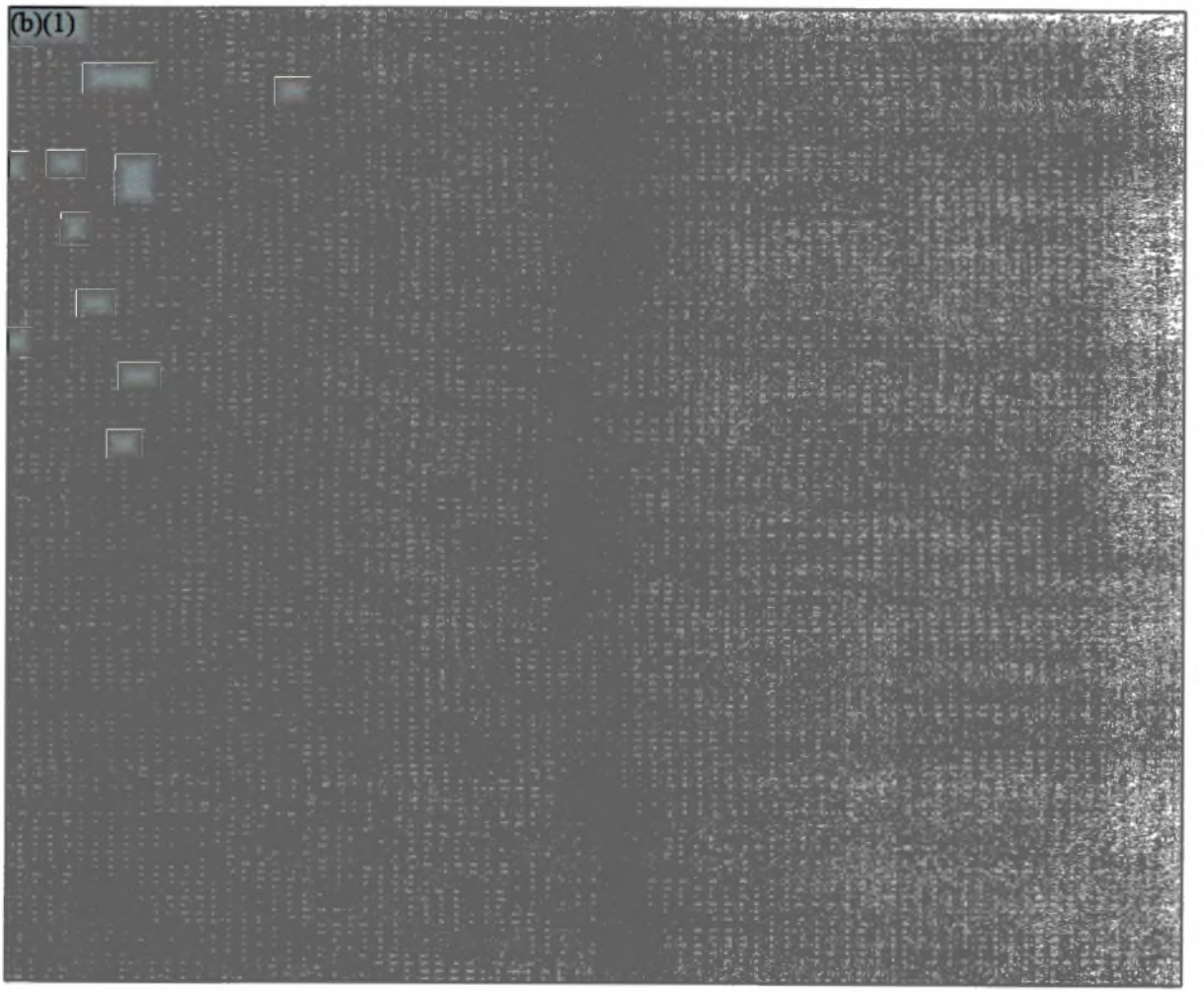
[redacted]

(U) Acronyms:
DEMVAL - Demonstration and Validation
EMD - Engineering, Manufacturing and Development
LRIP - Low Rate Initial Production

(U) On December 21, 2005, the AAE approved an ATIRCM path forward with a low risk, revised schedule that contains modified program parameters for ATIRCM Initial Operational Test and Evaluation (IOT&E), First Unit Equipped (FUE) and Full Rate Production (FRP) dates. The program is executing in accordance with these revised dates that support a comprehensive, fully resourced, low risk path ahead to successfully overcome performance and reliability issues discovered during testing in October 2004 and January 2005.

9b. (U) Schedule (Cont'd):

b. Current Change Explanations -- None



10b. (U) Performance Characteristics (Cont'd):

b. Current Change Explanations -- None

14. (U) Unit Cost and Other History (Then-Year Dollars in Millions):

a. (U) Program Acquisition Unit Cost (PAUC) History

Initial SAR Baseline to Current SAR Baseline

PAUC Init Est	Changes								PAUC Prod Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
1.086	+0.035	-0.200	-0.108	+0.066	+0.293	--	+0.043	+0.129	1.215

a. (U) Program Acquisition Unit Cost (PAUC) History

Current SAR Baseline to Current Estimate

PAUC Prod Est	Changes								PAUC Cur Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
1.215	+0.065	+0.189	-0.164	-0.185	+0.392	--	+0.067	+0.364	1.579

b. (U) Procurement Unit Cost (PUC) History

Initial SAR Baseline to Current SAR Baseline

PUC Init Est	Changes								PUC Prod Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.913	+0.036	-0.233	-0.109	--	+0.356	--	+0.044	+0.094	1.007

b. (U) Procurement Unit Cost (PUC) History

Current SAR Baseline to Current Estimate

PUC Prod Est	Changes								PUC Cur Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
1.007	+0.065	+0.244	-0.165	-0.186	+0.356	--	+0.067	+0.381	1.388

c. (U) Baseline Unit Cost History (In Millions of Dollars)

		Then Year (TY)		(FY 2003 Base Year)	
Name	Date	PAUC TY	APUC TY	PAUC BY	APUC BY
Original APB	MAR 1996	1.086	0.913	0.923	0.748
January 2006 APB	DEC 2004	1.713	1.508	1.514	1.300
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	NOV 2003	1.215	1.007	1.961	0.836
Current APB	DEC 2004	1.713	1.508	1.514	1.300
Prior Annual SAR	DEC 2005	1.559	1.399	1.280	1.115
Current Estimate	DEC 2006	1.579	1.388	1.305	1.114

14c. (U) Unit Cost and Other History (Cont'd):

d. (U) Schedule, Cost, and Quantity History

Item/Event	SAR Planning Estimate(PE)	SAR Development Estimate(DE)	SAR Production Estimate(PdE)	Current Estimate
Milestone I	N/A	JUN 1995	JUN 1995	JUN 1995
Milestone II	N/A	JUN 1995	JUN 1995	JUN 1995
Milestone C	N/A	FEB 2002	NOV 2003	NOV 2003
(b)(1)				
Total Cost	0.0	3361.6	3240.6	5666.9
Total Quantity	0	3094	2668	3589
Prog Acq Unit Cost	0.000	1.086	1.215	1.579

N-29 SSDS

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-241)
PROGRAM: SSDS

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: Ship Self Defense System (SSDS)

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

MPM, Integrated Combat Systems
1333 Isaac Hull Avenue SE
Stop 2301
Washington Navy Yd, DC 20376-2301

Mr. William P. Bray
Assigned: October 10, 2006
DSN 326-3789; COMM (202) 781-3789
william.p.bray@navy.mil

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Dept. of the Navy

[redacted]
Derived from: [redacted] 3-113.2 and 134.1
Downgrade [redacted]
[redacted]ify on: X3

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*** [redacted] ***

10. (U) **Performance Characteristics**:

SSDS MK 2

a. Performance --

	SAR Production	Approved APB	Demon-strated	Current
[redacted] P(EST)	b)(1)			
[redacted] P(ED)				
[redacted] P(ES)				
[redacted] P(RTN)				
[redacted] Interoperability				
A(o)				
[redacted] Surveillance Op Range				
[redacted] Participating Units Supported				
[redacted] Joint Units Supported				
[redacted] Track Capacity and Update Rate				
[redacted] Real Time Local				
[redacted] Real Time Remote				
[redacted] Real Time Link-4A				
[redacted] Non-Organic				
[redacted] Ownship Controlled A/C				
[redacted] Controlled Interceptors				
[redacted] One Way Link-4A				
[redacted] Two Way Link-4A				
[redacted] Simultaneous Handovers				
[redacted] Track Altitude				
[redacted] Track Depth				
[redacted] Track Velocity				

(U) Acronyms:

A(o)	Operational Availability
A/C	Aircraft
Kft	Thousand Feet

10a. (U) **Performance Characteristics (Cont'd)**:
SSDS MK 2

NM	Nautical Miles
Op	Operating
P(ED)	Probability of Correct Engagement Decision
P(ES)	Probability of Correct Engagement Sequence
P(EST)	Probability of Establishing a Valid SSDS Track
P(RTN)	Probability of Achieving Nominal Reaction Time

(b) [redacted]

b. Current Change Explanations -- None

SSDS MK 2 P3I

a. Performance --

	SAR Production	Approved APB	Demon-strated	Current
(U) P(EST)	[redacted]			
(U) P(ED)				
(U) P(ES)				
(U) P(RTN)				
(U) Interoperability				
(U) A(o)				
(U) Surveillance Op Range				
(U) Participating Units Supported				
(U) Joint Units Supported				
(U) Track Capacity and Update Rate				
(U) Real Time Local				
(U) Real Time Remote				
(U) Real Time Link-4A				
(U) Non-Organic Ownship Controlled A/C				
(U) Controlled Interceptors				

10a. (U) **Performance Characteristics (Cont'd)**:
SSDS MK 2 P3I

	SAR Production	Approved APB	Demonstrated Perf	Current Estimate
One Way Link-4A	(b)(1)	[redacted]	TBD	(b)(1)
Two Way Link-4A			TBD	
Simultaneous Handovers			TBD	
Track Altitude			TBD	
Track Depth			TBD	
Track Velocity			TBD	

(U) Acronyms:

A(o)	Operational Availability
A/C	Aircraft
Kft	Thousand Feet
NM	Nautical Miles
Op	Operating
P(ED)	Probability of Correct Engagement Decision
P(ES)	Probability of Correct Engagement Sequence
P(EST)	Probability of Establishing a Valid SSDS Track
P(RTN)	Probability of Achieving Nominal Reaction Time

b. Current Change Explanations -- None

AF-18 MMIII PRP

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-248)
PROGRAM: Minuteman III PRP

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: Minuteman III Propulsion Replacement Program (PRP)

2. (U) **DoD Component**: USAF

3. (U) **Responsible Office and Telephone Number**:

556 ICBMSSG/CLA
6011 Gum Lane
Hill AFB, UT 84056-5826

Maj Michael Brox
Assigned: July 14, 2006
DSN 775-2230; COMM (801) 775-2230
Michael.Brox@hill.af.mil

[redacted]
Classified by: ICBM Security Classification Guide, 30 Sep 97
Downgrade instruction: [redacted]
Declassify on: (X-2)

*** [redacted] ***

07-C-0601

10. (U) Performance Characteristics:

a. Performance --

	SAR Production	Approved APB	Demon-strated	Current
1)	[redacted]			

(U) Acronyms:
FRD- Formerly Restricted Data
FS- Frequency Source

10a. (U) **Performance Characteristics (Cont'd):**

FT- Feet
HRS- Hours
MM- Minuteman
NM - Nautical Miles
SICBM- Small Intercontinental Ballistic Missile
SPEC- Specification
SYS- System
TBD- To Be Determined
WPN- Weapon
YRS- Years

b. Current Change Explanations --
(U) Demonstrated Performance Data was taken from the ICBM Weapon System Effectiveness Report dated May 2006. Updated for SAR 2006. Previous values were TBD.

Service Life has not been determined to date. Current Design Life is 20 year.

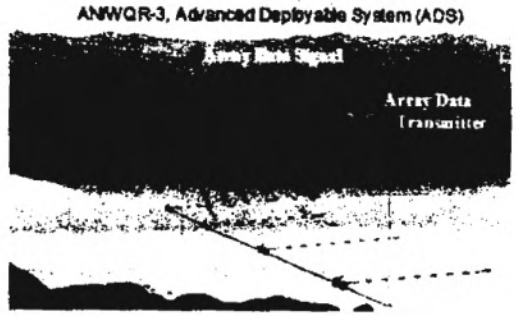
N-1 ADS

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-251)
PROGRAM: ADS Increment Alpha

AS OF DATE: December 31, 2006

INDEX



1. **(U) Designation and Nomenclature (Popular Name)**: AN/WQR-3, Advanced Deployable System (ADS)

2. **(U) DoD Component**: Navy

3. **(U) Responsible Office and Telephone Number**:

PMS-485
4301 Pacific Hwy
San Diego, CA 92110-3127

CAPT Joseph Cereola
Assigned: February 13, 2006
DSN 577-0283; COMM 858-537-0283
joseph.cereola@navy.mil

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Department of Defense

14

Derived from: OPNAVINST S5513.3B ENCL. 115
Downgrade instruction: [redacted]
Declassify on: X1, X3, X6

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- 1 -

*** [redacted] ***

07-C-0653

AS AMENDED *** [redacted] ***

10. [(U)] **Performance Characteristics:**

a. Performance --

	SAR Development	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Continuous Sensor Subsystem Endurance	[redacted] (b)(1)	N/A / N/A	TBD	N/A
Intermittent Sensor Subsystem Endurance		N/A / N/A	TBD	N/A
Continuous Tactical Interface Subsystem (TIS) Endurance		N/A / N/A	TBD	N/A
Intermittent Tactical Interface Subsystem (TIS) Endurance		N/A / N/A	TBD	N/A
Operational Availability (Ao)	0.9	N/A / N/A	TBD	N/A
Information Exchange Requirements (IER)	100% Top Level (TL)	N/A / N/A	TBD	N/A
String Install Time	4 hrs	N/A / N/A	TBD	N/A
Barrier Probability (Pd) per cross	0.9	0.9 / 0.8	TBD	0.9
Field Probability of Detection (Pd)	[redacted] (b)(1)	[redacted]	[redacted]	[redacted]
Tactical Time Late Transmission Range				
Time to Install 4 Array Installation Modules (AIM)				

AS AMENDED

(U) Acronyms:
hr/hrs-hour/hours
Pd-Probability of Detection
TBD-To be determined
NM-Nautical Mile

(U) 1. Deployment times less than the objective 4 hours are possible if sea state conditions during the test event are optimal. Current test plan accounts for a slower deployment speed related to heavier sea states which yields a slightly longer deployment time of 4.6 hours.

10b. (U) **Performance Characteristics (Cont'd)**:

b. Current Change Explanations -- None

AF-13 GLOBAL HAWK

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-252)
PROGRAM: Global Hawk

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: Global Hawk (RQ-4)

2. (U) **DoD Component**: USAF

3. (U) **Responsible Office and Telephone Number**:

303d Aeronautical Systems Wing
Aeronautical Systems Center
2640 West Loop Road, Room 213
WPAFB, OH 45433-7106

Col Darrell H. Holcomb
Assigned: August 28, 2006
DSN 785-2056; COMM 937-255-2056
darrell.holcomb@wpafb.af.mil

Classified by: [redacted] Group, 1 Apr 02
Downgrade instruction: [redacted]
Declassify on: X1, X3

*** [redacted] ***

07-C-0602

10. (U) **Performance Characteristics**:

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Block 5: Endurance - Air Vehicle (AV)	Should be capable of flying an enroute distance of 3000 NM, remaining on-station 24 hours, and recover at the launch base.	N/A / N/A	N/A	N/A
Block 5: Airspace Coordination - Global Hawk System	The Global Hawk system must be sufficiently robust to allow world wide system employment in all classes of airspace.	N/A / N/A	N/A	N/A
Block 5: Mission Execution - Ground Station	The ground station will allow	N/A / N/A	N/A	N/A

10a. (U) Performance Characteristics (Cont'd):

	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
	UAV operators to perform NRT mission control, mission monitoring, and mission updates/ modifications to include dymanic platform and payload control and re-tasking.			
Block 5: Information Exchange Requirements (IERs)	100% of all top-level IERs.	N/A / N/A	N/A	N/A
Block 10: System Survivability - Air Vehicle (AV)	The AV must be equipped to employ active counter-measures against radar and IR-guided threats to the system as identifi	N/A / N/A	N/A	N/A

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimated in the STAR.	Approved APB Obj/Threshold		Demonstrated Perf	Current Estimate	
Block 10: Mean Time Between Critical Failure (MTBCF)	System MTBCF of 160 hours.	N/A	/ N/A	N/A	N/A	
Block 10: Signal Intelligence (SIGINT)	TBD	N/A	/ N/A	N/A	N/A	
Increment Zero: Endurance -- Air Vehicle (AV) (KPP)	N/A	N/A	/ N/A	N/A	N/A	(Ch-1)
Increment Zero: Airspace Coordination - Global Hawk System (KPP)	N/A	N/A	/ N/A	N/A	N/A	(Ch-1)
Increment Zero: Mission Execution - Ground Station (KPP)	N/A	N/A	/ N/A	N/A	N/A	(Ch-1)
Basic ORD Increment 1: Information Exchange Requirements (IERs)	N/A	N/A	/ N/A	N/A	N/A	(Ch-1)

(b)(1)

[redacted]

10a. (U) Performance Characteristics (Cont'd):

	SAR Development	Approved APB	Demon-strated	Current
(b)(1)	[redacted]			

/ aircraft
/ , in
/ mission
/ capable
/ configur
/ ation,
/ must
/ have a
/ minimum
/ total
/ enduranc
/ e of 28
/ hours
/ plus
/ appropri
/ ate fuel
/ reserves
/ IAW Air
/ Force
/ Instruct
/ ions.

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Airspace Coordination -- Global Hawk System (All Lots) KPP	N/A	The Global Hawk system must be sufficiently robust to allow world wide system employment in all classes of airspace / The Global Hawk system must be sufficiently robust to allow world wide system employment in all classes of airspace	Currently flying in all classes of airspace.	Sufficiently robust to allow world wide system employment in all classes of airspace (Ch-1)
Mission Execution -- Ground Station KPP	N/A	The Global Hawk ground station must allow operators to perform NRT mission control, mission monitoring, and mission updates// modifications to include dynamic platform and payload control and re-tasking. / The Global Hawk ground station must allow operators to perform NRT mission control, mission monitoring, and mission updates/ modifications to include dynamic platform and payload control and re-tasking.	Demonstrated ability to coOntrol and retask aircraft.	Currently working software to enhance the processes. (Ch-1)

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Net Ready -- All activity interfaces, services, policy-enforcement controls, and data-sharing of the NCOW-RM and GIG-KIPs will be satisfied to the requirements of the specific Joint integrated architecture products (in	N/A	100 % of/ 100% of interfac/ interfac es; / es; services/ services ; / ; policy-e/ policy-e nforceme/ nforceme nt / nt controls/ controls ; and / ; and data / data correctn/ correctn ess, / ess, availabi/ availabi lity and/ lity and processi/ processi ng / ng requirem/ requirem ents in / ents the / designat Joint / ed as integrat/ enterpri ed / se-level architec/ or ture. / critical / in the / Joint / integrat / ed / architec / ture.	Successf ully exchangi ng data with multi-se rvices IESs (Army).	Software (Ch-1) in work to enhance timeline ss
FY08 Information Exchange Requirements (IERs) KPP	N/A	Satisfy / Satisfy 100% of / 100% of all top-/ all top- level / level IERs / IERs / designat / ed / critical /	Meeting all IERs required to date.	Developm (Ch-1) ent work on-going to improve useabili ty and timeline ss.

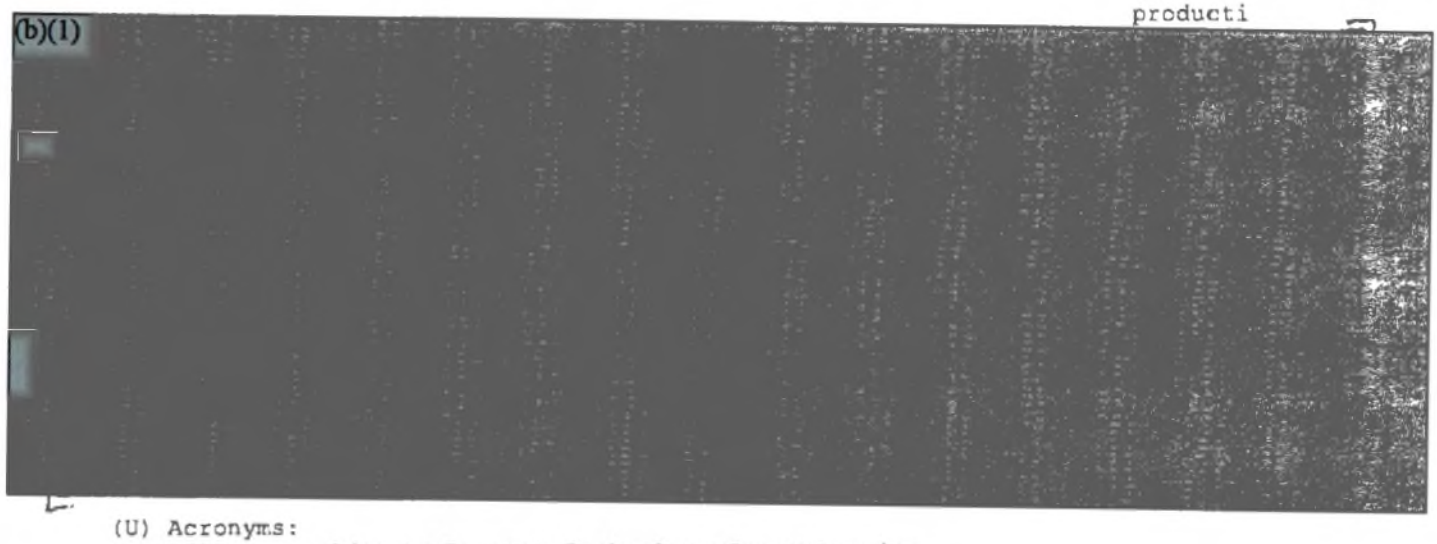
(b)(1)

[redacted]

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
Delivery of first aircraft with a multi-Intelligence (multi-Int) Capability	N/A	Aircraft/ multi-Int / capable Aircraft multi-In t / capable	TBD	Aircraft(Ch-1) multi-In t capable. 1st aircraft (Block 30/40) in producti

(b)(1)



(U) Acronyms:

ACTD	Advance Concept Technology Demonstration
ASIP	Airborne Signals Intelligence Program
AV	Air Vehicle
EMD	Engineering and Manufacturing Development
EO	Electro Optical
ETOS	Effective Time on Station
GHz	Giga-Hertz
HBS	High Band System
IAW	In Accordance With
IER	Information Exchange Requirements
IR	Infrared
Km	Kilometer
KPP	Key Performance Parameter
lbs	Pounds
MHz	Mega-Hertz
MP-RTIP	Multi Platform Radar Insertion Program
MSN	Mission

10a. (U) **Performance Characteristics (Cont'd):**

MTBCF	Mean Time Between Critical Failures
Multi-Int	Multiple Intelligence
NIIRS	National Intelligence Imagery Reference Standard
NM	Nautical Miles
NRT	Near Real Time
ORD	Operational Requirements Document
RF	Radio Frequency
PCU	Production Configuration Unit
SAR	Synthetic Aperture Radar
SIGINT	Signals Intelligence
STAR	System Threat Analysis Report
TBD	To Be Determined
UAV	Unmanned Air Vehicle

(b)(1)

[redacted]

AF-1 AEHF

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-261)

PROGRAM: Advanced EHF

AS OF DATE: December 31, 2006

INDEX

1. **(U) Designation and Nomenclature (Popular Name)**: Advanced Extremely High Frequency (AEHF) Satellite

2. **(U) DoD Component**: USAF

   Joint Participants:
   Canada, Netherlands & United Kingdom

3. **(U) Responsible Office and Telephone Number**:

MCSW/CC
483 N. Aviation Blvd.
El Segundo, CA 90245-2808

BGen Ellen M. Pawlikowski
Assigned: March 7, 2005
DSN 633-9006; COMM 310-653-9006
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or 697-6715

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~~Classified by: Security Classification Guide (SCG), June 2003~~
~~Downgrade instructions: Not Subject to Automatic Downgrade~~
~~Declassify on: Originating Agency Determination Required~~

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07-C-0606

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10. (U) **Performance Characteristics:**

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Coverage	N/A	N/A / N/A	N/A	N/A
Capacity	N/A	1.2 Gbps/ CMTW, / 600 Mbps/ Strategic	Support / at least / 500 Mbps / for CMTW / Scenario / and at / least / 350 Mbps / for / Strategic / Scenario	N/A	Support at least 500 Mbps for CMTW Scenario and at least 350 Mbps for Strategic Scenario
Nuclear Protection	N/A	Provide assured communications to survivable nuclear forces exposed to the environment specified in NCGS-89-06, and for those critical networks that support the following critical functions: situation monitor- / Provide / assured / communications / to / survivable / nuclear / forces / exposed / to the / environment / specified / in NCGS-89-06, and / for / those / critical / networks / that / support / the / following / critical / functions: / situation / monitor-	N/A	Provide assured communications to survivable nuclear forces exposed to the environment specified in NCGS-89-06, and for those critical networks that support the following critical functio

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10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
		ing, / ing, decision/ decision making, / making, force / force direc / direc tion, / tion, force / force manage- / manage- ment, / ment,

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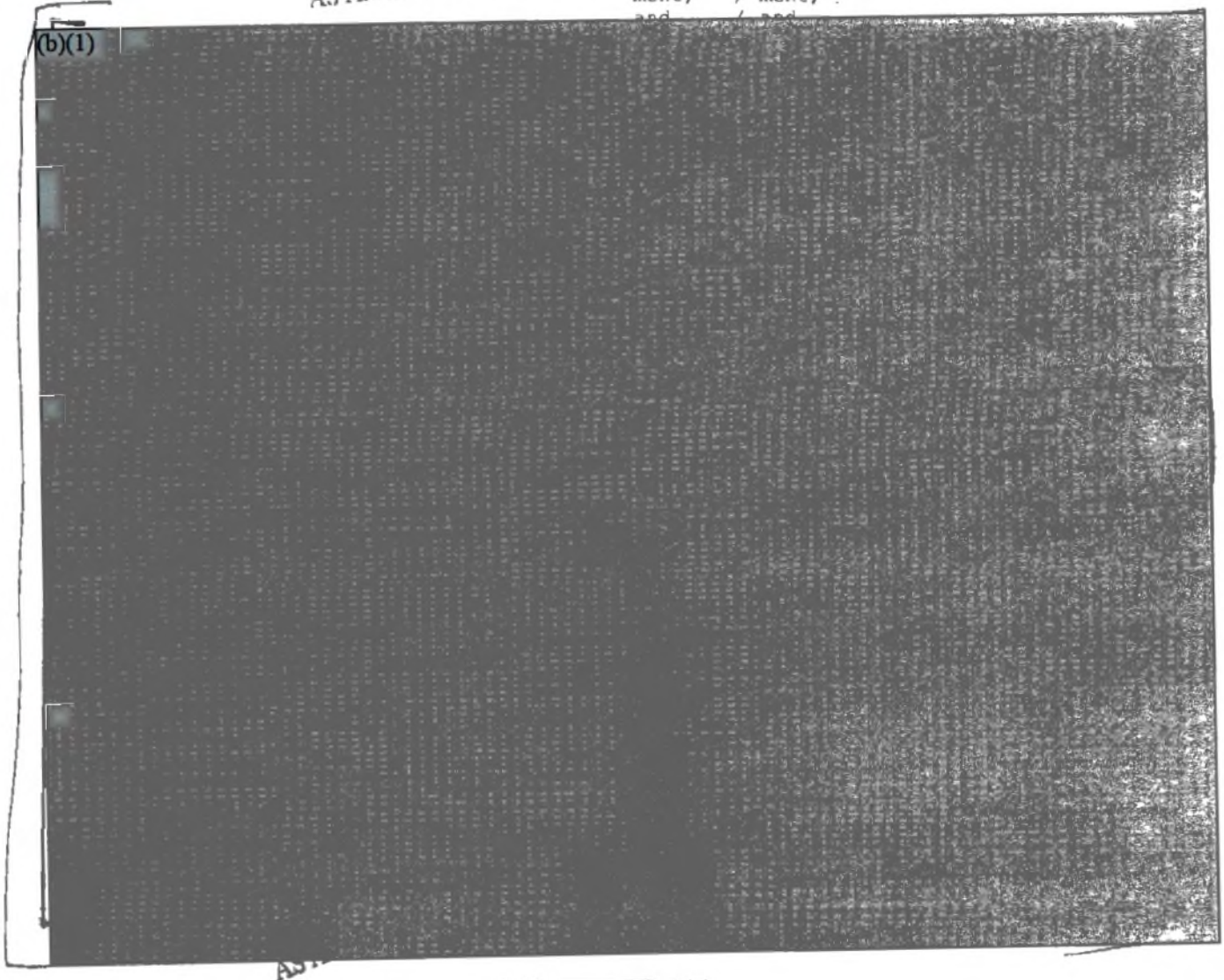
(b)(1)



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AS AMENDED

*** SECRET ***

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR	Approved	Demon-
(b)	[redacted]		

AS AMENDED

users ability to plan, control, & reconfigure their apportioned resources; critical functions such as situation monitoring, decision making, force direction, force management, & planning shall not be disrupted by communications configuration changes to non-critical functions	users ability to plan, control, & reconfigure their apportioned resources; critical functions such as situation monitoring, decision making, force direction, force management, & planning shall not be disrupted by communications configuration changes to non-critical functions	users ability to plan, control, & reconfigure their apportioned resources; critical functions such as situation monitoring, decision making, force direction, force management, & planni

AS AMENDED

Interoperability

AS AMENDED

*** SECRET ***

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
AEHF Interoperability	N/A	Support joint interoperable warfighter communications among all military branches EHF terminals	N/A	Support joint interoperable warfighter communications among all military branches EHF terminals
MILSTAR Backward Compatible	N/A	Operate with the Milstar system, at all LDR and MDR terminal supported data rates, throughout the Milstar transi-	N/A	Operate with the Milstar system, at all LDR and MDR terminal supported data rates, throughout the Milstar transi-

(b)(1)

AS AMENDED

AS AMENDED

*** SECRET ***

AS AMENDED

*** [redacted] ***

10a. (U) **Performance Characteristics (Cont'd):**

AS AMENDED

	SAR	Approved	Demon-
(b)(1)			

AS AMENDED

(U) Acronyms:

AEHF - Advanced Extremely High Frequency
CP - Command Post
CMTW - Combined Major Theater War
EHF - Extremely High Frequency
EIRP - Effective Isotropic Radiated Power
HGEC - High Gain Earth Coverage
HRCA - High Resolution Coverage
LDR - Low Data Rate
LGEC - Low Gain Earth Coverage
MDR - Medium Data Rate
MILSATCOM - Military Satellite Communications
MRCA - Medium Resolution Coverage
NCGS - Nuclear Criteria Group Secretariat
ORD - Operational Requirements Document
SMART-T - Secure Mobile Anti-jam Reliable Tactical Terminal
STAR - System Threat Assessment Report

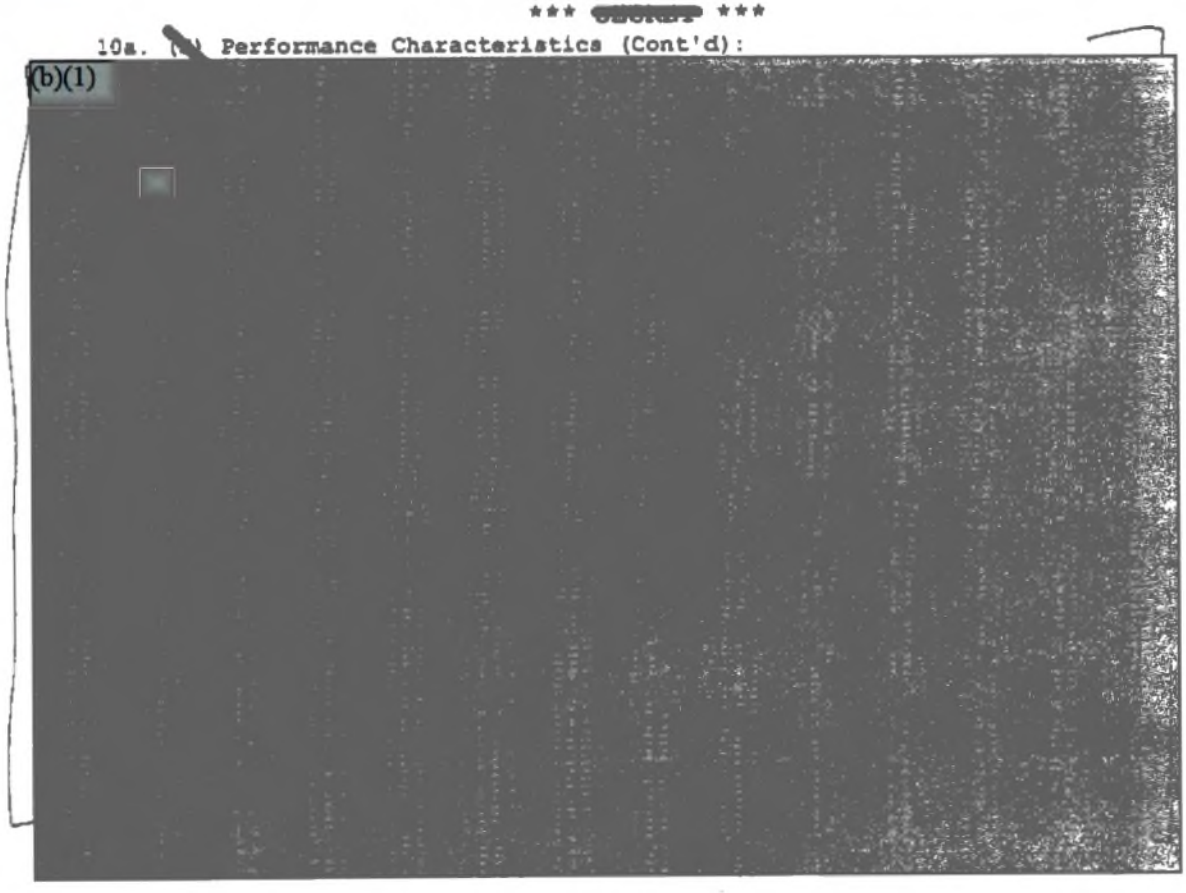
(b)(1)

AS AMENDED

AS AMENDED

10a. (U) Performance Characteristics (Cont'd):

(b)(1)



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AF-10 F-22A

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-265)

PROGRAM: F-22 Raptor

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: F-22 Raptor

2. (U) **DoD Component**: USAF

3. (U) **Responsible Office and Telephone Number:**

F-22 System Program Office
Aeronautical Systems Center
WPAFB, OH 45433-7424

BGen C.D. Moore
Assigned: October 24, 2005
DSN 656-7511; COMM (937) 255-4167
c.d.moore@wpafb.af.mil

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Downgrade instruction: [redacted]
Declassify on: 25X4

*** [redacted] ***

PAX 07-C-0234
07-C-0605

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Range-Mission Radius Sub & Supersonic**	260+100	260+100 / 260+100	322+100	322+100
Payload, Internal Missile Load**	6 AIM-120 + 2 AIM-9	6 AIM-120 + 2 AIM-9 / 6 AIM-120 / + 2 AIM-9	6 AIM-120 + 2 AIM-9	6 AIM-120 + 2 AIM-9
Reduced All-Aspect Radar Cross Section (RCS) Front Sector RCS**/+	*	* / *	*	*#
Maneuverability (max power sustained G) (30000 ft) (Mach) @0.9 Mach**	3.9	3.9 / 3.7	3.7	3.7
Reliability, Maintainability, and Supportability C-17s / 24 Primary Aircraft Inventory (PAI) Squadron for Deployment	6	6 / 7	14##	6.6
(b)(1) [redacted]				
Mean Time Between Maintenance (MTBM) (hrs)**	3.0	3.0 / 3.0	1.2###	3.0
Supercruise** Vmax/Opt Alt/Mil Power (Mn)	1.5	1.5 / 1.5	1.76	1.76
Acceleration/.8-1.5/	54	54 / 54	52.4	52.4
(b)(1) [redacted]				
Interoperability	Accomplishment of all IERs	Accomplishment of all IERs/ / Accomplishment of all / critical / top / level / IERs	90%	100% accomplishment of all critical top level IERs

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Production Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
USD(A) Risk Assessment Items:				
Direct on-and-off Maintenance Personnel (spaces per ac)	10.5	10.5 / 12.5	12.46	9.2

(U) Acronyms:
USD(A) - Undersecretary of Defense for Acquisition
IERs - Information Exchange Requirements
IOT&E - Initial Operational Test and Evaluation
Mil - Military
Opt Alt - Optimum Altitude
Vmax - Maximum Speed

(U) * Classification/control is beyond the level of this document.

(U) ** Indicates Operational Requirements Document (ORD) Key Performance Parameter (KPP) [Note: Airlift and MTBM KPPs are based upon F-22 system maturity (100,000 flight hours), currently projected to occur in 2010.]

(U) + Classified KPP values beyond level of this document can be viewed in the classified annexes of the F-22 ORD.

(U) ‡ Current estimate is better than threshold.

(U) ## The Airlift KPP was demonstrated during Initial Operational Test and Evaluation (IOT&E) and met the interim Joint Requirement Oversight Council (JROC) requirement of 15 C-17s. The threshold requirement at system maturity is 7 C-17s.

(U) ### The MTBM KPP was demonstrated during IOT&E and met the interim JROC requirement. The latest MTBM demonstrated at Nellis AFB during Force Development Evaluation was 1.8 while the requirement at system maturity is 3.0.

b. Current Change Explanations -- None

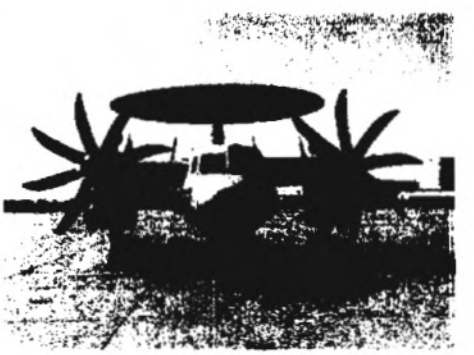
N-11 E-2C REPRO

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-276)
PROGRAM: E-2C Reproduction

AS OF DATE: December 31, 2006

INDEX



1. (U) **Designation and Nomenclature (Popular Name)**: E-2C Reproduction

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

PEO(T) Aircraft Programs (PMA-231) — CAPT Randolph Mahr
Bldg #2272, Suite 455, NAVAIRSYSCOM — Assigned: May 9, 2005
47123 Buse Road Unit IPT — DSN 757-7363; COMM (301) 757-7363
Patuxent River, MD 20670-1547 — randolph.mahr@navy.mil

[redacted]
Derived from: [redacted] OF OPNAVINST S5513.2B
Downgrade instructions:
Declassify on:

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- 1 -

*** [redacted] ***

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold		Demonstrated Perf	Current Estimate
Take off weight	55000	55000	/ 55000	55000	55000
Length	57'6"	57'6"	/ 57'6"	57'6"	57'6"
Span	80'7"	80'7"	/ 80'7"	80'7"	80'7"
Engine					
Number	2	2	/ 2	2	2
Type	T56-A-427	T56-A-427	/ T56-A-427	T56-A-427	T56-A-427
Crew	5	5	/ 5	5	5
Speed (KIAS)					
Max Speed @13,500 ft (KIAS)	315	315	/ 315	315	315
Cruise Speed @ 24,540 ft.	270	270	/ 270	270	270
Time on Station @200 nm (hrs)	4.0	4.0	/ 4.0	4.0	4.0
Service Ceiling (ft)	28100	28100	/ 28100	28100	28100
Passive Detection System	(b)(1)			(b)(1)	
Range (nm)		N/A	/ N/A		
Azimuth (deg)		N/A	/ N/A		
Radar Detection Range (AN/APS-145) (nm)					
Overwater (C-141 target) (nm)		N/A	/ N/A		
Systems Accuracy (CEP to Target at 200 nm range) (nm)		N/A	/ N/A		
Mission Computer Upgrade (MCU)					
System Weight (lbs)	150	150	/ 300	192	192
Load Time (sec)	45	45	/ 270	227	227
In-Flight Reload (sec)	20	20	/ 144	3.9	3.9
Operational Availability	0.97	0.97	/ 0.93	.98	.97

(U) Acronyms:
AN/APS-145 - Advanced Airborne Surveillance Radar
CEP - Circular Error Probable
deg - Degree
ft - Feet
hrs - hours
KIAS - Knots Indicated Air Speed
lbs - Pounds

10a. (U) **Performance Characteristics (Cont'd)**:

nm - Nautical Mile
sec - Second

b. Current Change Explanations -- None

A-12 JAVELIN

*** [redacted] ***

[redacted]

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-280)

PROGRAM: Javelin

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name):** Advanced Anti-Tank Weapon System - Medium (Javelin)

2. (U) **DoD Component:** Army

   Joint Participants:
   USMC

3. (U) **Responsible Office and Telephone Number:**

Department of Army	COL Raymond H. Nulk
PEO Missiles and Space	Assigned: November 21, 2005
ATTN: SFAE-MSLS-CWS	DSN 746-0728; COMM (256) 876-0728
RSA, AL 35898-5750	raymond.nulk@mal.army.mil

Classified by: [redacted]
Downgrade [redacted]
Declassify on:

[redacted]

*** [redacted] ***

07-C-0597

AS AMENDED

10. (b)(1) [redacted]

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Min range (m)	(b)(1) [redacted]			
(S) Degraded				
Full				
Max range (m)				
Hit probability (Ph/reliable rnd)				
Kill probability				
Given a reliable shot (Pk/s)				
Given engagement opportunity (Pk/e)				
(U) System weight (lbs)				
(U) Missile operational reliability	.92	.92 / .92	.94	.94
(U) Cmd Launch Unit MTBOMF (hrs)	129	129 / 129	505	505
Cmd Launch Unit MTTR (hrs)	<1.5	<1.5 / 1.5	.77	.77

AS AMENDED

AS AMENDED

(U) Acronyms:
MTBOMF - Mean Time Between Operational Mission Failures
MTTR - Mean Time To Repair

(U) NOTES:

- Objectives/thresholds/current estimates are at Milestone (MS) III except P(k/e) and Missile operational reliability. Values shown are objectives representing desired performance and minimum acceptable thresholds.

- Full lethality must be met at both minimum and maximum range.

- Probability of hit given a reliable round P(h/reliable round): Hit probabilities are specified for 7 km visibility (day/night) in benign environments. Must hit a fully exposed standard NATO target (2.3m H x 2.3m W x 4.6m L) stationary or moving (crossing velocity up to 20 km/hr) at all ranges (min to max). The hit probability must be attained given any attack azimuth or elevation angle (relative to target) given a shot with a reliable system.

- Probability of kill given a reliable shot P(k/s): A reliable shot is defined by a reliable launch and reliable flight. The P(k/s) must be attained against both stationary and evasively maneuvering targets at all ranges (min to max).

AS AMENDED

10a (b)(1) [redacted]

- Probability of kill given an engagement opportunity P(k/e): Values shown are defined at 1200 meters in fog oil or white phosphorous against a specific threat target.

- Missile Operational Reliability is established at system maturity which is three years after MSIII (May 2000).

b. Current Change Explanations -- None

N-27 RMS

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-286)

PROGRAM: RMS

AS OF DATE: December 31, 2006

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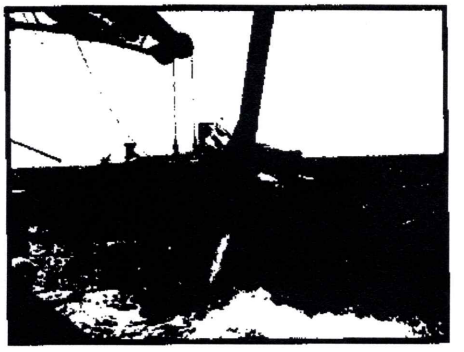

1. (U) **Designation and Nomenclature (Popular Name)**: Remote Minehunting System

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

614 Sicard St. S.E.
Washington Navy Yard Bldg 201
Washington, DC 20376-

Mr. Gary Humes
Assigned: May 16, 2004
DSN 326-1189; COMM 202-781-1189
gary.humes@navy.mil

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Downgrade instructions:
Declassify on: X2 and X3

*** [redacted] ***

10. (U) **Performance Characteristics**:

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Water Depth - Shallow (ft)	40-400	40-400 / 40-300	40-400	40-400
Mine Type	Bottom, CCT, CT, IV	Bottom, CCT, CT, IV / Bottom, CCT, CT, IV	Bottom, CCT, CT, IV	Bottom, CCT, CT, IV
High Level Reconnaissance (U) Achieved Search Level (%) (U) Area Search Rate (sq nmi/hr)	[redacted]			
Water Depth - Deep (ft)	400-1000	400-1000/ 300-600	400-1000	400-1000
Mine Type	CCT, CT, IV	CCT, CT, / CCT, CT, IV	CCT, CT, IV	CCT, CT, IV
High Level Reconnaissance (U) Achieved Search Level (%) (U) Area Search Rate (sq nmi/hr)	[redacted]			
Transit Speed (kts)	20	20 / 12	12	12
Sortie Endurance (hrs)	24	24 / 12	12	12
Command and Control Range (nmi)	100	100 / 30	30	30
Operational Availability	.85	.85 / 0.80	.95	.95

(U) Acronyms:
ASL - Achieved Search Level
ASR - Achieved Search Rate
CCT - Close, Close Tether
CT - Close Tether
hrs - hours
IV - In Volume
kts - knots

(U) Water Depths 40-400 ft: ASL & ASR values from OT-IIA Report.

Water Depths 400-1000ft: ASL & ASR values from OT-IIB Classified Dive Analysis.

The values for Transit Speed, Sortie Endurance and Command & Control Range are the APB objective values. These KPPs have not been demontrated to date.

10b. (U) **Performance Characteristics (Cont'd)**:

b. Current Change Explanations -- None

N-34 TACTICAL TOMAHAWK

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-289)
PROGRAM: TOMAHAWK(R/UGM-109E)

AS OF DATE: December 31, 2006

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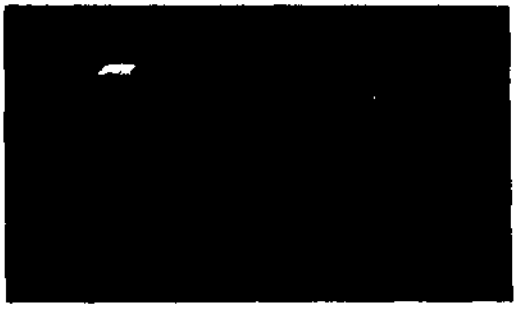

1. (U) **Designation and Nomenclature (Popular Name)**: Block IV TOMAHAWK (Tactical Tomahawk)

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

PEO Strike Weapons and Unmanned Aviation
47123 Buse Rd., Bldg 2272
Patuxent River, MD 20670-1547

CAPT R.M. MCQUEEN
Assigned: July 25, 2005
DSN 757-6408; COMM 301-757-6408
rick.mcqueen@navy.mil

*** [redacted] ***

10. (U) **Performance Characteristics**:

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold	Demon-strated	Current
(S) Accuracy Land Attack CEP (ft.)				
(S) ECCM Jam Resistance GPS/Navigation (dBW)				
(S) Mission Reliability (%)				
(S) Cruise Reliability (%)				
(S) Range Operational (km)				

(U) Acronyms:

Acronyms:
CEP-Circular Error Probable
dBw-Decibles in Watts
ECCM-Electronic Counter Counter Measure
GPS-Global Positioning System
km-kilometer

(b)(1)

[U] (Range Operational): Value in Kilometers. Contract Specification is stated as Operational Range, given standard conditions, Mach 0.65.

(U) Demonstrated Mission Reliability (MR)and Cruise Reliability (CR) are based upon a Point Estimate approach, which includes 53 MR and 53 CR credible test events. Credible test events include OPEVAL, TECHEVAL, Tactical Tomahawk Penetrating Vehicle flights, contractor flights, ground, and accredited hardware and software simulation testing. As a result of accumulating additional flight and ground test results in CYC6, the Current Estimate is based on a Point Estimate Approach (successes/successes-failures). Previous SAR Current Estimate calculations utilized the OSD accepted (MILHDBK-189) Lloyd-Lipow methodology for predicting the reliability of single use weapons. The Point Estimate Approach was the same methodology that Commander, Operational Test and Evaluation Force (OPTEVFOR) utilized however, demonstrated performance presented above utilizes all credible test events. OPTEVFOR acknowledged in its own OPEVAL report as a stated limitation that..."the limited data did not allow a statistically significant sample size in the analysis of missile performance."
As additional Operational Test Launches (OTL) occur, demonstrated performance data will be updated.

10b. [redacted] **Performance Characteristics (Cont'd)**:

b. Current Change Explanations -- None

N-25 NMT

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-290)

PROGRAM: NMT

AS OF DATE: December 31, 2006

INDEX

1. **(U) Designation and Nomenclature (Popular Name)**: Navy Multiband Terminal

2. **(U) DoD Component**: Navy

Joint Participants:
N/A

3. **(U) Responsible Office and Telephone Number**:

PEO C4I
4301 Pacific Coast Highway
(858) 537-8779
San Diego, CA 92110-3127

CAPT John W. R. Pope III
Assigned: October 30, 2005
DSN (619) 524-7954; COMM (619) 524-7954
john.pope@navy.mil

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~~Derived from: [illegible] 68[illegible] 09JUN2000~~
~~Downgrade instructions: [illegible]~~
~~Declassify on: X4~~

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10. (U) **Performance Characteristics**:

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Coverage AEHF	Provide Global coverage	Provide Global coverage/ / World-wide continuous anywhere between 65 deg N to 65 deg S lat	TBD	Provide Global coverage
Coverage WGS	Capable of providing communications connectivity anywhere between 70 deg N and 65 deg S lat w/i the satellites field of view, 24 hrs per day	Capable of providing communications connectivity anywhere between 70 deg N and 65 deg S lat w/i the satellites field of view, 24 hrs per day / Capable of providing communications connectivity anywhere between 65 deg N and 65 deg S lat w/i the satellites field of view, 24 hrs per day	TBD	Capable of providing communications connectivity anywhere between 70 deg N and 65 deg S lat w/i the satellites field of view, 24 hrs per day
Capacity AEHF	Shall support at least 1.2 Gbps for the CMTW Scenario; at least 600 Mbps for the Strategic Scenario	Shall support at least 1.2 Gbps for the CMTW Scenario; at least 600 Mbps for the Strategic Scenario/ / At least 500 Mbps for the CMTW Scenario; at least 350 Mbps for the Strategic scenario	TBD	Shall support at least 1.2 Gbps for the CMTW Scenario; at least 600 Mbps for the Strategic Scenario
Capacity WGS	Min of 3.6 Gbps	Min of 3.6 Gbps/ / Min of 1.2 Gbps	TBD	Min of 3.6 Gbps

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Protection AEHF - Electronic Jamming	Support tactical and strategic forces to counter the medium probability threat in the 2000 MILSATCOM STAR	Support tactical and strategic forces to counter the medium probability threat in the 2000 MILSATCOM STAR / Support tactical and strategic forces to counter the medium probability threat in the 2000 MILSATCOM STAR	TBD	Support tactical and strategic forces to counter the medium probability threat in the 2000 MILSATCOM STAR
Protection AEHF - Nuclear	Provide assured communications to survivable nuclear forces exposed to the environment specified in the NCGS 89-06 and for those critical networks that support situation monitoring, decision making, force direction, force	Provide assured communications to survivable nuclear forces exposed to the environment specified in the NCGS 89-06 and for those critical networks that support situation monitoring, decision making, force direction, force / Provide assured communications to survivable nuclear forces exposed to the environment specified in the NCGS 89-06 and for those critical networks that support situation monitoring, decision making, force direction, force	TBD	Provide assured communications to survivable nuclear forces exposed to the environment specified in the NCGS 89-06 and for those critical networks that support situation monitoring, decision making, force direction, force

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
	management and planning	management and planning / management and planning		management and planning
Access and Control AEHF	Provide users the ability to plan, control, and reconfigure critical functions such as situation monitoring, decision making, force direction, force management and planning; capabilities shall not be disrupted by communications configuration changes to noncritical functions; as a minimum, thresh-	Provide users the ability to plan, control, and reconfigure critical functions such as situation monitoring, decision making, force direction, force management and planning; capabilities shall not be disrupted by communications configuration changes to noncritical functions; as a minimum, thresh- / Provide users the ability to plan, control, and reconfigure critical functions such as situation monitoring, decision making, force direction, force management and planning; capabilities shall not be disrupted by communications configuration changes to noncritical functions; as a minimum, thresh-	TBD	Provide users the ability to plan, control, and reconfigure critical functions such as situation monitoring, decision making, force direction, force management and planning; capabilities shall not be disrupted by communications configuration changes to noncritical functions; as a minimum, thresh-

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
	old requirements in Par. 4.2.4.1. 3.1, 4.2.4.2. 3, and 4.2.4.6 (subpar. 1-4) shall be accomplished to support these functions. The KPP objective criterion is accomplishment of objective requirements in these paragraphs.	old requirements in Par. 4.2.4.1. 3.1, 4.2.4.2. 3, and 4.2.4.6 (subpar. 1-4) shall be accomplished to support these functions. The KPP objective criterion is accomplishment of objective requirements in these paragraphs.		old requirements in Par. 4.2.4.1. 3.1, 4.2.4.2. 3, and 4.2.4.6 (subpar. 1-4) shall be accomplished to support these functions. The KPP objective criterion is accomplishment of objective requirements in these paragraphs.
Access and Control WGS	Platform and Payload control capabilities to perform launch and early orbit, on-orbit opera-	Platform and Payload control capabilities to perform launch and early orbit, on-orbit opera-	TBD	Platform and Payload control capabilities to perform launch and early orbit, on-orbit opera-

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
	tions, station-keeping, satellite repositioning, platform and payload maintenance, anomaly identification and resolution	tions, station-keeping, satellite repositioning, platform and payload maintenance, anomaly identification and resolution / tions, station-keeping, satellite repositioning, platform and payload maintenance, anomaly identification and resolution.		tions, station-keeping, satellite repositioning, platform and payload maintenance, anomaly identification and resolution
Interoperability AEHF	The AEHF system shall support joint interoperable warfighter communications among all military Services EHF terminals up to their max data rate (Threshold). The System shall operate with the Milstar	The AEHF system shall support joint interoperable warfighter communications among all military Services EHF terminals up to their max data rate (Threshold). The System shall operate with the Milstar / The AEHF system shall support joint interoperable warfighter communications among all military Services EHF terminals up to their max data rate (Threshold). The System shall operate with the Milstar	TBD	The AEHF system shall support joint interoperable warfighter communications among all military Services EHF terminals up to their max data rate (Threshold). The System shall operate with the Milstar

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
	system at all LDR and MDR terminal supported data rates and selected modes (Threshold). The AEHF System shall support the critical IERs in Table 4-19 (Threshold) and all IERs in Table 4-19 (Objective).	system at all LDR and MDR terminal supported data rates and selected modes (Threshold). The AEHF System shall support the critical IERs in Table 4-19 (Threshold) and all IERs in Table 4-19 (Objective).		system at all LDR and MDR terminal supported data rates and selected modes (Threshold). The AEHF System shall support the critical IERs in Table 4-19 (Threshold) and all IERs in Table 4-19 (Objective).
Interoperability WGS	Satellites fully interoperable with existing and programmed DSCS and GBS terminals	Satellites fully interoperable with existing and programmed DSCS and GBS terminals	TBD	Satellites fully interoperable with existing and programmed DSCS and GBS terminals
Coverage	Terminals capable of pointing	Terminals capable of pointing	TBD	Terminals capable of pointing

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Capacity	and tracking satellites with elevation angles of 10 deg (20 deg for mast) above the horizon and 360 deg in azimuth with full platform motion Terminal numbers assume the satellite meets its performance requirements contained in the AEHF Technical Requirements Document Revision 10	and tracking / satellites with elevation angles of 10 deg (20 deg for mast) above the horizon and 360 deg in azimuth with full platform motion Terminal numbers assume the satellite meets its performance requirements contained in the AEHF Technical Requirements Document Revision 10 / and tracking satellites with elevation angles of 10 deg (20 deg for mast) above the horizon and 360 deg in azimuth with full platform motion Terminal numbers assume the satellite meets its performance requirements contained in the AEHF Technical Requirements Document Revision 10	TBD	and tracking satellites with elevation angles of 10 deg (20 deg for mast) above the horizon and 360 deg in azimuth with full platform motion Terminal numbers assume the satellite meets its performance requirements contained in the AEHF Technical Requirements Document Revision 10
AEHF Terminal Throughput				
Ship	2 Mbps	2 Mbps / 2 Mbps	TBD	2 Mbps
Shore	8 Mbps	8 Mbps / 8 Mbps	TBD	8 Mbps

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Submarine Periscope	19.2 Kbps	19.2 / 19.2 Kbps	TBD	19.2 Kbps
Submarine Mast	512 Kbps	512 / 512 Kbps	TBD	512 Kbps
Ka Throughput Ship	8 Mbps	8 Mbps / 2 Mbps	TBD	8 Mbps
Protection Terminals - Electronic Jamming (AEHF only)				
[redacted] Submarine (Mast Antenna)	(b)(1)		TBD	(b)(1)
(S) Submarine (Periscope Antenna)			TBD	
[redacted] Shore (10 ft)			TBD	
[redacted] Ship			TBD	

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Low Probability of Intercept				
(b)(1) Submarine (Mast Antenna)	(b)(1)		TBD	(b)(1)
(b)(1) Submarine (Periscope Antenna)			TBD	
(b)(1) Ship			TBD	

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Access and Control	TTY Characters Functions shall include aspects of control required to gain access to satellite communications resources, initiate, maintain, modify, and terminate services; shall include the following access control protocols/messages, which are identified in SI-3135 Appendix A and B: -Terminal LOGON	TTY Characters Functions shall include aspects of control required to gain access to satellite communications resources, initiate, maintain, modify, and terminate services; shall include the following access control protocols/messages, which are identified in SI-3135 Appendix A and B: -Terminal LOGON / TTY Characters Functions shall include aspects of control required to gain access to satellite communications resources, initiate, maintain, modify, and terminate services; shall include the following access control protocols/messages, which are identified in SI-3135 Appendix A and B: -Terminal LOGON	TBD	TTY Characters Functions shall include aspects of control required to gain access to satellite communications resources, initiate, maintain, modify, and terminate services; shall include the following access control protocols/messages, which are identified in SI-3135 Appendix A and B: -Terminal LOGON

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate -Termin- al LOG-	Approved APB Obj/Threshold -Termin-/ -Termin- al LOG- / al LOG-	Demon- strated Perf	Current Estimate -Termin- al LOG-
(U) Submarine Reportback	(b)(1)		TBD	(b)(1)
(U) Satellite Acquisition and Log-On			TBD	

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development	Approved APB	Demonstrated Per	Current
(b)(1)	(b)(1)			(b)(1)
Interoperability	Assuming interoperable cryptographic equipment, keying material, and baseband devices, the NMT	Assuming interoperable cryptographic equipment, keying material, and baseband devices, the NMT	Assuming interoperable cryptographic equipment, keying material, and baseband devices, the NMT	TBD	Assuming interoperable cryptographic equipment, keying material, and baseband devices, the NMT

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
	shall support joint interoperable warfighter communications with all other military branches EHF terminals up to the terminal's max data rate	shall / shall support / support joint / joint interoperable / interoperable warfighter / warfighter communications / communications with all / with all other / other military / military branches / branches EHF terminals / EHF terminals up to / up to the terminal's / the terminal's max data / max data rate / rate		shall support joint interoperable warfighter communications with all other military branches EHF terminals up to the terminal's max data rate
Backward Compatible (BC) w/ Existing EHF Systems	NMT shall be backwards-compatible with legacy Navy AN/USC-38(V)1-12 EHF terminals; in the most robust LDR mode (75 bps) and least robust LDR mode (2.4 kbps), the ship NMT shall	NMT / NMT shall be / shall be backwards- / backwards-compatible / compatible with / with legacy / legacy Navy / Navy AN/USC-38(V)1-12 / AN/USC-38(V)1-12 EHF terminals; / EHF terminals; in the / in the most / most robust / robust LDR mode / LDR mode (75 bps) / (75 bps) and / and least / least robust / robust LDR mode / LDR mode (2.4 kbps), / (2.4 kbps), the ship / the ship NMT / NMT shall / shall	TBD	NMT shall be backwards-compatible with legacy Navy AN/USC-38(V)1-12 EHF terminals; in the most robust LDR mode (75 bps) and least robust LDR mode (2.4 kbps), the ship NMT shall

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
	operate with a legacy NESP ship terminal maintaining a bit error rate of 10E-5 or less; in the most robust MDR mode (4.8 kbps) and least robust MDR mode (512 kbps), the ship NMT shall operate with a legacy NESP ship terminal maintaining a bit error rate of 10E-5 or less	operate with a legacy NESP ship terminal maintaining a bit error rate of 10E-5 or less; in the most robust MDR mode (4.8 kbps) and least robust MDR mode (512 kbps), the ship NMT shall operate with a legacy NESP ship terminal maintaining a bit error rate of 10E-5 or less / operate with a legacy NESP ship terminal maintaining a bit error rate of 10E-5 or less; in the most robust MDR mode (4.8 kbps) and least robust MDR mode (512 kbps), the ship NMT shall operate with a legacy NESP ship terminal maintaining a bit error rate of 10E-5 or less		operate with a legacy NESP ship terminal maintaining a bit error rate of 10E-5 or less; in the most robust MDR mode (4.8 kbps) and least robust MDR mode (512 kbps), the ship NMT shall operate with a legacy NESP ship terminal maintaining a bit error rate of 10E-5 or less
Reliability AEHF				
MTBF	4400 hrs	4400 hrs / 300 hrs	TBD	4400 hrs
MTTR	4 hrs	4 hrs / 5 hrs	TBD	4 hrs
Availability AEHF				
Ai for Ship	0.999	0.999 / 0.983	TBD	0.999
Ai for Shore	0.999	0.999 / 0.983	TBD	0.999
Ai for Submarine	0.999	0.999 / 0.983	TBD	0.999

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Ao for Ship	0.999	0.999 / 0.900	TBD	0.999
Ac for Shore	0.999	0.999 / 0.900	TBD	0.999
Ao for Submarine	0.999	0.999 / 0.940	TBD	0.999
Effective Isotropic Radiated Power (EIRP)				
AEHF Ship	(b)(1) [redacted]		TBD	(b)(1) [redacted]
Ka Ship	67.0 dBW	67.0 dBW / 67.0 dBW	TBD	67.0 dBW
Gain/Noise Temperature (G/T)				
AEHF Ship	(b)(1) [redacted] dB/K	dB/K / dB/K	TBD	(b)(1) [redacted] dB/K
Ka Ship	21 dB/K	21 dB/K / 21 dB/K	TBD	21 dB/K
High Altitude Electromagnetic Pulse (HEMP) Protection				
AEHF- All Platforms	Survive HEMP in accordance with DoD-STD-2169B	Survive HEMP in accordance with DoD-STD-2169B / Survive HEMP in accordance with DoD-STD-2169B	TBD	Survive HEMP in accordance with DoD-STD-2169B

(U) Acronyms:
- Ai - Inherent Availability
- Ao - Operational Availability
- CEVR - Circularly Equivalent Vulnerability Radius
- CMTW - Combined Major Theater of War
- dB/K - Decibels per Kelvin
- FOV - Field of View
- HGEC - High Gain Earth Coverage
- HRCA - High Resolution Coverage Area
- IER - Information Exchange Requirements
- kpbs - Kilobits per second
- Mbps - Millibits per second
- MRCA - Medium Resolution Coverage Area

10b. (U) **Performance Characteristics (Cont'd)**:

b. Current Change Explanations -- None

AF-17 MM III GRP

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-302)
PROGRAM: Minuteman III GRP

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: Minuteman III Guidance Replacement Program

2. (U) **DoD Component**: USAF

3. (U) **Responsible Office and Telephone Number:**

556 ICBMSSG/CLA
6031 GUM LANE
HILL AFB, UT 84056-5826

Mr. Rock Bushman
Assigned: January 8, 2007
DSN 777-1296; COMM (801) 777-1296
Rock.Bushman@hill.af.mil

[redacted]

Classified by: ICBM Secu[redacted]ication Guide, 30 Sep 97
Downgrade instruct[redacted]:
Declas[redacted]y on: (X-2)

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*** [redacted] ***

PAX 07-C-0236
07-C-0600

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Production	Approved APB	Demon-strated	Current
(b)(1)	[redacted]			

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N-20 LHA REPLACEMENT

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-333)

PROGRAM: LHA 6

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: LHA Replacement Amphibious Assault Ship

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

PROGRAM EXECUTIVE OFFICE, SHIPS
AMPHIBIOUS WARFARE PROGRAM OFFICE
1333 ISAAC HULL AVENUE
WASHINGTON, DC 20376-2101

CAPT JEFFERY RIEDEL
Assigned: September 25, 2006
DSN 326-0940; COMM (202) 781-0940
jeffery.riedel@navy.mil

Derived from: Derived from Multiple Sources
Downgrade instructions: Multiple Sources
Declassify on: X1, X

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*** [redacted] ***

10. (U) **Performance Characteristics**:

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Net Ready	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements in the joint integrated architecture	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements in the joint integrated architecture / 100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements designated as enterprise level or critical in the joint integrated architecture	TBD	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements in the joint integrated architecture
Vertical Take Off and Landing land/launch spots	9 CH-53E/ MV-22	9 CH-53E/ MV-22 / 9 CH-53E/ MV-22	TBD	9 CH-53E/ MV-22
F-35B capacity	23 Aircraft	23 Aircraft / 20 Aircraft	TBD	23 Aircraft
Aviation operations	6 Spots 12 hrs/ day(Sustained) 6 Spots 24 hrs/ day for	6 Spots 12 hrs/ day(Sustained) 6 Spots 24 hrs/ day for / 6 Spots 12 hrs/ day(Sustained) 6 Spots 24 hrs/ day for	TBD	6 Spots 12 hrs/ day(Sustained) 6 Spots 24 hrs/ day for

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
	six consecutive days (Surge)	six consecutive days (Surge) / six consecutive days (Surge)		six consecutive days (Surge)
Vehicle space	12,000 sq. ft.	12,000 sq. ft. / 10,000 sq. ft.	TBD	12,000 sq. ft.
Total manpower (includes ship's force and all embarked elements such as troops, staffs, detachments, etc.)	2,891 Persons	2,891 Persons / 2,891 Persons	TBD	2,891 Persons
Cargo space	160,000 cu. ft.	160,000 cu. ft. / 130,000 cu. ft.	TBD	160,000 cu. ft.
Troop accomodations	1,686 Persons	1,686 Persons / 1,626 Persons	TBD	1,686 Persons
Survivability: Navy Survivability Policy for Surface Ships	Equals threshold, implement recommendations of the NAVSEA COLE Survivability Review Group Phase II Analysis Report of Amphibious Ships, Apr 2003	Equals threshold, implement recommendations of the NAVSEA COLE Survivability Review Group Phase II Analysis Report of Amphibious Ships, Apr 2003 / Level II per OPNAVINST 9070.1 of 23 Sep 1988 (LHA(R) cargo magazine protection as stated in para. 6.b.17 of the CDD	TBD	Equals threshold, implement recommendations of the NAVSEA COLE Survivability Review Group Phase II Analysis Report of Amphibious Ships, Apr 2003
(S) Survivability: Low-slow flyer defense (X probability of kill per per low-slow flyer against a target raid of Y low-slow flyer threats by 500	[redacted] (b)(1)			

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
yards) - Parameters: Altitude 10 ft-20,000 feet; speed 0-200 nm/hr; greater tha				
Survivability: Small boat defense (X probability of catastrophic kill per boat against a target raid of Y small boat threats by 500 yards)	(b)(1)		TBD	(b)(1)
Force Protection: Collective Protection System (CPS)	Expanded CBR protection that provides a toxic-free environment (where it is not necessary to wear protective clothing or masks) for 40% of crew in berthing, messing, sanitary, and battle dressing facilities as well as key	Expanded CBR protection that provides a toxic-free environment (where it is not necessary to wear protective clothing or masks) for 40% of crew in berthing, messing, sanitary, and battle dressing facilities as well as key	CBR protection that provides a toxic-free environment (where it is not necessary to wear protective clothing or masks) for 40% of crew in berthing, messing, sanitary, and battle dressing facilities	TBD	Expanded CBR protection that provides a toxic-free environment (where it is not necessary to wear protective clothing or masks) for 40% of crew in berthing, messing, sanitary, and battle dressing facilities as well as key

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Force Protection: Decontamination Stations	operational spaces that can be affordably integrated into ship design Four decontamination stations (two CPS, one casualty, and one conventional) providing a capability of decontamination an avg of ten people per hr per station	operational spaces that can be affordably integrated into ship design Four decontamination stations (two CPS, one casualty, and one conventional) providing a capability of decontamination an avg of ten people per hr per station / Four decontamination stations (two CPS, one casualty, and one conventional) providing a capability of decontamination an avg of ten people per hr per station	TBD	operational spaces that can be affordably integrated into ship design Four decontamination stations (two CPS, one casualty, and one conventional) providing a capability of decontamination an avg of ten people per hr per station

(U) Acronyms:
Acronyms:

avg. - average
CBR - Chemical, Biological, Radiological
CDD - Capability Development Document
cu. ft. - cubic feet
ft - feet
hr - hour

10a. (U) **Performance Characteristics (Cont'd)**:

nm - nautical mile
sq. ft. - square feet
sqm - square meters

b. Current Change Explanations -- None

N-30 SSGN

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-337)

PROGRAM: SSGN

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: OHIO CLASS SSGN CONVERSION

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

SSGN PROGRAM OFFICE (PMS398)
PEO SUBMARINES
614 SICARD STREET, SE
WASHINGTON NAVY YD, DC 20376-7034

CAPT. Mark Bock
Assigned: May 22, 2006
DSN 326-2034; COMM 202-781-2034
mark.bock@navy.mil

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Downgrade instructions: [redacted]
Declassify on: X3, X4

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07-C-0655

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10. (U) **Performance Characteristics**:

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
*Interoperability	100% of top-level IERs	100% of top-level IERs / 100% of top-level IERs / designated / critical	TBD	100% of top-level IERs
*Land Attack/Strike Warfare - "A Full Strike Configured"	"x" = 154	"x" = 154 / "x" = 132	TBD	"x" = 154
*Land Attack/Strike Warfare Operational Availability (Ao)	(b)(1)		TBD	(b)(1)
Special Operations Forces (SOF) Operations Support *SOF Mobility Assets	Ability to support 2 ASDS, or 2 DDS, or 1 ASDS and 1 DDS simultaneously	Ability to support 2 ASDS, or 2 DDS, or 1 ASDS and 1 DDS simultaneously / Ability to support 2 ASDS, or 2 DDS, or 1 ASDS and 1 DDS simultaneously	TBD	Ability to support 2 ASDS, or 2 DDS, or 1 ASDS and 1 DDS simultaneously
*System Operational Availability (Ao) *"Full SOF Configured" - SOF Personnel	(b)(1)			(b)(1)

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AS AMENDED

AS AMENDED

AS AMENDED

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Production	Approved APB	Demon-strated Perf	Current
(U) Endurance	(b)(1)			(b)(1)
(U) Maximum Transit Speed with DDS or ASDS attached				
(U) Radiated Broad Band Noise				
(U) Radiated Narrow Band Noise				

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AS AMENDED

AS AMENDED

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Production	Approved APB	Demonstrated Perf	Current CBD
(U) Exceptions to Noise Requirements - SOF Operations Support	(b)(1)			(b)(1)
(U) Exceptions to Noise Requirements - Land Attack/Strike Warfare Launch Operations				

AS AMENDED

AS AMENDED

10a. (U) Performance Characteristics (Cont'd):

	SAR Production	Approved APB	Demonstrated	Current Estimate
	(b)			(b)
Land Attack/Strike and Warfare Attributes				
Average Tomahawk Launch Interval			BD	
TLAM Block III Single Mission Response Time			BD	
Tactical Tomahawk Single Mission Response Time			BD	
Tomahawk Multi-Mission Response Time			BD	
SOF Operations Support Attributes				
Number of sorties per single DDS per typical SSGN deployment period			BD	
Number of sorties per single ASDS per typical SSGN deployment period			BD	
Number of sorties per single LOC per typical SSGN deployment period			BD	
Internal Stowage - SEASUB Ordnance while SSGN is in a Land Attack/Strike Warfare configuration			BD	
Internal Stowage - SEASUB Non-Ordnance while SSGN is in a Land Attack/Strike Warfare configuration			BD	
Berthing			BD	

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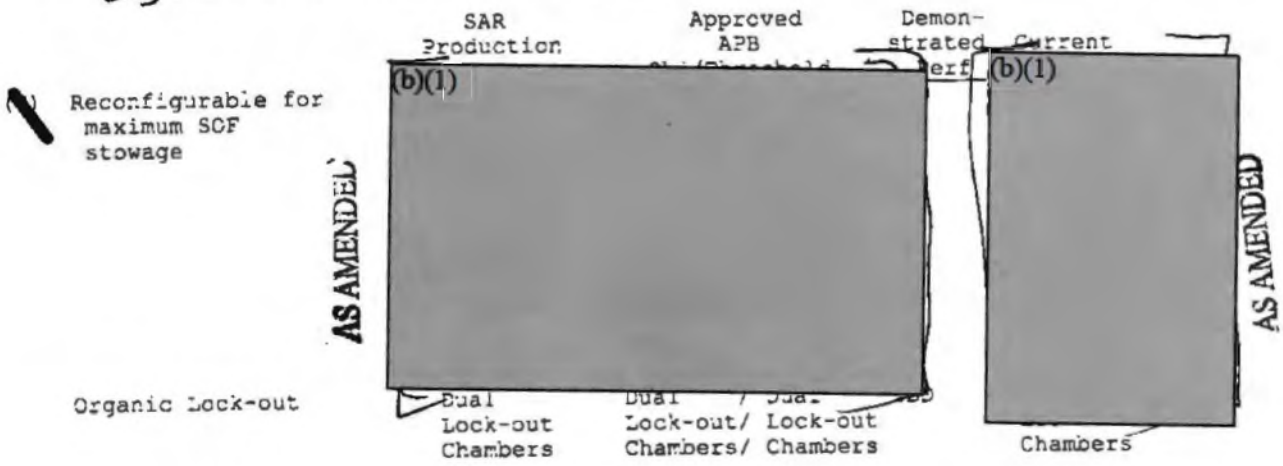
*** [redacted] ***

10a. (U) **Performance Characteristics (Cont'd):**



(U) Acronyms:

ASDS	Advanced SEAL Delivery System
DDS	DryDeck Shelter
ft3	Cubic feet
IER	Information Exchange Requirement
kts	Knots
LOC	Lock Out Chamber
SEASUB	External stowage for Special Operation Forces Operations
SOF	Special Operations Forces
TLAM	Tomahawk Land Attack Missile

(U) * KPP (Key Performance Parameter)

b. Current Change Explanations -- None

*** [redacted] ***

DoD-1 BMDS

[redacted]

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February 2, 2007

BALLISTIC MISSILE DEFENSE SYSTEM (BMDS)
BLOCK BASELINES AND GOALS (U)

(U) In accordance with Title X requirements for a Major Defense Acquisition Program, and the FY02-FY05 National Defense Authorization Acts, I approve the *BMDS Block Baselines and Goals*. Included herein are: 1) BMDS Fielding Baselines for Blocks 2006 and 2008; 2) BMDS Development Goals for Blocks 2006-2012; and 3) BMDS Fielding Projections for Blocks 2010 and 2012.

(U) The BMDS Block Baselines and Goals is a summary of key performance, schedule and budget parameters that are the basis for the achievement of a ballistic missile defense capability. My intent is that the BMDS development and fielding efforts be managed within the technical, schedule and financial goals identified herein.

HENRY A. OBERING III
Lieutenant General, USAF
Director

2 Feb 07
DATE

[redacted]

BMDS BLOCK BASELINES AND GOALS (U)

Derived from: BMDS Security Classification Guide dated April 2004
Declassify on: 26 April 2029

[redacted]

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FIGURES (U):

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SECTION I

INTRODUCTION (U)

[redacted]

PURPOSE (U)

(U) This document responds to Congressional direction in the FY2002-2005 Defense Authorization Acts. This version contains information consistent with the planning now reflected in the FY08 President's Budget submittal.

(U) The 2007 *BMDS Block Baselines and Goals* package is composed of the following:

- ***BMDS Fielding Baselines*** – Components and Engagement Sequence Groups (ESGs) that will be made available for fielding by the end of a particular Block. The Block 2006 and 2008 Fielding Baselines serve as the cost, schedule and performance baselines mandated by the FY05 Defense Authorization Act.
- ***BMDS Development Goals*** – Specific Components (Sensor, Weapon, Command & Control, Battle Management and Network capabilities) that are expected to attain sufficient technical maturity by the end of the Block such that they can begin system-level testing, integration, and fielding in the next Block.
- ***BMDS Fielding Projections*** – Components and ESGs expected to be made available based on current schedule, budgetary and technical estimates. Similar in structure/content to the Fielding Baselines.
- ***Adversary Benchmarks*** – Adversary missile systems and countermeasures associated with Block 2006 and 2008.
- ***BMDS Budget Breakdowns*** – Detailed Development, Fielding and Operations & Support (O&S) budget allocations for Blocks 2006 and 2008.

RULE SET/ASSUMPTIONS (U)

(U) To maximize the effectiveness of MDA's goal-setting and baselining effort, a governing set of rules and assumptions were established. The following are sets of rules that underpin the baselines and goals set forth in this document:

- **BMDS Fielding Baselines (U)**
  - [redacted] The stated budget, schedule and performance data applies only to the Block configuration of the BMDS being made available for fielding.
  - [redacted] An ESG is considered to be characterized when it has completed a sufficient amount of testing and verification activities to demonstrate a military useful capability.
  - [redacted] For planning purposes, Fielding Baseline inventory deliveries and ESG characterization must occur by 31 December of the Block's odd year. For variance reporting, ESG characterization that occurs within six months of the end of a block will be considered to have met the baseline.
  - [redacted] BMDS Block composition is based on inventory *delivery* dates, not *order* dates.
  - [redacted] Baseline budget data includes Development, Fielding and O&S funding.

- [redacted] All funding prior to 10 October 2001 is considered sunk and not included.

- **BMDS Development Goals (U)**
  - [redacted] *Significant* Block development investments (consistent with the MDA Technical Baseline) that are under development and have the potential to become a part of either the BMDS Fielding Baseline or the BMDS Fielding Projection for the next Block.
  - [redacted] No differentiation between Element/Component efforts.
  - [redacted] All funding prior to 10 October 2001 is considered sunk and not included.
  - [redacted] Not considered to be part of the congressionally mandated baseline.

- **BMDS Fielding Projections (U)**
  - [redacted] A projection of future BMDS architecture and capabilities, based on current planning and budgeting estimates (*Out-year BMDS Fielding Goals*).
  - [redacted] Similar in structure/content to Fielding Baselines except no O&S data.
  - [redacted] A projection of capabilities that will be sufficiently developed, integrated, tested and verified by the end of the Block.
  - [redacted] Not considered to be a part of the congressionally mandated baseline.

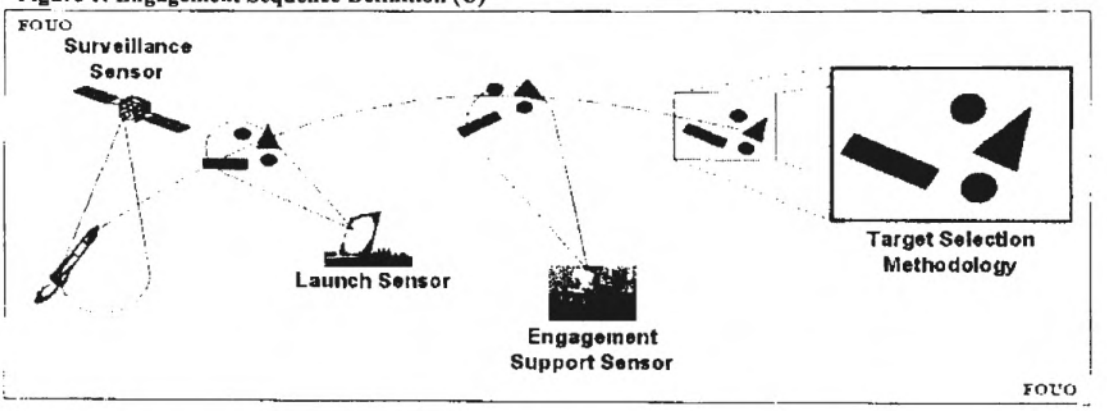
[redacted] For the Fielding Baselines, MDA has developed a set of definitions to help guide the placement of specific BMDS capabilities in specific Blocks. ***Early capability delivery*** is considered to be the first point at which an MDA capability could be utilized in the defense of our nation or of our allies. This occurs once the capability has been adequately demonstrated at the system level and sufficient confidence exists that the capability will perform as intended. ***Full capability delivery*** is attained once the system-level end-to-end testing, verification of system specifications and final performance assessment against MDA Technical Objectives and Goals (TOG) metrics have been completed. Availability of sufficient logistical support is also required to attain full capability delivery status.

(U) Since the BMDS will operate across several areas of responsibility, MDA recognizes the necessity of integrating missile defense operational planning. Since operational planning is a cooperative endeavor, involving both the material developer and the warfighter, MDA is working closely with US Strategic Command (USSTRATCOM), Combatant Commanders (COCOMs) and the Joint Staff to develop a BMDS Concept of Operations. Further, the BMDS Block Baselines and Goals package has been provided to USSTRATCOM, the COCOMs and the Joint Staff for their use. MDA has given thorough consideration to the warfighter's Prioritized Capability List when establishing its development goals and fielding priorities. The establishment of the near-term sea-based terminal program in the FY08 budget is such an example.

ENGAGEMENT SEQUENCE GROUP (ESG) APPROACH (U)

(U) Initially, the systems of the BMDS were individual, autonomous Elements focused on specific missions, but with the creation of the BMDS, missile defense is continuing to migrate towards operating as a single entity. The Engagement Sequence construct was created as an engineering tool to provide a simple representation of BMDS capabilities, integration and functionality and is defined as a unique combination of detect-control-engage functions performed by BMDS subsystems (e.g. sensors, weapons and C2BMC) used to engage a threat ballistic missile. These engagement sequences specify the subsystems that will perform detection and initial tracking, provide data to support interceptor launch and engagement, and perform target selection. The basic layout of an Engagement Sequence set of events is presented in Figure 1.

Figure 1: Engagement Sequence Definition (U)



(U) For an integrated BMDS comprised of multiple weapons and sensors with the necessary interfaces, there can be various combinations of subsystems used to enable the engagement of a hostile ballistic missile. Engagement Sequences focus on identifying sources of available data to enable sensor-to-weapon activities via data consumption. Thus, Engagement Sequences focus only on the principal capabilities necessary to arrive at a workable number of sequences, which are organized into ESGs. These ESGs include identification of the sources of sensor-to-weapon data, as presented in Table 1.

Table 1: Engagement Sequence Group (ESG) Nomenclature (U)

[redacted]

FOUO

Engaging Weapon	Engagement Sequence Group	C2BM-FC	Surveillance-Initial Track	Launch Sensor	Engagement Support Sensor	Target Selection Methodology	Launch On	Engage On
The Weapon Component Used In The Engagement	Short Title Including BMDS Integration	The Key Capabilities And Interfaces Necessary To Enable The ESG, Including Identification Of The Subsystem Controlling An Asset Through Tasking Referred To As "Management"	The Sensor That Initially Detects The Threat And Provides Track Data Used To Initiate The Engagement Sequence	The Dominant Sensor Used To Supply Data To Launch The Interceptor	The Dominant Off-board (Not On The Interceptor) Sensor Used To Supply Data To Consummate The Engagement	Short-hand Notation For The End-to-end Process Used To Select And Ultimately Discriminate The Threat Object To Be Engaged	Launch Weapon Using Identified Sensor Data (Or Fused System Track) With Additional Data Provided By A Different Sensor (s) To Complete The Engagement	Use Identified Sensor Data (Or Fused System Track) To Launch Weapon And Complete The Engagement

[redacted]

(U) Through the simplicity of its structure, the ESG construct can highlight a common theme desired to be added to the BMDS and synchronize normally disparate activities (e.g. concept, specifications, integration, and verification) to a single purpose and set of demonstrations.

(U) As new sensors, weapons and interfaces are integrated into the BMDS, the number of ESGs will increase, thereby increasing system capability. As improvements are made to existing components of the BMDS, an ESG may receive a "Mod" identifier to characterize enhanced technical content of an existing "Launch On" or "Engage On" ESG. The "Mod" identifier will enable distinguishing a modification to an existing sequence within an ESG or an addition of a new Engagement Sequence within the existing group. New ESGs are defined when subsystems or capabilities are introduced that warrants a unique "Launch On" or "Engage On" ESG.

PROGRESS TOWARDS MAKING MISSILE DEFENSE A REALITY (U)

(U) Over the past five years, the Missile Defense Agency has made major strides in developing and fielding a BMDS to defend the United States, its deployed forces, friends and allies against ballistic missiles of all ranges in all phases of flight. In 2004, the United States took the unprecedented step of fielding an initial defense against the current threat with advanced hit-to-kill technology. Since then, we have continued to develop and test an increasingly integrated system of interceptors, sensors, battle management, command and control, and communications systems to improve the depth, range and reliability of our defenses and provide options to address uncertainty and surprise in the future.

(U) Our innovative acquisition strategy – fielding an operational capability while continuing to develop and improve it – was put to the test in the summer of 2006 when we placed the BMDS on alert in response to a credible ballistic missile threat from North Korea. In conjunction with real-world operations, we made significant progress in operating the first increment of the BMDS while continuing to simultaneously develop the system. We also conducted a series of highly successful tests, culminating in the first (U) intercept of a threat representative target with an operational ground-based interceptor using an operational radar sensor.

(U) This section addresses specific CY 2006 accomplishments realized in the fielding and testing of sensors, C2BMC, and weapons.

Fielding (Sensors) (U)

(U) During CY 2006 the Sea-based X-band Radar was positioned in the Pacific for BMDS integration testing enroute to Alaska; sea trials and calibration exercises were completed successfully.

(U) The AN/TPY-2 (Forward Based Mode) radar and C2BMC equipment was deployed to Shariki Air Base, Japan for BMDS testing and operational use. Partial

mission capability was achieved on 30 October 2006 and construction of the objective site was begun.

(U) Upgrades to the Fylingdales Early Warning Radar were completed and testing is in progress.

(U) 10 Long-range Surveillance and Track Aegis ships were made available for operational use.

Testing (Sensors) (U)

(U) Ground and flight-testing demonstrated the ability to execute engage on the following radars: Cobra Dane, Aegis, Beale, and the forward-deployed radar in Japan.

(U) Conducted a successful launch and data collection on two Critical Measurements and Countermeasures flight tests at the Pacific Missile Range Facility in April 2006.

(U) Tested the Beale radar using an ICBM-class target launched from Kodiak Launch Complex, AK in February and September 2006 – an intercept solution was generated and processed by the fire control system.

(U) Achieved successful collection based on Sea-based X-band Radar high-power radiation in the Pacific during September 2006 intercept test of a long-range target.

Fielding (C2BMC) (U)

(U) Set up a USPACOM COCOM Suite, thereby establishing tri-node and the Ft Greely gateway capability.

(U) The Shariki site was set up and operating.

(U) Integrated the AN/TPY-2 (Forward Based Mode) radar into the BMDS architecture

(U) Fielded Planners into USFJ/USFK.

(U) Integrated Combined Test Force Ground Test capability at Colorado Springs, thereby increasing our capability to conduct more tests.

(U) Initiated the capability to cue Aegis with AN/TPY-2 data.

(U) Established early 24/7 operations in response to real world events.

Fielding (Weapons) (U)

(U) Emplaced 4 Ground-based Interceptors (long-range) at Ft Greely, AK Missile Field (total of 12 in Alaska and 2 in California).

(U) Delivered an additional 3 Aegis SM-3 interceptors (short to intermediate-range) for a total of 12 interceptors delivered.

(U) Delivered 1 Aegis BMD-capable engagement cruiser (total 3) and 3 Aegis BMD-capable engagement destroyers (total 3).

Testing (Weapons) (U)

(U) Successful flight of Japanese Standard Missile-3 nosecone in March 2006.

(U) Successful Aegis BMD intercept of separating target in June 2006.

(U) Successful intercept of long-range target by operational long-range interceptor in September 2006.

(U) Successful THAAD intercept of unitary target in July 2006 and January 2007

Block 2006 Fielding Baseline Performance (U)

(U) Even with all the successes that MDA has achieved in implementing its Block 2006 goals, the Agency was not able to meet all the desired outcomes outlined in last year's 2006 Fielding Baseline. With the FY08 budget submission, MDA has established a program to counter the growing strategic threat that consist of three components - We will **maintain and sustain the initial capability, close gaps and improve** this capability to keep pace with the threat, and **develop options for the** future to address threat maturation, uncertainties and surprise. Implementation of this program strategy has caused MDA to slightly modify the Block 2006 Fielding Baseline to better align its fielding goals with the current environment.

(U) The following are modifications MDA has made to the Block 2006 Fielding Baseline:

Funding(U)

- (U) There is an increase of $.378B in the fielding budget due to: additional operational silos at Fort Greely, Alaska and Vandenberg AFB, California; An upgraded early warning radar at Fylingdales, UK; additional deployment costs for Sea-Based X-Band radar in Alaska; and additional deployment costs associated with set of of AN/TPY-2 in Japan.

- (U) There is an increase of $.395B in the O&S budget due to SM-3 missile maintenance program in FY08/09. FY10 cost shifted to Block 2008.

Inventory(U)

- (U) Ground-Based Midcourse Defense (GMD): We increased the number of GBIs in the Block 2006 Fielding Baseline by two. During 2006, we made two important adjustments to the GMD program associated with Fort Greely, AK interceptor delivery acceleration and Vandenberg Air Force Base, CA fielding. The requirement to accelerate interceptor fieldings and attain 24 emplaced interceptors by October 2007, increased the required Block 2006 inventory to 14 units. Based on mitigated risk, program fiscal constraints, life cycle cost considerations, and in accordance with the MDA dual booster strategy program plan, the Boost Vehicle Plus (BV+) program was terminated for convenience on November 29, 2006. A restructured Orbital Boost Vehicle (OBV) delivery schedule has been developed and a net increase of one fielded OBV at Fort Greely

(U) is expected. We also are increasing the number of operational interceptors that will be available at Vandenberg Air Force Base from two to three and adding an additional silo that will be dedicated to testing.

- (U) Aegis: Overall Standard Missile 3 (SM-3) interceptors procured in Block 06 will increase over the 2006 Statement of Goals. However, in the near term (end of calendar year 2007) inventory of SM-3s will drop from 24 (as stated in the 2006 Statement of Goals) to 21. During calendar year 2006, Aegis BMD altered their contracting strategy to accommodate FMS delivery schedules. At that time, sufficient rate capability was not available to accommodate both schedules. Therefore, the delivery of three U.S. missiles was delayed into CY08. Sufficient capability now exists to support both delivery schedules. We also provided funding to begin the near-term and far-term sea-based terminal program. The near-term sea-based terminal program will modify already existing SM-2 Block IV missiles to address incoming ballistic missiles in the terminal phase. The far-term program will begin the design and development of a more robust sea-based terminal capability.

- (U) PAC-3: 15 Additional interceptors were added to the inventory due to lower unit production costs.

Performance(U)

- (S) Even with MDA's great success in implementing its Block 2006 goals and in obtaining and maintaining operational status prior to and during the 4 July 2006 North Korea event, the Agency was not able to meet all desired performance goals outlined in the Block 2006 Fielding Baseline.. Changes are highlighted in Table 3 below. A primary change is in the Defended Area versus Iran due to a change in threat assessment. The threat observed during the 4 July 2006 North Korea event was assessed to be a 3-stage, long burn LRBM. If this threat were launched from Iran, the West Coast of the United States could not be defended. The West Coast is defended against shorter burn LRBMs. In both cases, Alaska is not defended from launches from Iran.

(U) A summary of the modifications made to the Block 2006 Fielding Baseline is provided in Table 2 below. The modified Block 2006 Fielding Baseline is provided in Table 4.

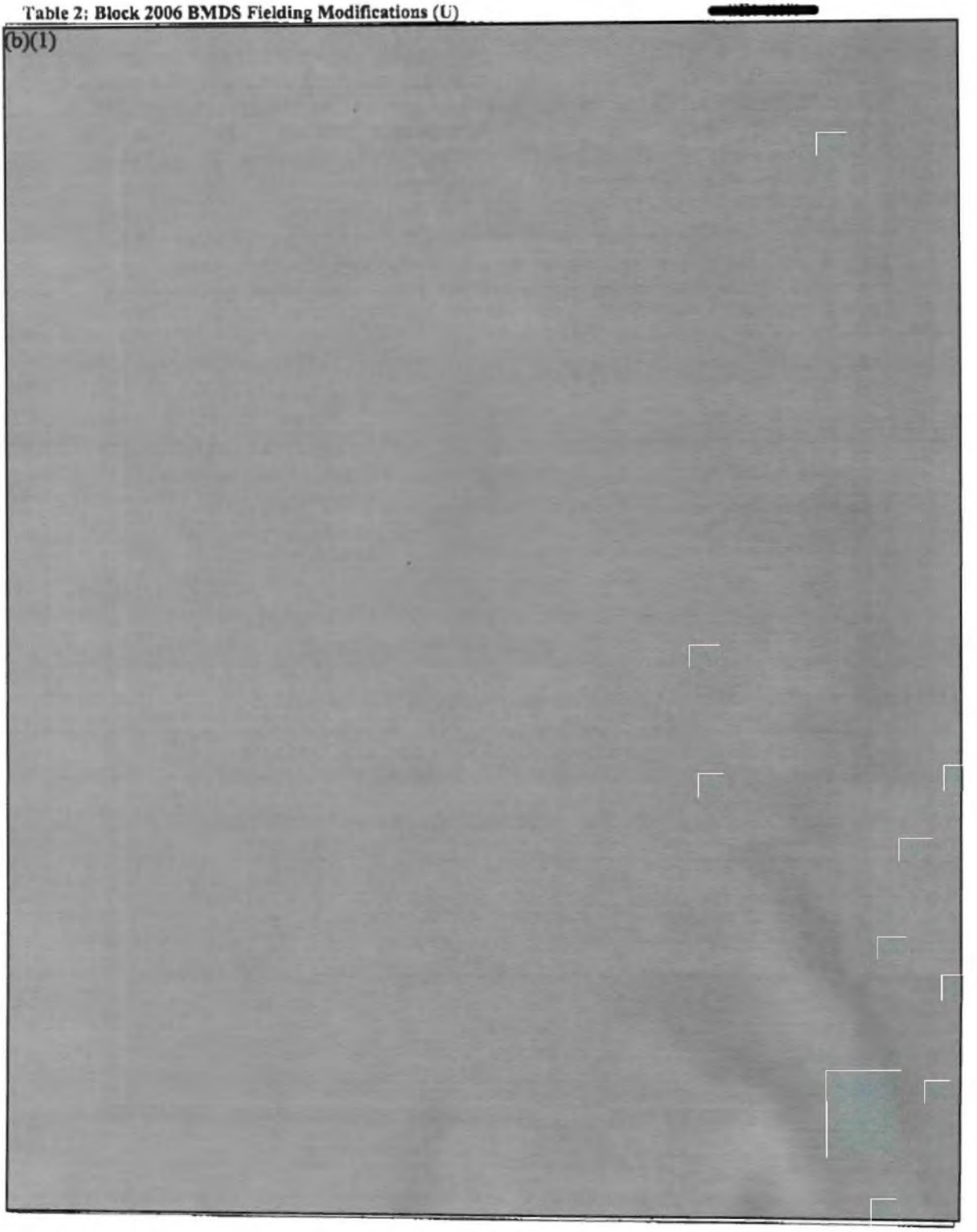
(U) As required by the 2005 Defense Authorization Act, more detailed explanations of the reasons for the variances from the Block 2006 Fielding Baseline submission will be provided in the 2006 BMDS Selected Acquisition Report (SAR).

Block 2008 Fielding Baseline (U)

(U) In 2007 and beyond, we will increase the capability of the BMDS by adding more interceptors, deploying additional radars, and enhancing our command and control systems, while conducting a series of ground and flight tests that are increasingly realistic and challenging. This is the first year for reporting the Block 2008 Fielding Baseline. In Block 2008 we will expand our capability to protect the United States, deployed forces, allies and friends by continuing to field an initial capability while also closing gaps and improving this capability. Block 2008 introduces the capability to defend against short-to-medium-range ballistic missiles in the terminal phase of flight and provides additional forward-based radars. It also continues our development efforts to ensure we are prepared to address future challenges. The Block 2008 Fielding Baseline is provided in Table 5.

Table 2: Block 2006 BMDS Fielding Modifications (U) [redacted]

(b)(1)



SECTION II

FIELDING BASELINES (U)

BLOCK 2006 (U)
BLOCK 2008 (U)

BMDS FIELDING BASELINES (U)

(U) In compliance with the FY05 Defense Authorization language, the Block 2006 and 2008 Fielding Baselines contained in this section are the program baselines for the Agency. These Fielding Baselines, consistent with the Input/Output/Outcome model highlighted in the Office of Management and Budget's Circular A-11, describe the inventory and early capability ESGs that will be made available to the warfighter by the end of the Block 2006 and 2008 timeframes.

(U) These Fielding Baselines highlight: 1) The specific BMDS Components and ESGs that MDA will make available for fielding in a particular Block; 2) The quantities of each Component; 3) Development, Fielding and O&S budgets; and 4) A range of BMDS performance metrics (per threat class) based upon a predictive analysis of the worst-performing available ESG to the best-performing available ESG. Applicable effectiveness metrics include:

- **(U) Probability of Engagement Success (P_{ES}):** The probability that the BMDS will prevent an adversary warhead from carrying out its mission. In general, each threat missile/warhead launch is unique and its PES is affected by both adversary- and BMDS-related variables, highlighted in Table 3, including, but not limited to:

Table 3 – P_{ES} Variables (U)

Adversary Variables
Threat Missile Characteristics
Launch Point/Aim Point
Trajectory
Raid Timing and Spacing
Attack Strategy
Countermeasures

BMDS Variables
Defense Deployment
Quantities of Defensive Resources
System (Kill Chain) Performance
Battle Management (Shot Doctrine, Tactics, etc)
Reliability/Availability of the Defense Elements

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(U) A major factor in determining the P_{ES} of an operational BMDS is the Probability of Destroying the threat, which is sometimes commonly referred to as the Single Shot Probability of Kill (P_{SSK}) of the engaging weapon. P_{SSK} represents the lethality of a weapon system – generally referring to a system's armaments, e.g., missiles and ordnance.

- **(U) Launch Area Denied (LAD):** The geographic area from which an adversary targeting a designated Defended Area cannot launch a ballistic missile without it being engaged by the BMDS.

- (TOG) **Defended Area (DA):** The geographic area that the BMDS is capable of defending against adversary ballistic missiles originating from specified launch positions or a designated launch area.
  *Note: In both the 2006-2008 Fielding Baselines and the 2010-2012 Fielding Projections, one will note that the values for both LAD and DA in certain threat sections of the "Block BMDS Performance Goals" column are represented in an "A) x; B) y" format. To avoid any confusion, the A) portion of LAD corresponds to the A) portion of DA; the B) portion of LAD corresponds to the B) portion of DA for that threat class.

- (U) **Threat and Countermeasures:** Various threat techniques (i.e., tactical, environmental), devices (i.e. decoys, jammers), and/or combinations (suites) of both that are designed to aid in the defeat/disruption of a weapon system's performance.

- (U) **Environmental Resistance:** The ability of the BMDS to satisfy the TOG Effectiveness metrics in the presence of the designated stressing natural and hostile environments:
  - Includes countermeasure devices and techniques
  - Includes adversary missile attacks on defense assets

(U) The Block 2006 and Block 2008 Fielding Baselines for Budget Year 2008 (Tables 4 and 5) follow. It is important to note that the red text on the Block 2006 Fielding Baseline signifies that there is a difference between what was promised in last year's baseline and what will actually be delivered in Block 2006. The changes and rationale were discussed previously.

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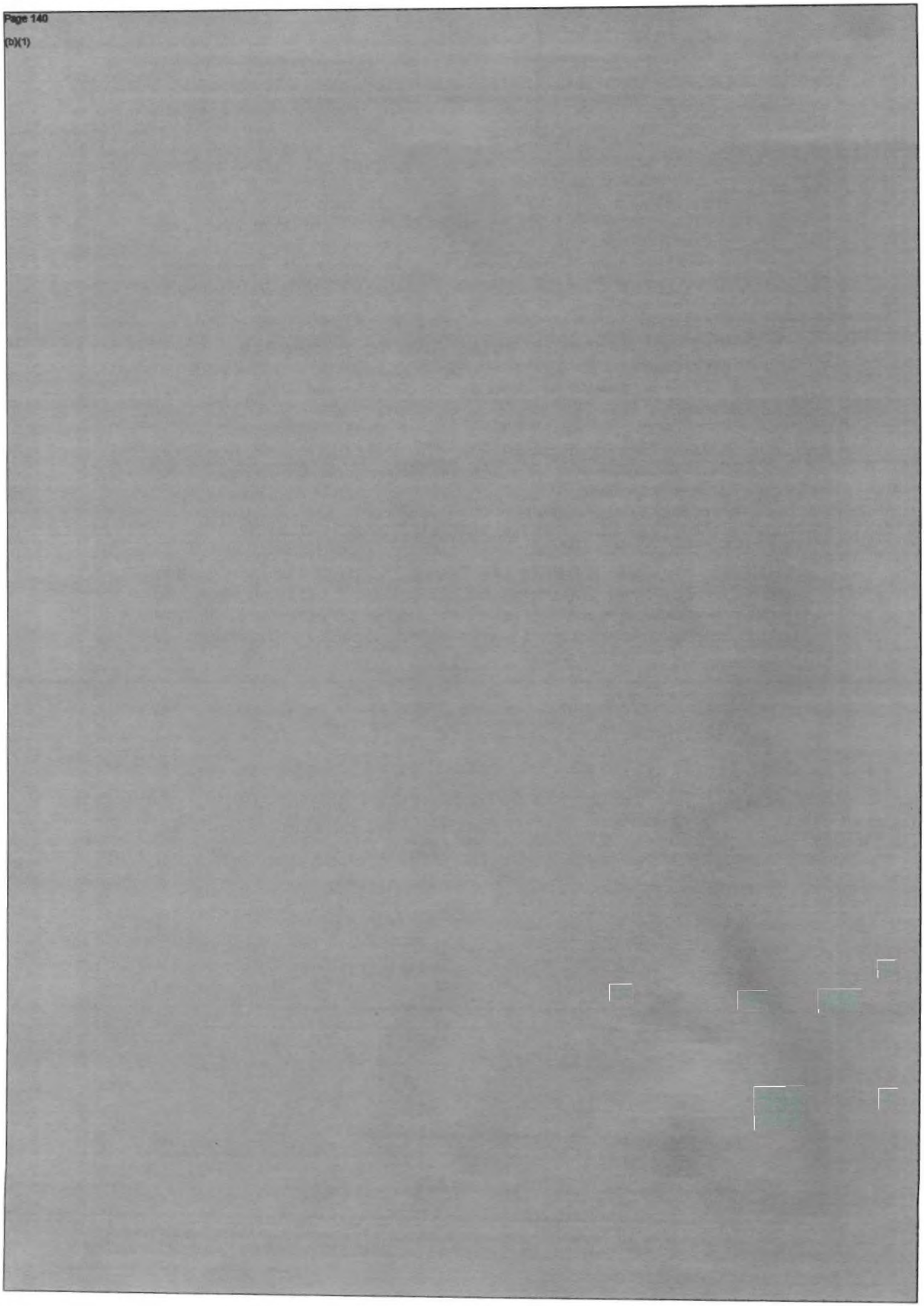

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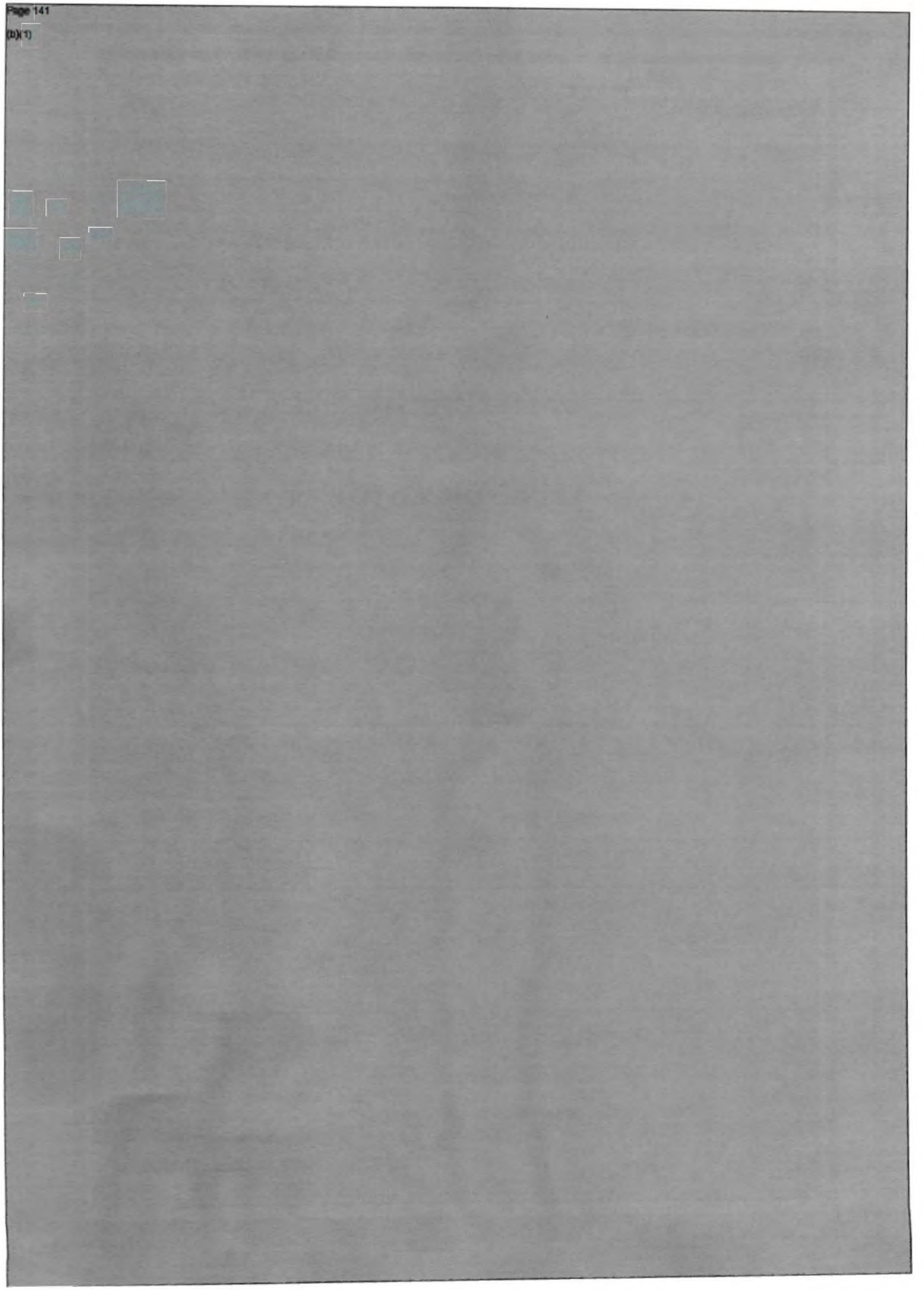

SECTION III

APPENDICES (U)

Appendix A. BMDS DEVELOPMENT GOALS (U)

(U) The Block 2006 – 2012 Development Goals have been developed to describe Component-level development efforts that serve as the foundation for the U.S. missile defense effort. Similar to the Fielding Baselines, the Development Goals have been developed consistent with Circular A-11. The primary categories of BMDS Components are Sensors, C2BMC and Weapons Systems and specific parameters comprise the Output section of the tables. Components listed in the Development Goals are expected to attain sufficient technical maturity by the end of the Block such that they can begin system-level testing, integration, and fielding in the next Block.

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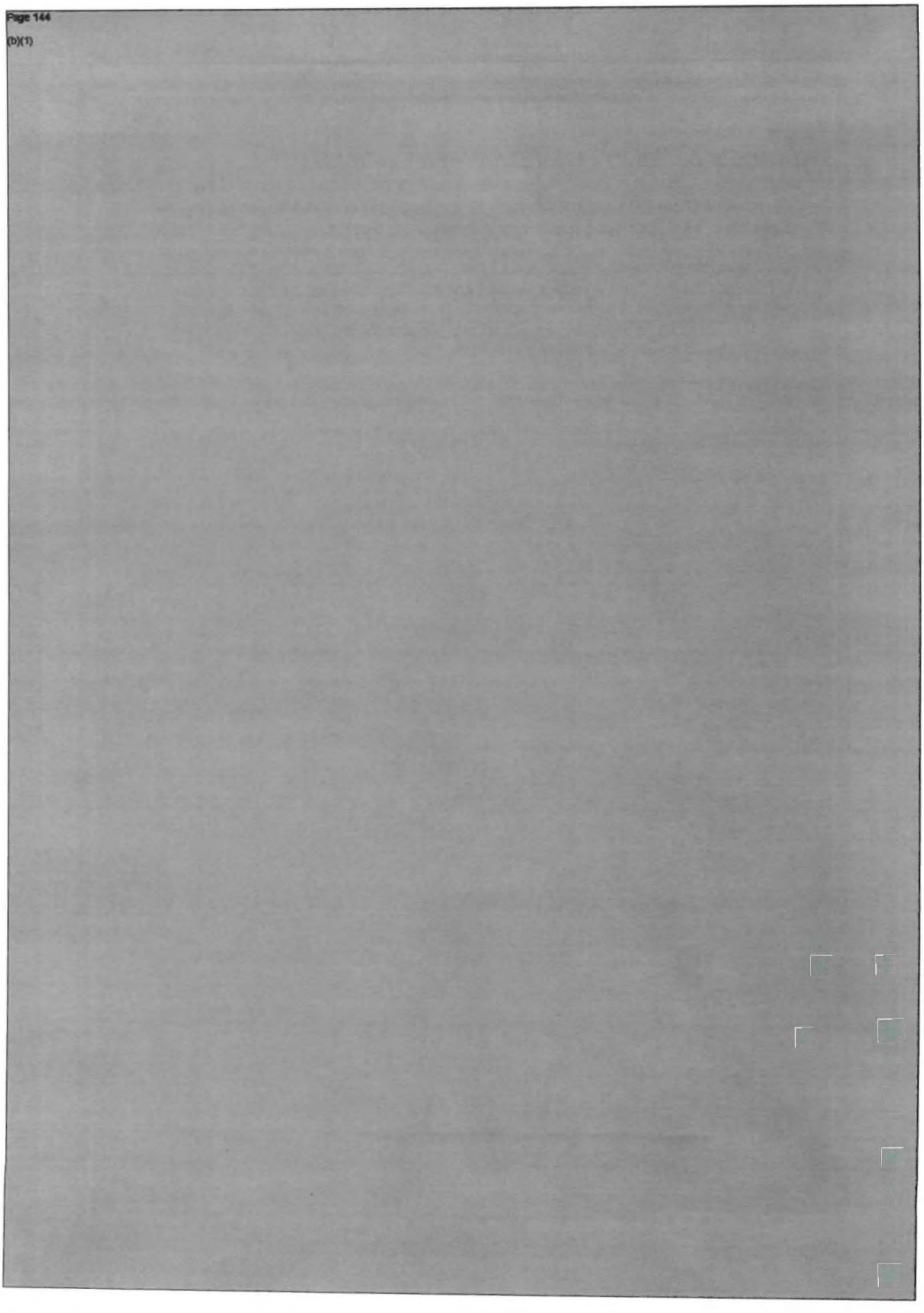

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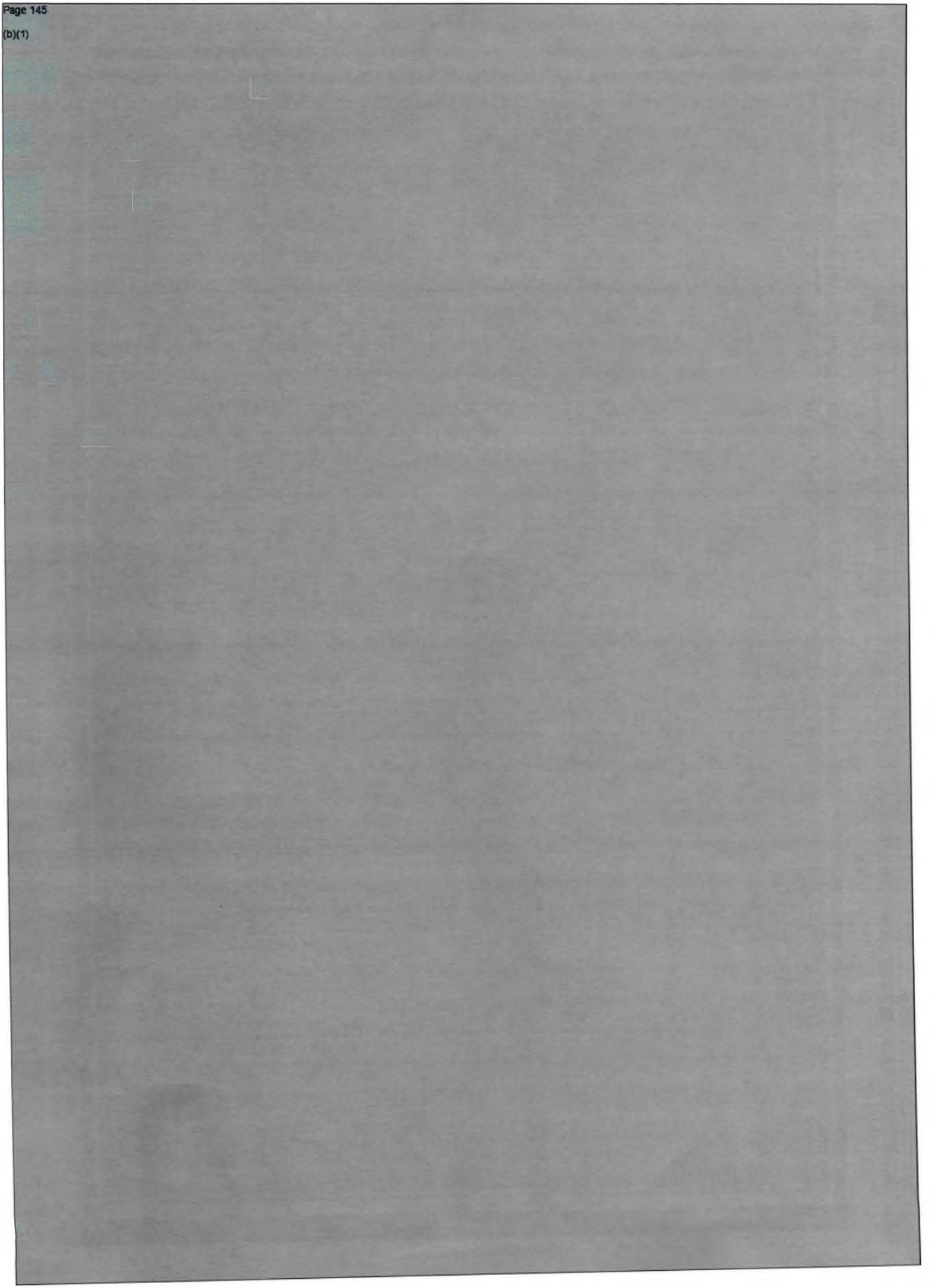

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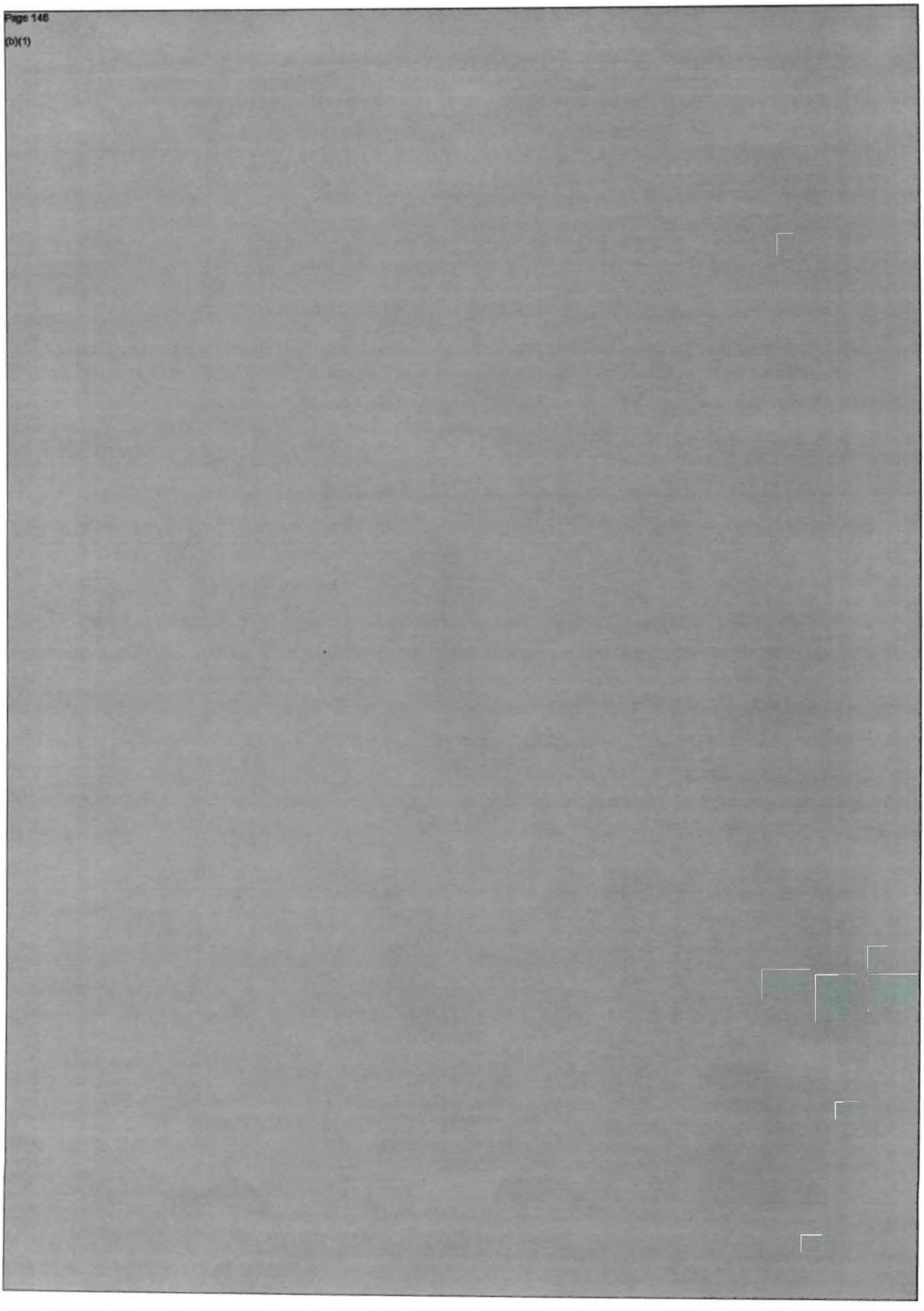

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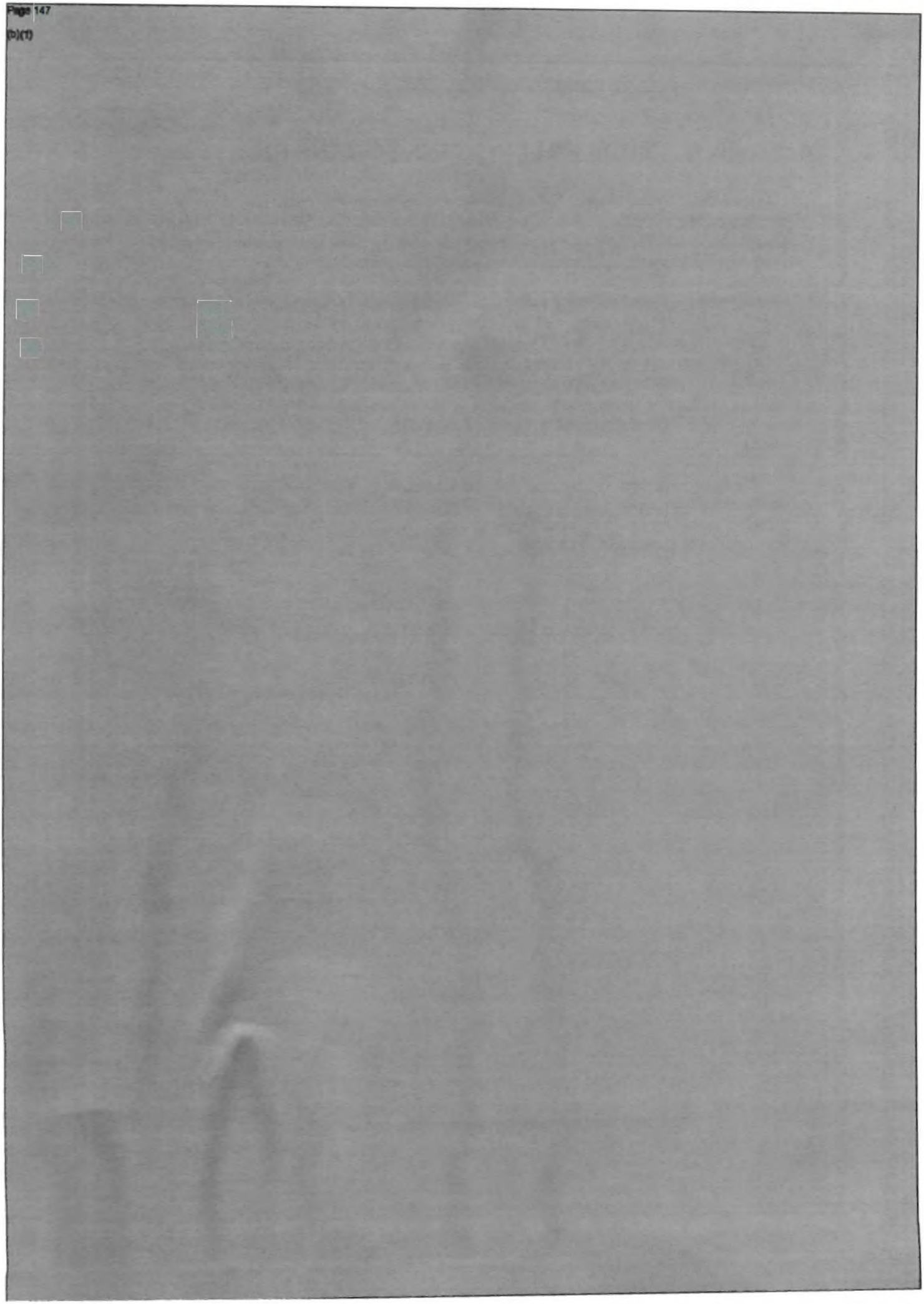

Appendix B. BMDS FIELDING PROJECTIONS (U)

(U) Similar to the Block 2006 and 2008 Fielding Baselines presented in Section II, the Block 2010 and 2012 Fielding Projections outline MDA's out-year fielding goals, or the *planned* capabilities that are currently envisioned to be made available for fielding to the warfighter at the end of the Block 2010 and 2012 timeframes.

(TOG) Like the Fielding Baselines, the Fielding Projections will also describe: 1) Specific BMDS Components that are currently projected to be made available for fielding; 2) Specific quantities of each Component; 3) Projected performance metrics (TOG Effectiveness metrics) per threat class, with a range of performance capabilities listed in each section that is based upon an analysis of the worst-performing applicable ESG to the best-performing applicable ESG; and 4) Fielding dollars allocated for the purchase of BMDS Components. The Fielding Projections do not include MDA-only O&S allocations.

(U) It is important to reiterate that the Components, their quantities, ESGs and performance parameters listed in the Block 2010 and 2012 Fielding Projections are future planning goals based on current planning data. The Block 2010 and 2012 Fielding Projections (Tables 10 and 11) follow.

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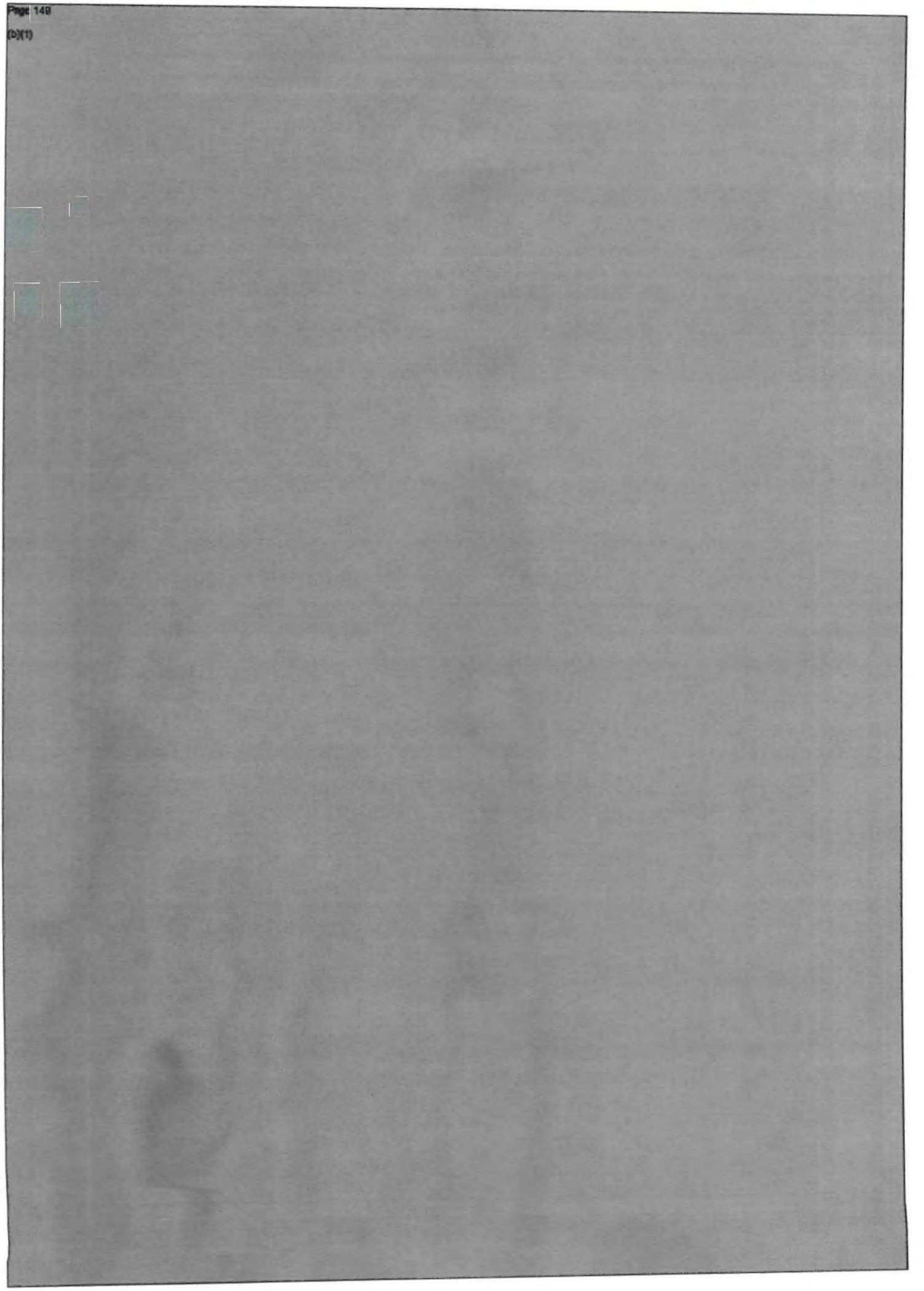

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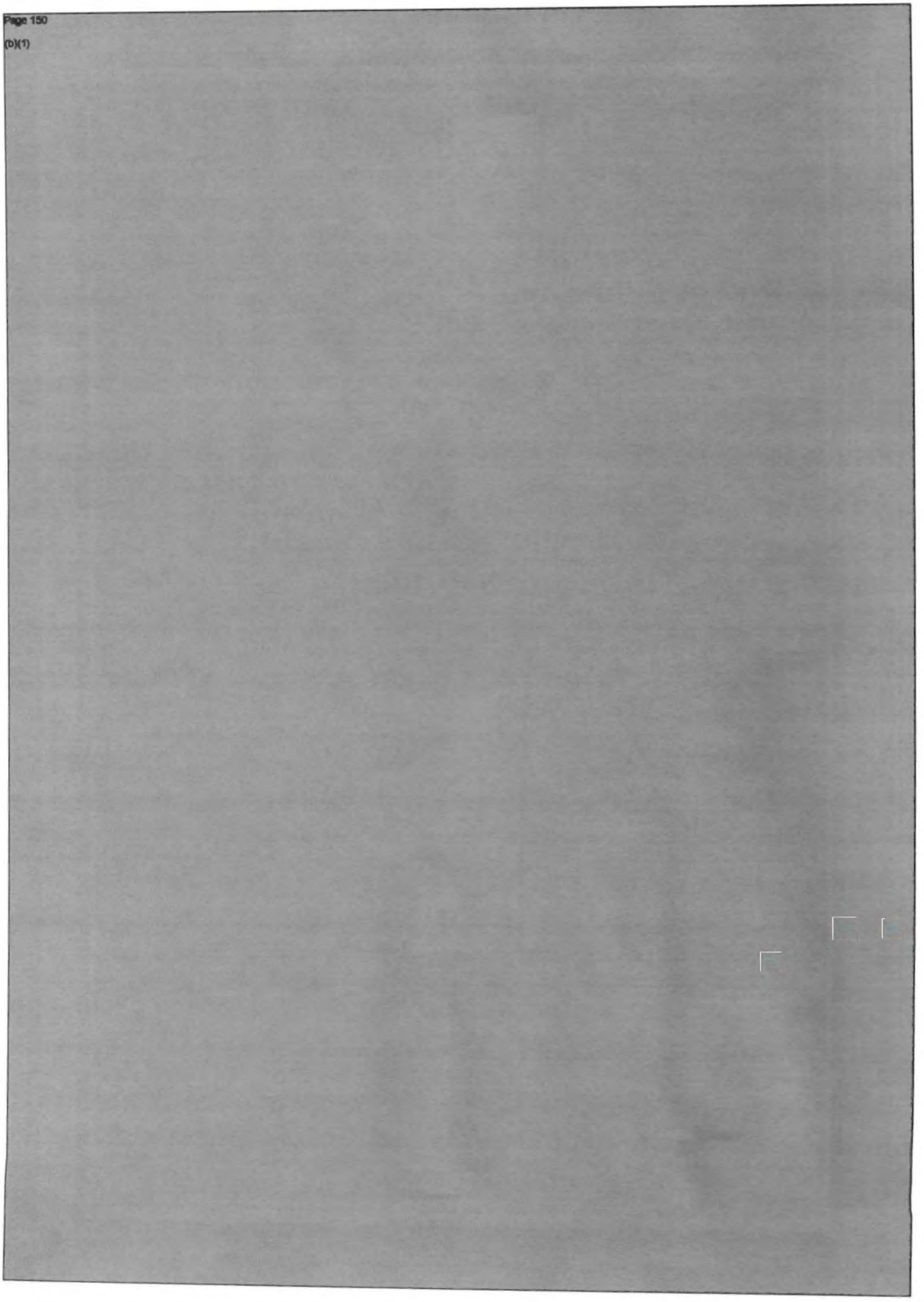

Appendix C. ADVERSARY BENCHMARKS (U)

(U) Section 223a(c) of Title 10, United States Code (as added by section 223(a) of the *National Defense Authorization Act for Fiscal Year 2004*) requires that MDA include, with its performance criteria, a description of the intended effectiveness of each planned development phase of the BMDS against adversary capabilities. This appendix addresses this effectiveness description requirement by expanding the engineered description of a threat missile listed in the Development Goals, Fielding Baselines and Fielding Projections (e.g. Long-Range Ballistic Missiles (LRBM)) to include: 1) The postulated ranges (in kilometers) and missile type (e.g. number of stages, propellant type, etc.); and 2) Specific types of countermeasures that the BMDS will be able to address. By implementing mature ESGs with associated hardware and functionality, the resultant parameters on the next page capture the performance capability of the BMDS against a certain set of adversary systems and associated countermeasures.

(FOUO) The characteristics found in the *Adversary Capability Parameter Ranges* section of the following chart represent MDA critical parameters of LRBMs, Intermediate-Range Ballistic Missiles (IRBM), Medium-Range Ballistic Missiles (MRBM), and Short-Range Ballistic Missiles (SRBM). The multicolor bands (MDA Adversary Capability Document (ACD) parameters) found on the following chart represent the parameter space boundaries for the specific category of ballistic missile characteristic listed. The *physical bounds* (blue) represent the accepted theoretical bounds of present scientific principles-the outer limits of what can operate as a ballistic missile. The *engineering bounds* (orange) represent the technology limits for the current known systems-what currently has technical feasibility and military utility in the world arsenal. The *intelligence bounds* (red) represent the existing limits, based on intelligence estimates. While critical to BMDS design, the selected gray bands on page C-2 are non-ACD parameters. The white bars on each parameter (both multicolor and gray color bars) indicate the assessed threat space that is relevant for the Block 2006/2010 timeframe. These represent the values that may be assessed to determine performance capability of the available for fielding portion of the Block 2006 and 2008 BMDS. A definition of the Adversary Data Package boundaries is presented in Figure 2:

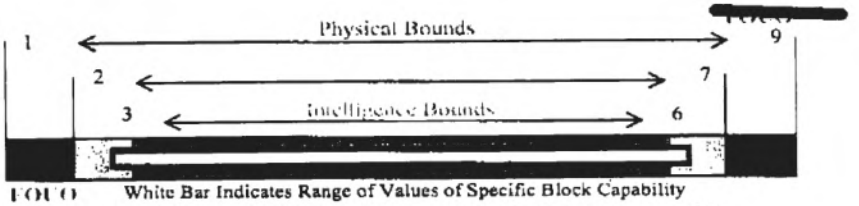

Figure 2: Adversary Data Package Boundary Description (U)

(U) With respect to BMDS capability, representations are not design-to threats or requirements. While the BMDS will be able to address specific threats, the System, as a whole, remains a capabilities-based development program. These entries, presented on page C-2 are simply a compilation of feasible threats (within the adversary space) that the BMDS will be able to address at the end of Blocks 2006 and 2008.

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Appendix D. BUDGET BREAKDOWN (U)

(U) This appendix provides a summary of Block 2006 and Block 2008 funding in the President's Fiscal Year 2008 Budget Submission, and compares the block funding to the FY 2007 budget. We provide the summary and comparison for Development, Fielding and Operations & Sustainment in the following manner:

- (U) Table 13 compares Block 2006 Development for FY 07 and PB 08
- (U) Table 14 compares Block 2006 Fielding and O&S for FY 07 and PB 08
- (U) Table 15 provides development dollars contained within Block 2008 PB 08. No comparison is made to FY 07 because a baseline for Block 2008 did not exist in PB 07.
- (U) Table 16 provides Fielding and O&S dollars contained within Block 2008 PB 08. No comparison is made to FY 07 because a baseline for Block 2008 did not exist in PB 07.

(U) Several caveats and assumptions apply to the budget breakdown:

1. (U) We only include funding ascribed to Blocks 2006 and 2008, therefore the total funding in these tables does not add up to the total obligation authority (TOA) of the Agency.
2. (U) We only include O&S funding provided by the Missile Defense Agency. The Services fund a portion of O&S based on several of the agreements in place between MDA and the Services – this arrangement is not static as Service responsibility will change over time as transition and transfer plans are implemented.
3. (U) Block funding – as we have described in the past – is not limited to a two-year "window" – Block development begins several years prior to the two-year block and continues after the two-year block, particularly for O&S. Our general "business rule" for O&S funding is to count Block O&S funding as the funding for O&S in the two years immediately following the Block years (e.g., for Block 2006, O&S funding is the funding allocated for O&S in 2008-2009).

BLOCK 2006 BMDS BUDGET BREAKDOWN (U)
PB07 to PB08 Comparison

PB07 BLOCK 2006 DEVELOPMENT BUDGET

FY ($M)	02	03	04	05	06	07	08	09	10	11	12	13	FYDP 08-13	TOTAL 02-13
8.1 C2BMC	4	27	53	27	134	149	39	2	0	0	0	0	41	435
8.2 Hercules	0	0	27	23	0	0	0	0	0	0	0	0	0	50
8.3 JWS	0	0	0	0	23	49	0	0	0	0	0	0	0	72
8.4 T&E	1	1	2	10	101	104	0	0	0	0	0	0	0	219
8.5 Targets & CM	1	4	0	25	292	325	5	0	0	0	0	0	5	655
8.6 PAC-3	0	0	0	0	0	2	1	0	0	0	0	0	1	5
8.7 THAAD	0	24	15	0	0	0	0	0	0	0	0	0	0	39
8.8 GMD	2460	2063	1607	1887	1444	1364	0	0	0	0	0	0	0	10825
8.9 Aegis BMD	0	0	24	84	271	344	82	57	25	0	0	0	168	891
8.10 ABL	0	0	0	0	455	595	0	0	0	0	0	0	0	1050
8.11 BMDS Radars	0	32	145	208	137	80	1	0	0	0	0	0	1	603
8.12 STSS	55	207	263	248	206	218	74	92	90	41	0	0	297	1496
TOTAL	2521	2358	2136	2512	3063	3230	202	151	115	45	0	0	513	16538

PB08 BLOCK 2006 DEVELOPMENT BUDGET

FY ($M)	02	03	04	05	06	07	08	09	10	11	12	13	FYDP 08-13	TOTAL 02-13
8.1 C2BMC	4	27	53	27	127	150	111	4	0	0	0	0	115	504
8.2 Hercules	0	0	27	23	21	0	0	0	0	0	0	0	0	71
8.3 JWS	0	0	0	0	28	48	0	0	0	0	0	0	0	76
8.4 T&E	1	1	2	10	87	103	0	0	0	0	0	0	0	204
8.5 Targets & CM	1	4	0	25	307	327	5	0	0	0	0	0	5	669
8.6 PAC-3	0	0	0	0	0	2	1	0	0	0	0	0	1	3
8.7 THAAD	0	24	15	0	0	0	0	0	0	0	0	0	0	39
8.8 GMD	2460	2063	1607	1887	1327.3	1481	67	1	0	0	0	0	68	10893.3
8.9 Aegis BMD	0	0	24	84	265	245	26	0	0	0	0	0	26	644
8.10 ABL	0	0	0	0	432	593	0	0	0	0	0	0	0	1025
8.11 BMDS Radars	0	32	145	208	183	77	0	0	0	0	0	0	0	645
8.12 STSS	55	207	263	248	196	217	185	118	84	77	47	41	552	1738
TOTAL	2521	2358	2136	2522	2899.3	3244	395	123	84	77	47	41	767	16441.3

PB07 TP PB08 DELTAs BLOCK 2006 DEVELOPMENT BUDGET

FY ($M)	02	03	04	05	06	07	08	09	10	11	12	13	FYDP 08-13	TOTAL 02-13
8.1 C2BMC	0	0	0	0	-7	2	72	2	0	0	0	0	74	69
8.2 Hercules	0	0	0	0	21	0	0	0	0	0	0	0	0	21
8.3 JWS	0	0	0	0	5	-1	0	0	0	0	0	0	0	4
8.4 T&E	0	0	0	0	-14	-1	0	0	0	0	0	0	0	-15
8.5 Targets & CM	0	0	0	0	12	2	0	0	0	0	0	0	0	14
8.6 PAC-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.7 THAAD	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.8 GMD	0	0	0	0	-117	117	67	1	0	0	0	0	68	68
8.9 Aegis BMD	0	0	0	0	-6	-99	-56	-57	-25	-4	0	0	-142	-247
8.10 ABL	0	0	0	0	-23	-2	0	0	0	0	0	0	0	-25
8.11 BMDS Radars	0	0	0	0	-34	-3	-1	0	0	0	0	0	-1	-38
8.12 STSS	0	0	0	0	-82	-1	111	26	-6	36	47	41	255	242
TOTAL	0	0	0	10	-375	14	193	-28	-31	32	47	41	254	103

Table 13: BMDS Block 2006 Development Budget Breakdown (U)

BLOCK 2006 BMDS BUDGET BREAKDOWN (U)
PB07 to PB08 Comparison

PB 07 BLOCK 2006 FIELDING BUDGET

FY ($M)	02	03	04	05	06	07	08	09	10	11	12	13	FYDP 08-13	TOTAL 02-13
8.1 C2BMC	0	0	0	0	3	28	6	1	0	0	0	0	7	38
8.8 GMD	0	0	0	563	476	374	0	0	0	0	0	0	0	1413
8.9 Aegis BMD	0	0	0	38	167	90	6	0	0	0	0	0	6	301
8.11 BMDS Radars	0	0	0	54	58	86	11	0	0	0	0	0	11	209
TOTAL	0	0	0	655	704	578	23	1	0	0	0	0	24	1961

PB 08 BLOCK 2006 FIELDING BUDGET

FY ($M)	02	03	04	05	06	07	08	09	10	11	12	13	FYDP 08-13	TOTAL
8.1 C2BMC	0.0	0.0	0.0	0.0	20.0	15.4	5.0	0.0	0.0	0.0	0.0	0.0	5.0	40.4
8.8 GMD	0.0	0.0	0.0	563.0	535.3	541.0	96.0	6.7	0.0	0.0	0.0	0.0	102.7	1742.0
8.9 Aegis BMD	0.0	0.0	0.0	38.0	166.5	90.6	5.6	0.0	0.0	0.0	0.0	0.0	5.6	300.7
8.11 BMDS Radars	0.0	0.0	0.0	54.0	110.0	86.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	250.0
TOTAL	0.0	0.0	0.0	655.0	831.8	733.0	106.6	6.7	0.0	0.0	0.0	0.0	113.3	2333.1

PB 07 to PB 08 DELTAs BLOCK 2006 FIELDING BUDGET

FY ($M)	02	03	04	05	06	07	08	09	10	11	12	13	FYDP 08-13	TOTAL 02-13
8.1 C2BMC	0	0	0	0	17	-13	-1	-1	0	0	0	0	-2	2
8.2 Hercules	0	0	0	0	59	167	96	7	0	0	0	0	103	329
8.3 JWS	0	0	0	0	-1	1	0	0	0	0	0	0	0	0
8.4 T&E	0	0	0	0	52	0	-11	0	0	0	0	0	-11	41
TOTAL	0	0	0	0	128	155	84	6	0	0	0	0	84	372

PB 07 BLOCK 2006 O&S BUDGET

FY ($M)	02	03	04	05	06	07	08	09	10	11	12	13	FYDP 08-13	TOTAL 02-13
8.1 C2BMC	0	0	0	0	0	0	39	2	0	0	0	0	41	41
8.3 JWS	0	0	0	0	4	27	0	0	0	0	0	0	0	31
8.8 GMD	0	0	0	0	51	545	468	510	0	0	0	0	978	1574
8.9 Aegis BMD	0	0	0	0	0	9	0	19	23	0	0	0	42	51
8.11 BMDS Radars	0	0	0	0	39	57	73	103	0	0	0	0	176	272
TOTAL	0	0	0	0	94	638	580	634	23	0	0	0	1237	1969

PB 08 BLOCK 2006 O&S BUDGET

FY ($M)	02	03	04	05	06	07	08	09	10	11	12	13	FYDP 08-13	TOTAL
8.1 C2BMC	0.0	0.0	0.0	0.0	0.0	0.0	57.1	57.3	0.0	0.0	0.0	0.0	114.4	114.4
8.3 JWS	0.0	0.0	0.0	0.0	3.8	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.8
8.8 GMD	0.0	0.0	0.0	0.0	414.5	498.7	495.0	440.3	0.0	0.0	0.0	0.0	935.3	1848.5
8.9 Aegis BMD	0.0	0.0	0.0	0.0	0.0	20.0	43.8	42.6	0.0	0.0	0.0	0.0	86.4	106.4
8.11 BMDS Radars	0.0	0.0	0.0	0.0	39.0	61.0	169.3	142.9	0.0	0.0	0.0	0.0	312.2	412.2
TOTAL	0.0	0.0	0.0	0.0	457.3	606.7	765.2	683.1	0.0	0.0	0.0	0.0	1448.3	2512.3

PB 07 to PB 08 DELTAs BLOCK 2006 O&S BUDGET

FY ($M)	02	03	04	05	06	07	08	09	10	11	12	13	FYDP 08-13	TOTAL 02-13
8.1 C2BMC	0	0	0	0	0	0	18	55	0	0	0	0	73	73
8.3 JWS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.8 GMD	0	0	0	0	364	-46	27	-70	0	0	0	0	-43	275
8.9 Aegis BMD	0	0	0	0	0	11	44	24	-23	0	0	0	44	55
8.11 BMDS Radars	0	0	0	0	0	4	96	40	0	0	0	0	136	140
TOTAL	0	0	0	0	363	-31	185	49	-23	0	0	0	211	543

Table 14: BMDS Block 2006 Fielding and O&S Budget Breakdowns (U)

[redacted]

Table 15: BMDS Block 2008 Development Budget Breakdown (U)

PB 08 BLOCK 2008 DEVELOPMENT BUDGET

FY ($M)	02	03	04	05	06	07	08	09	10	11	12	13	FYDP 08-13	TOTAL 02-13
8.1 C2BMC	0.0	0.0	0.0	0.0	4.6	16.5	73.7	183.1	103.4	6.4	0.0	0.0	366.6	387.7
8.2 Hercules	0.0	0.0	0.0	0.0	29.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.3
8.3 JWS	0.0	0.0	0.0	0.0	0.0	0.0	41.0	42.0	0.0	0.0	0.0	0.0	83.0	83.0
8.4 T&E	0.0	0.0	0.0	0.0	0.0	24.9	103.8	110.2	0.0	0.0	0.0	0.0	214.0	238.9
8.5 Targets & CM	0.0	0.0	0.0	0.0	50.0	118.0	376.0	338.0	0.0	0.0	0.0	0.0	714.0	882.0
8.6 PAC-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.7 THAAD	0.0	0.0	0.0	0.0	904.8	744.0	484.2	408.5	217.1	0.0	0.0	0.0	1109.8	2758.6
8.8 GMD	0.0	0.0	0.0	0.0	65.0	84.0	922.0	602.0	15.0	7.0	0.0	0.0	1546.0	1695.0
8.9 Aegis BMD	0.0	0.0	0.0	0.0	158.4	393.0	516.2	460.7	105.0	0.0	0.0	0.0	1081.9	1633.3
8.10 ABL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.11 BMDS Radars	0.0	0.0	0.0	0.0	9.2	45.6	227.5	199.7	0.0	0.0	0.0	0.0	427.2	482.0
8.12 STSS	0.0	0.0	0.0	0.0	0.0	34.8	28.4	23.8	14.0	13.6	6.8	3.4	90.0	124.8
Based Terminal	0.0	0.0	0.0	0.0	0.0	15.0	62.0	10.0	0.0	0.0	0.0	0.0	72.0	87.0
TOTAL	0.0	0.0	0.0	0.0	1221.3	1475.8	2834.8	2378.0	454.5	27.0	6.8	3.4	5704.5	8401.6

Table 16: BMDS Block 2008 Fielding and O&S Budget Breakdowns (U)

FY ($M)	02	03	04	05	06	07	08	09	10	11	12	13	FYDP 08-13	TOTAL
9.1 C2BMC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.0	11.1	5.1	0.0	0.0	42.1	42.1
9.7 THAAD	0.0	0.0	0.0	0.0	22.0	129.0	204.0	100.0	0.0	0.0	0.0	0.0	304.0	455.0
9.8 GMD	0.0	0.0	0.0	0.0	3.0	220.0	588.0	599.0	170.0	13.0	0.0	0.0	1370.0	1593.0
9.9 Aegis BMD	0.0	0.0	0.0	0.0	95.6	182.6	138.1	92.8	15.0	0.0	0.0	0.0	245.9	524.1
9.11 BMDS Radars	0.0	0.0	0.0	0.0	18.3	229.3	316.2	307.2	0.0	0.0	0.0	0.0	623.4	871.0
TOTAL	0.0	0.0	0.0	0.0	138.9	760.9	1246.3	1124.9	196.1	18.1	0.0	0.0	2585.4	3485.2

BLOCK 2008 O&S BUDGET

FY ($M)	02	03	04	05	06	07	08	09	10	11	12	13	FYDP 08-13	TOTAL
9.1 C2BMC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.6	61.5	0.0	0.0	127.1	127.1
9.3 JWS	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	0.0	10.0	10.0
9.7 THAAD	0.0	0.0	0.0	0.0	0.0	0.0	1.1	21.8	27.6	28.4	28.7	25.5	133.1	133.1
9.8 GMD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	311.0	317.0	0.0	0.0	628.0	628.0
9.9 Aegis BMD	0.0	0.0	0.0	0.0	0.0	16.8	0.0	0.0	46.1	31.4	0.0	0.0	77.5	94.3
9.11 BMDS Radars	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	160.6	195.3	0.0	0.0	355.9	355.9
9.17 DMETS/CTO	0.0	0.0	0.0	0.0	0.0	0.0	41.6	37.8	0.0	0.0	0.0	0.0	79.4	79.4
TOTAL	0.0	0.0	0.0	0.0	0.0	16.8	47.7	64.6	610.9	633.6	28.7	25.5	1411.0	1427.8

[redacted]

Appendix E. ACRONYMS (U)

A	
(U) ABL	Airborne Laser
(U) ACD	Adversary Capabilities Document
(U) AFB	Air Force Base
(U) AN/MPQ-53	PATRIOT System Phased Array Radar
(U) AN/MPQ-65	PATRIOT System Phased Array Radar
(U) AN/SPY-1	Aegis Organic Phased Array Radar
(U) AN/TPY-2	Forward-based X-Band Radar-Transportable (FBX-T)
(U) AOR	Area of Responsibility
B	
(U) BM	Battle Management
(U) BMD	Ballistic Missile Defense
(U) BMDS	Ballistic Missile Defense System
(U) BSP	BMD Signal Processor
(U) BV+	Boost Vehicle Plus
C	
(U) C2BMC	Command, Control Battle Management & Communications
(U) CD	Capability Development
(U) CENTCOM	Central Command
(U) CG	Cruiser (U.S. Navy)
(U) COCOM	Combatant Commander
(U) COMSEC	Communication Security
(U) CONOPS	Concept of Operations
(U) CONUS	Continental United States
D	
(U) DA	Defended Area
(U) DAL	Defended Asset List
(U) DDG	Destroyer (U.S. Navy)
(U) DECC	Defense Enterprise Computing Center
(U) DoD	Department of Defense
(U) DSP	Defense Support Program
E	
(U) ECS	Environmental Control System
(U) EKV	Exoatmospheric Kill Vehicle
(U) ESG	Engagement Sequence Group
(U) EUCOM	European Command
F	
(U) FC	Fielded Configuration
(U) [redacted]	For Official Use Only
G	
(U) GBI	Ground-Based Interceptor
(U) GIFC	Global Integrated Fire Control
(U) GEM	Guided Enhanced Missile
(U) GEM+	Guided Enhanced Missile Plus

(U GFC	GMD Fire Control
(U) GFC/C	GMD Fire Control/Communications
(U) GMD	Ground-based Midcourse Defense
H	
(U) HEL	High Energy Laser
(U) HEO	Highly Elliptical Orbit
(U) H/W	Hardware
(U) HWIL	Hardware-in-the-Loop
I	
(U) IR	Infrared
(U IRBM	Intermediate-Range Ballistic Missile
J	
(U) JNIC	Joint National Integration Center
K	
(U) KEI	Kinetic Energy Interceptor
(U) KV	Kill Vehicle
L	
(U) LAD	Launch Area Denied
(U) LDO	Limited Defensive Operations
(U) LRBM	Long-Range Ballistic Missile
(U) LREP	Lightweight Replica
(U) LRS&T	Long-Range Surveillance and Track
M	
(U) MDA	Missile Defense Agency
(U) Mod	Modification (ESG-related)
(U) MRBM	Medium-Range Ballistic Missile
O	
(U) O&S	Operations & Support
(U) OBV	Orbital Boost Vehicle
(U) OSD	Office of the Secretary of Defense
P	
(U) PAC-3	PATRIOT Advanced Capability-3
(U) PACOM	Pacific Command
(U) PATRIOT	Phased Array Tracking Radar Intercept on Target
(U) P_{ES}	Probability of Engagement Success
(U) P_{SSK}	Probability of Single Shot Kill
R	
(U) RAM	Radar Absorbent Material
(U) RF	Radio Frequency
(U) RSC	Raid Size Capacity
(U) RV	Reentry Vehicle
S	
(U) S&T	Surveillance and Track
(U) SA	Situational Awareness
(U) SATCOM	Satellite Communications
(U) SBIRS	Space-Based Infrared System
(U) SBX	Sea-Based X-Band Radar

(U) SECDEF	Secretary of Defense
(U) SM-3	Standard Missile-3
(U) SOG	Statement of Goals
(U) SRBM	Short-Range Ballistic Missile
(U) STRATCOM	Strategic Command
(U) STSS	Space Tracking and Surveillance System
(U) S/W	Software
T	
(U) TBD	To Be Determined
(U) THAAD	Terminal High Altitude Area Defense
(U) TOG	Technical Objectives and Goals
U	
(U) UEWR	Upgraded Early Warning Radar
W	
(U) WH	White House

Appendix F. GLOSSARY (U)

Active Ranging (U)
(U) The process of employing radiated energy to establish target distance. For ABL, Active Ranging involves using a laser to determine the distance.

Adjunct Sensor (U)
(U) A sensor whose primary mission is to compliment/enhance the coverage of existing BMDS forward-based sensors against ballistic missile threats. This program, currently in the requirements definition phase with procurement scheduled to begin in FY2007, implements a layered sensor approach to increase the overall robustness of the BMDS sensor network.

Anti-Simulation (U)
(FOUO) Countermeasure technique that alters a threat RV to appear as a non-threat object.

Battle Management (U)
(U) Strategies and the collection of tasks to be performed to successfully implement chosen strategies. Given a set of strategies, resources, and hostile-asset deployment, battle management addresses the problem of choosing a specific strategy or set of strategies and performing the associated tasks that would result in the most desired outcome.

Block (U)
(U) A biennial increment of the BMDS that provides an integrated set of capabilities that has been tested as part of the BMDS and assessed to adequately characterize its military utility. Once tested, Elements and Components are available for deployment, as directed. Each successive Block provides increasing levels of capability to counter ballistic missiles of all ranges and complexity.

Characterization (U)
(U) The process of defining the BMDS capabilities that result in a description of actual BMDS capability at a particular point in time. Characterization relies on test data supplemented by analysis to establish confidence in estimates across the threat space.

Command and Control (C2) (U)
(U) The exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of a mission.

Communication Gateways (U)
(U) A node where multiple and disparate communication networks merge and information is processed and distributed in the proper format to the appropriate recipients.

[redacted]

Component (U)
(U) A subsystem of a subsystem, which may consist of sensor(s), weapon(s), and battle management, command and control.

Countermeasures (U)
(U) Actions (tactical or technical) taken to alter the characteristics of a ballistic missile in order to hinder or prevent defenses from identifying or hitting the incoming missiles.

Decoy (U)
([redacted]) Non-lethal object having observable characteristics of a reentry vehicle, but substantially lighter and possibly smaller than the reentry vehicles they accompany.

Defended Asset List (U)
(U) A ranked listing that contains the facilities, forces, and national political assets requiring protection from a ballistic missile attack.

Effectiveness (U)
(U) The extent to which the goals of a system are attained, or the degree to which a system can be elected to achieve a set of specific mission requirements.

Element (U)
(U) A complete, integrated and operationally-capable set of subsystems.

Evolutionary Acquisition (U)
(U) An acquisition strategy that defines, develops, produces or acquires, and fields operationally-capable hardware or software increments. At each stage, decisions are made based on the results of demonstrating technologies in relevant environments, demonstrating manufacturing or software deployment capabilities, and time-phased requirements. These capabilities can be provided to the user in a shorter timeframe, followed by subsequent increments of capability that accommodate improved technology, allowing for full and adaptable systems over time. Each increment meets a militarily useful capability

Mechanical Steering Kit (U)
(U) Hardware, software and integration of a transportable platform enabling FBX-T to provide continuous coverage through azimuthal (+/- 180 degrees) and elevation tracking (0-90 degrees).

Midcourse Simulation Decoys (U)
([redacted]) Objects deployed by a threat reentry vehicle during the midcourse stage of flight that displays measurable characteristics similar to those of the threat reentry vehicle.

Network (U)
(U) The C2BMC Communications Network allows all BMDS Element Command & Control/Battle Managers to exchange data and permits C2 orders to be transmitted. These networks will seamlessly connect BMDS assets and link them with other applicable DoD and non-DoD networks and assets, as required.
Offense-Defense Integration (U)

(U) Coordination and integration of missile defense with attack operations. This includes the means to nominate targets, enhance predictive and developed intelligence, and improve coordination with integrated strategic defense.

Passive Surveillance (U)
(U) Systematic observation of aerospace, surface, areas, places, persons or things by visual, aural, electronic, photographic or other means while emitting no detectable energy.

Quality of Service (QoS) (U)
(U) The capability of a network to provide better service to selected network traffic over various technologies. The primary goal of QoS is to provide priority including dedicated bandwidth, controlled jitter and latency and improved loss characteristics, while ensuring that priority traffic does not make other traffic fail.

Radar Absorbent Material (U)
(U) A thin coating applied to a RV to achieve a significant signature reduction.

Reentry Vehicle (U)
(U) A payload which separates from the missile and then reenters the atmosphere in the terminal portion of the missile trajectory. The reentry vehicle includes the warhead, the warhead's container, warhead-activating devices and internal structures but excludes an attitude control system or post-boost vehicle.

Research, Development, Test and Evaluation (RDT&E) (U)
(U) Development activities of a new system that include basic & applied research, advanced technology development, demonstration & validation, engineering development, developmental & operational testing and the evaluation of test results. RDT&E includes activities to expand the performance of fielded systems.

Signature Reduction (U)
(U) The reduction of observable objects' infrared & radar cross-section signatures.

Situational Awareness (U)
(U) The degree to which perception of the current environment mirrors reality.

Spiral Development (U)
(U) An iterative process for incrementally developing a defined set of capabilities. This process provides the opportunity for active participation of the user, tester and developer. The end-state requirements may not be known at the initiation of a Block, but are refined through continuous feedback in experimentation and risk management. Spiral Development implements evolutionary acquisition and may include a number of spirals.

Technical Objectives & Goals (U)
(U) A high-level MDA acquisition document that guides decision making for BMDS development and communicates desired objectives and goals.


MISSILE DEFENSE AGENCY
DEPARTMENT OF DEFENSE

N-12 E-2D AHE

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-364)
PROGRAM: E-2D AHE

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: E-2D Advanced Hawkeye

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

PEO(T) Aircraft Programs (PMA-231)
BLDG #2272, Suite 455, NAVAIRSYSCOM
47123 Buse Road, Unit IPT
Patuxent River, MD 20670-1547

CAPT Randolph Mahr
Assigned: May 9, 2005
DSN 757-7363; COMM (301) 757-7363
randolph.mahr@navy.mil

Derived from: [redacted] C5513.2B
Downgrade instruction: [redacted]
Declassify on: X3

*** [redacted] ***

07-C-0635

10. (U) **Performance Characteristics**:

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
Operational Availability (Ao)	(b)			
[redacted] Detection Range				
[redacted] Tracking				

(U) Acronyms:
NM Nautical Miles

b. Current Change Explanations -- None

N-6 COBRA JUDY

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-365)

PROGRAM: COBRA JUDY REPLACEMENT

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: COBRA JUDY REPLACEMENT (CJR)

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:
   Commander, Naval Sea Systems Command — Mr. James Smerchansky (Acting)
   Attn: PEO IWS (J. Smerchansky) — Assigned: August 1, 2006
   1333 Isaac Hall Ave., SE, Stop 2318 — DSN ; COMM (202) 781-2386
   Washington Navy, DC 20376-2318 — james.smerchansky@navy.mil

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Downgrade instructions: [redacted]
Declassify on: [redacted] Subject to Automatic Downgrade

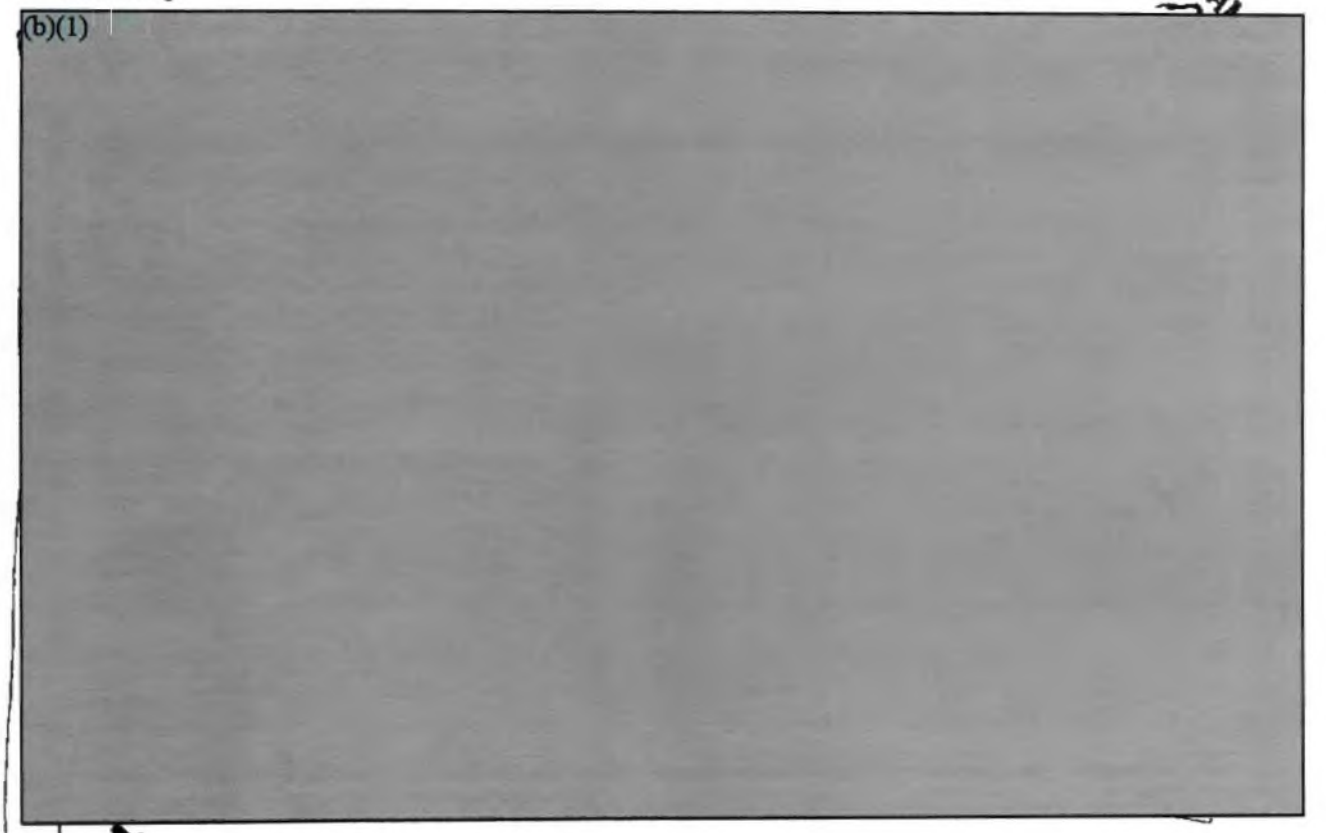
*** [redacted] ***

07-C-0648

(S) **Executive Summary Classified Addendum** (U)

(S) The following three paragraphs are classified [redacted] in their entirety.

(b)(1)



10. (S) **Performance Characteristics:**

a. Performance --

	SAR Development	Approved APB	Demonstrated	Current
(S) Radar Detection and Tracking	(b)(1)			

AS AMENDED

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
	(b)(1)			(b)(1)
(U) Radar Signature Data Collection				

10a. (U) **Performance Characteristics (Cont'd)**:

AS AMENDED

	SAR Development	Approved APB	Demonstrated Perf.	Current Estimate
(S) Radar Range Resolution	(b)(1)		TBD	(b)(1)
(U) Propulsion Plant, Sustained and Loiter Speed	Ship Duration = 12,000 NM. The ship shall be capable of traveling 12,000 NM at 20 knots sustained speed	Ship Duration = 12,000 NM. The ship shall be capable of traveling 12,000 NM at 20 knots sustained speed	Ship Duration = 12,000 NM. The ship shall be capable of traveling 12,000 NM at 20 knots sustained speed	TBD	Ship Duration = 12,000 NM. The ship shall be capable of traveling 12,000 NM at 20 knots sustained speed
(U) Mission Capable Rates and Inherent Availability (Ai)	System Availability = 90%. In order to achieve	System Availability = 90%. In order to achieve	System Availability = 90%. In order to achieve		System Availability = 90%. In order to achieve

10a. (U) **Performance Characteristics (Cont'd)**:

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
(U) Interoperability - All top-level Informational Exchange Requirements (IERs) will be satisfied to the standards identified in the threshold and objective values in CJR Top-Level Information Exchange Requirements Matrix	the FMC Ai requirement, the CJR system must be available at least 90% of the time. FMC for the CJR is defined as both the platform and mission equipment functioning as required to achieve the operational mission 100% of all Top-Level IERs	the FMC Ai requirement, the CJR system must be available at least 90% of the time. FMC for the CJR is defined as both the platform and mission equipment functioning as required to achieve the operational mission 100% of all Top-Level IERs / the FMC Ai requirement, the CJR system must be available at least 90% of the time. FMC for the CJR is defined as both the platform and mission equipment functioning as required to achieve the operational mission 100% of Top-Level IERs designated critical (IERs 1-5)	TBD	the FMC Ai requirement, the CJR system must be available at least 90% of the time. FMC for the CJR is defined as both the platform and mission 100% of all Top-Level IERs

AS AMENDED

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development	Approved APB	Demonstrated Per	Current Estimate
(U) Receipt of higher authority direction - C2 - Ops guidance, directives, and orders	(b)(1)	TBD	(b)(1)	
(U) Receipt of mission guidance - C2 - Guidance, priorities, directives, orders, and plans		TBD		
(U) Receipt of tip-off - Target Launch Warning and Information		TBD		
(U) Raw and semi processed mission data - Metrics & Limited Signature		TBD		
(U) Conduct Maritime Shipping, Distress, Search and Rescue - Voice, Data (Charts/Maps) / Send Node: Mil/Com/Private Ships, Shore and Aircraft / Receive Node: CJR		TBD		
(U) Conduct Maritime Shipping, Distress, Search and Rescue - Voice, Data (Charts/Maps) / Send Node: CJR / Receive Node: Mil/Com/Private Ships, Shore and Aircraft		TBD		

UNCLASSIFIED

*** [redacted] ***

10a. (U) Performance Characteristics (Cont'd):

(U) Acronyms:

Ai	-Inherent Availability
C2	-Command and Control
com	-commercial
CJR	-COBRA JUDY REPLACEMENT
dB	-Decibel
FMC	-Full Mission Capability
hrs	-hours
Hz	-Hertz
IER	-Information Exchange Requirement
km	-Kilometer
m	-Meter
NM	-Nautical Mile
mil	-military
min	-Minute
Ops	-Operations
Pd	-Probability of Detection
PRF	-Pulse Repetition Frequency
RCS	-Radar Cross Section
Sec	-Second
SNR	-Signal-to-Noise Ratio
Sq	-Square
TBD	-To Be Determined

[redacted] The performance data marked "[redacted]" above is classified as [redacted]

b. Current Change Explanations -- None

*** [redacted] ***

UNCLASSIFIED

13. (U) Cost Variance Analysis:

a. (U) Summary (Current (Then-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Development Estimate	1464.0	-	-	1464.0
Previous Changes:				
Economic	+48.8	-	-	+48.8
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-9.1	-	-	-9.1
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-39.7	-	-	+39.7
Current Changes:				
Economic	+10.3	-	-	+10.3
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	+6.5	-	-	+6.5
Other	-	-	-	-
Support	-	-	-	-
Subtotal	+16.8	-	-	+16.8
Total Changes	-56.5	-	-	+56.5
Current Estimate	1520.5	-	-	1520.5

13a. (U) Cost Variance Analysis (Cont'd):

(U) Summary (FY 2003 Constant (Base-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Development Estimate	1365.0	-	-	1365.0
Previous Changes:				
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-8.9	-	-	-8.9
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-8.9	-	-	-8.9
Current Changes:				
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	+4.6	-	-	+4.6
Other	-	-	-	-
Support	-	-	-	-
Subtotal	+4.6	-	-	+4.6
Total Changes	-4.3	-	-	-4.3
Current Estimate	1360.7	-	-	1360.7

b. (U) Current Change Explanations --

	(Dollars in Millions) Base-Year	Then-Year
(1) RDT&E		
Revised escalation indices. (Economic)	N/A	-10.3
Adjustment for Current and Prior Inflation. (Estimating)	-3.5	-3.8
Revised program cost based upon post-critical design review radar configuration (Estimating)	+8.1	+10.3
RDT&E Subtotal	+4.6	+16.8

N-2 AGM-88E

*** SECRET ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-368)

PROGRAM: AGM-88E AARGM

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: AGM-88E Advanced Anti-Radiation Guide Missile (AARGM)

2. (U) **DoD Component**: Navy

   Joint Participants:
   Italian Ministry of Defense

3. (U) **Responsible Office and Telephone Number**:

PEO(W)
Attn: PMA-242, Bldg 2272, R252
47123 Buse Road, Unit IPT
Patuxent River, MD 20670-1557

CAPT Larry Egbert
Assigned: June 19, 2006
DSN 757-7422; COMM 301-757-7422
larry.egbert@navy.mil

Derived from: AARGM Security Classification Guide
Downgrade instruction:
Declassify on:

*** SECRET ***

07-C-0652

AS AMENDED

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(U) Interoperability	(b)(1)		TBD	(b)(1)
(U) Probability of Kill w/threat shutdown			TBD	
(U) Availability (Ao)			TBD	
(U) Probability of Correct ID of a Valid Target Emitter			TBD	
(U) Frequency Range			TBD	
(U) Probability of Emitter Identification			TBD	
(U) Probability of Emitter Identification			TBD	

AS AMENDED

AS AMENDED

AS AMENDED

*** [redacted] ***

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
(U) Probability of Emitter Identification	(b)(1)	TBD		(b)(1)

AS AMENDED

AS AMENDED

(U) Acronyms:

Ao	Availability
GHz	Giga Hertz
ID	Identification
IER	Information Exchange Requirements
P-kf	Probability of Firepower Kill
P-kk	Probability of Catastrophic Kill
TBD	To be Determined

b. Current Change Explanations -- None

*** [redacted] ***

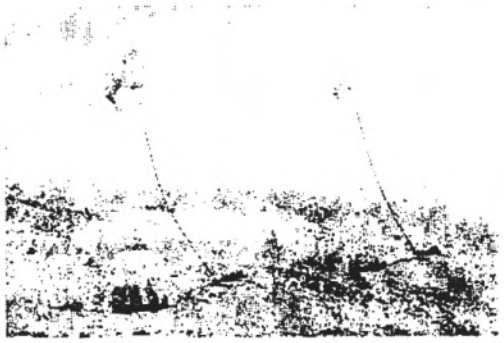
A-13 JLENS

*** SECRET ***

SELECTED ACQUISITION REPORT (RCS: DD-A&T(Q&A)823-372)
PROGRAM: JLENS

AS OF DATE: December 31, 2006

INDEX



1. (U) **Designation and Nomenclature (Popular Name)**: Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS)

2. (U) **DoD Component**: Army

3. (U) **Responsible Office and Telephone Number**:
   Project Manager — COL Edward L. Mullin
   Cruise Missile Defense Systems — Assigned: August 2, 2005
   Building 5308 — DSN 746-4927; COMM 256-876-4927
   Redstone Arsenal, AL 35898-5000 — Edward.Mullin@msl.army.mil

4. (U) **Program Elements/Procurement Line Items**:
   RDT&E:
   (U) APPN 2040 BA 07 PE 0102419A (Army)
   PROCUREMENT:
   (U) APPN 2035 BA 02 ICN 52860161 (Army)

Classified by: [redacted] Security Classification Guide dated 24 Mar 00
Downgrade instructions:
Declassify on: X3

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07-C-0598

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
SIAP KPP				
Surveillance coverage (deg)	360	360 / 360	TBD	360
Fire Control Coverage (degs)	(b)(1)			
Intercept Range (km)				
Radar Cross Section (RCS) (sq m)				
Target Altitude (ft)				
Integrated Fire Control (IFC) KPP	Forward Pass (FP)	Forward Pass (FP) / Engage-on-Remote / (EOR)	TBD	Engage (Ch-1) on Remote (EOR)
Combat ID KPP				
Classification Determination (%)	(b)(1)			
Classification Type Characterization (%)				
Discrimination Accuracy (%)				
Identification Friend or Foe (IFF)	All DoD Validated IFF and Warsaw Pact/ Coalition modes	All DoD Validated IFF and Warsaw Pact/ Coalition modes /	TBD	All DOD Validated IFF and Warsaw Pact/Coalition modes
Precise Participant Location Identification (PPLI)	Correlated PPLI messages w/JLENS organic tracks	Correlated PPLI messages w/JLENS organic tracks /	TBD	Correlated PPLI messages with JLENS organic tracks
C4I Interoperability KPP				
Information Exchange Requirements (IERs)	100% of all top level IERs	100% of all top level IERs /	TBD	100% of all top level IERs

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Theater Air and Missile Defense Integrated Architecture	Available behavior models	Available behavior models / Data completeness, / data availability, / and common processing	TBD	Available behavior models
Net Ready KPP	Develop Migration Plan to show how we plan to meet NR-KPP	Develop Migration Plan to show how we plan to meet NR-KPP / Develop Migration Plan to show how we plan to meet NR-KPP	TBD	Develop migration plan to show how we plan to meet NR-KPP

(U) Acronyms:
C4I - Command, Control, Communications, Computers and Intelligence
Combat ID - Combat Identification
deg - Degrees
EOR - Engage on Remote
FP - Forward Pass
ft - feet
IER - Information Exchange Requirements
IFC - Integrated Fire Control
IFF - Identifcation Friend or Foe
km - Kilometer
KPP - Key Performance Parameter
NR - Net Ready
PPLI - Precise Participant Location Identification (PPLI)
RCS - Radar Cross Section
SIAP - Single Integrated Air Picture
sq M - Square Meter

(U) These KPPs are JLENS ORD Block 1 requirements. The material solution to ORD Block 1 requirements is Increment 1 Spiral 2 (SDD).

*The requirement in the ORD for Classification Type Characterization for Block 1 is an objective value only at the current time. The Program Office is working with the contractor to attain a certain percentage of the objective value, and plans to incorporate that requirement into the SDD Government Performance Specification.

10b. (U) **Performance Characteristics (Cont'd):**

b. Current Change Explanations --
(U) (U) (CH-1) Current estimate changed from Forward Pass to Engage on Remote (EOR) to reflect current known requirement.

N-13 EA-18G

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-378)

PROGRAM: EA-18G

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: EA-18G Growler

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

Bldg 2272, Suite 445, NAVAIRSYSCOMHQ
47123 Buse Road, Unit IPT
Patuxent River, MD 20670-1547

CAPT Donald Gaddis
Assigned: May 30, 2003
DSN 757-7669; COMM 301-757-7669
donald.gaddis@navy.mil

[redacted]

Derived from: [redacted] Classification Guide EA-18G dated May 13, 2005
Downgrade instructions: [redacted]
Declassify [redacted]

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*** [redacted] ***

10. (U) **Performance Characteristics**:

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Radar Signal Receive Frequency Range	(b)(1)		TBD	(b)(1)
Communications Signals Receive Frequency Range			TBD	
Selective Reactive Jamming Response				
Engagement Radars			TBD	
Early Warning and/or Acquisition Radars			TBD	
Other Radars			TBD	
Receive Azimuth Coverage	Same	Same / 360 deg	TBD	Same
Operational Availability	>=0.98	>=0.98 / >=0.85	TBD	>=0.95

(U) Acronyms:
GHz-Giga Hertz
MHz-Mega Hertz

b. Current Change Explanations -- None

N-5 CH-53K

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-390)

PROGRAM: CH-53K Program

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: CH-53K - Heavy Lift Replacement

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number:**

Naval Air Systems Command (PMA-261)
22595 Saufley Road, BLDG 3259
Patuxent River, MD 20670-1547

CAPT Richard Muldoon
Assigned: January 25, 2007
DSN 757-5780; COMM (301)757-5780
richard.muldoon@navy.mil

Derived from: ID C2B-96 of OPNAVINST C5513.2B
Downgrade instructions: Not subject to Automatic Downgrade
Declassify on: Originating Agency Determination Required (OADR)

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*** [redacted] ***

10. (U) **Performance Characteristics**:

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Net Ready (NR)	Satisfy 100% of NR reqts in Joint Integrated Architecture (JIA)	Satisfy / Satisfy 100% of NR reqts in Joint Integrated Architecture (JIA) / 100% of NR reqts designated as enterprise-level or critical in JIA	TBD	Satisfy 100% of NR reqts in JIA (Ch-1)
Range and Payload (nm)	110 w/ 30,000 lbs external load no refuel	110 w/ 30,000 lbs external load no refuel / 110 w/ 27,000 lbs external load no refuel	TBD	110 w/ 30,000 lbs external load no refuel (Ch-1)
Mission Reliability (MR)	90%	90% / 89%	TBD	90% (Ch-1)
Logistics Footprint	10% reduction from current CH-53E	10% reduction from current CH-53E / <= current CH-53E	TBD	10% reduction from current CH-53E (Ch-1)
Sortie Generation Rate (SGR)/Average Sortie Duration (ASD)	2.6 sorties / 2.25 hrs	2.6 sorties / 2.25 hrs / 2.25 hrs	TBD	2.6 sorties / 2.25 hrs (Ch-1)
(b) Survivability	(b)(1)		TBD	(b)(1) (Ch-1)
(b) Force Protection			TBD	(Ch-1)

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
(b)(1)		[redacted]		

(U) Acronyms:
hrs - Hours
lbs - Pounds
NM - Nautical Mile
mm - Millimeter
TBD - To be determined

(U) Net Ready is all activity interfaces, services, policy-enforcement controls, and data-sharing of the Net-Centric Operations and Warfare Reference Model (NCOW RM) and Global Information Grid (GIG)-Key Interface Profiles (KIPs) will be satisfied to the requirements of the specific JIA products (including data correctness, data availability and data processing), and information assurance accreditation, specified in the threshold (T) and objective (O) values.

Mission Reliability (MR) is the probability that the CH-53K will successfully complete the Operational Requirements Document (ORD) defined mission with an average sortie duration of 2.25 flight hours based on Mean Flight Hours Between Operational Mission Failure (MFHBOMF).

CH-53E Total Logistics Footprint as contained in the HLR ORD.

Sortie Generation Rate (SGR) is the number of sorties required per aircraft per day to accomplish a specific mission given the total sorties required and the number of aircraft on hand.

Average Sortie Duration (ASD) is the average number of flight hours expended for a given mission from take off to landing.

Survivability as contained in the Survivability and Force Protection Appendix located in the HLR ORD.

Force Protection as contained in the Survivability and Force Protection Appendix located in the HLR ORD.

10b. (U) Performance Characteristics (Cont'd):

b. Current Change Explanations --
(U) (Ch-1) All current performance estimates were listed as TBD in the 2005 initial SAR. Current estimates have been set to APB objectives.

N-28 SM-6

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-391)

PROGRAM: SM-6

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: STANDARD MISSILE-6 (SM-6) Extended Range Active Missile

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

PEO INTEGRATED WARFARE SYSTEMS 3.0 — CAPT J.A. MURDOCH
2450 CRYSTAL DRIVE — Assigned: November 3, 2005
SUITE 700 — DSN N/A; COMM (703) 872-3700
ARLINGTON, VA 22202-3862 — MURDOCHJA@NAVSEA.NAVY.MIL

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*** [redacted] ***

10. (U) **Performance Characteristics**:

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
[redacted] Maximum Downrange (nmi)	(b)(1)		TBD	(b)(1)
[redacted] Minimum Threat RCS (sqm)			TBD	
[redacted] Single Shot Kill Probability (%)			TBD	
[redacted] Launch Availability (%)			TBD	
[redacted] Interoperability			TBD	

AS AMENDED

(U) Acronyms:
nmi - nautical miles
RCS - Radar Cross Section
sqm - square meters
IER - Information Exchange Requirement

b. Current Change Explanations -- None

N-31 SSN 774 (VA CLASS)

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-516)
PROGRAM: VIRGINIA CLASS SUB

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: VIRGINIA CLASS SUBMARINE (SSN 774)

2. (U) **DoD Component**: Navy

3. (U) **Responsible Office and Telephone Number**:

VIRGINIA SUBMARINE PROGRAM OFFICE
PEC SUBMARINES
614 SICARD STREET, SE
WASHINGTON NAVY YD, DC 20376-7022

CAPT DAVID JOHNSON
Assigned: September 9, 2005
DSN 326-1294; COMM (202) 781-1294
david.c.johnson5@navy.mil

Derived from: [redacted] S5513.5B ENCL.90
Downgrade [redacted]
[redacted]ssify on: OADR

*** [redacted] ***

07-C-0654

9. (U) **Schedule:**

a. Milestones --

	SAR Development Estimate	Approved APB Obj/Threshold	Current Estimate	
Milestone 0	AUG 1992	AUG 1992/FEB 1993	AUG 1992	
Milestone I	AUG 1994	AUG 1994/FEB 1995	AUG 1994	
Milestone II	JUN 1995	JUN 1995/DEC 1995	JUN 1995	
New Attack Submarine Integrated Product and Process Development Contract Award	OCT 1995	OCT 1995/APR 1996	JAN 1996	
Program Review (LRIP)	SEP 1997	SEP 1997/MAR 1998	JAN 1997	
Organizational Support (by Fast Cruise)	APR 2004	APR 2004/OCT 2004	APR 2004	
Lead Ship Delivery	JUN 2004	JUN 2004/DEC 2004	OCT 2004	
LFT&E Shock Tests	OCT 2004	JUN 2006/DEC 2006	N/A	(Ch-1)
Initial Operational Test & Evaluation				
Start	JUL 2004	FEB 2008/AUG 2008	FEB 2008	
Complete	OCT 2004	SEP 2008/MAR 2009	SEP 2008	
IOC (Lead Ship)	OCT 2005	NOV 2006/MAY 2007	MAR 2007	(Ch-2)
Intermediate Support (by IOC)	OCT 2005	JAN 2006/JUL 2006	JUN 2006	
Milestone III	OCT 2007	APR 2009/OCT 2009	APR 2009	
Depot Shipyard Support	AUG 2015	AUG 2015/FEB 2016	AUG 2015	
Related Programs				
NSSN COMMAND AND CONTROL SYSTEM				
FY95 Open Architecture Demo Complete	OCT 1995	OCT 1995/APR 1996	SEP 1995	
C&CS Module Start Fabrication	JUN 1999	JUN 1999/DEC 1999	JUN 1999	
GFE C&CS Delivered to Shipyard	DEC 2000	DEC 2000/JUN 2001	DEC 2000	
LBTS Integration and Test Complete	APR 2002	APR 2002/OCT 2002	APR 2002	
C&CS Module delivered to ship	MAY 2002	MAY 2002/NOV 2002	MAY 2002	
NSSN Reactor Plant				
Reactor Vessel in Yard				
Start Pre-fill Testing				
Power Unit Landed				
Start Alpha Trials				
MK-48 ADCAP Torpedo Modification Program				
LRIP				
MS III				
IOC Block IV				

(b)(1) [redacted]

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(U) Acronyms:
C&CS = Command and Control System
GFE = Government Furnished Equipment
LFT&E = Live Fire Test and Evaluation
LBTS = Land Based Test Site
PSA = Post Shakedown Availability

(U) The VIRGINIA Class Submarine Program is tracking and reports the six year earlier delivery of the MK-48 ADCAP weapon system, for associated weapons system coordination purposes only.

9b. (U) Schedule (Cont'd):

b. Current Change Explanations --
(U) 1. On December 4, 2006, USD (AT&L) notified Congress of the decision to eliminate the VIRGINIA Class Ship Shock Test from the Live Fire Test and Evaluation portion of the VIRGINIA Class Test and Evaluation Master Plan (TEMP). This milestone will be deleted in the next program APB update.

2. The current estimate for Initial Operational Capability (IOC) has shifted from February 2006 to March 2007 to be coincident with the completion of USS VIRGINIA's Post Shakedown Availability in March 2007.

10. (U) Performance Characteristics:

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Radiated Noise				
Broadband Noise				
5 and 10 knots (prior to installation of hull coating)	Figure A.1 (Except in Port and casualty	Figure A.1 (Except in Port and casualty / Figure A.1 (Except in Port and casualty as noted below)	TBD	Figure A.1
Greater than or equal to 15 knots	Figure A.1 (All horizontal	Figure A.1 (All horizontal / Figure A.1 (beam aspect	TBD	Figure A.1
(U) Narrowband Noise	[redacted]	[redacted]	TBD	[redacted]
(U) Transient Noise			TBD	

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10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Exceptions: Weapons Launch	(b)(1)	(b)(1)	TBD	(b)(1)
Active Target Strength (less than or equal to)				
High Frequency (15-30 kHz) Stern Aspect (dB)			TBD	
Mid Frequency (2-15 kHz) Quarter Aspect (dB)			TBD	
Low Frequency, Bow/ Stern (400Hz) (dB)			TBD	
Electromagnetic Quieting (less than or equal to)				
DC Electric (amp-meter)			TBD	
DC Magnetic (gamma-ft3) (million)			TBD	
AC Electric (amp-meter)			TBD	
Flank Speed (knots) (greater than or equal to)			TBD	
Torpedo Launch Rate Torpedoes in one minute			TBD	
Payload (standard size weapons) (including weapons stored in torpedo			TBD	

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AS AMENDED

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
tubes and vertical launch tubes)				
(U) Vertical Launch Missiles Cells			TBD	
(U) Test Depth (ft)			TBD	
(U) Endurance (days) (greater than or equal to)			TBD	
Operational Availability (%)				
(U) Covert Strike Warfare (STW)			TBD	
(U) Covert Surveillance Intelligence Collection/Surveillance Covert Indication and Warning (ISW), and Electronic Warfare (EW)			TBD	
(U) Special Warfare (NSW)			TBD	
(U) Mine Warfare (MIW)			TBD	
(U) Anti-Submarine Warfare (ASW)			TBD	
(U) Anti-Surface Ship Warfare (ASUW)			TBD	
(U) Battle Group Support			TBD	
(U) 90-Day Basic Functions			TBD	
Interoperability	N/A	100% of top level IERs. / 100% of top level IERs designated critical	TBD	

(b)(1)

(b)(1)

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(U) Acronyms:

10a. (U) Performance Characteristics (Cont'd):

The reference for Figure A.1 is the program's Operational Requirements Document (ORD).

(U) The Operational Requirements Document, Revision A of December 13, 2004 changes "Figure A.1" to "Figure 1" and "Figure A.2" to "Figure 2", and adds the Interoperability Key Performance Parameter (KPP). No other approved objectives or thresholds have changed as a result.

b. Current Change Explanations -- None

A-18 PATRIOT/MEADS CAP

*** [redacted] ***

SELECTED ACQUISITION REPORT (RCS: DD-A&T(Q&A)823-531)
PROGRAM: PATRIOT/MEADS CAP

AS OF DATE: December 31, 2006

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1. (U) **Designation and Nomenclature (Popular Name):** PATRIOT/Medium Extended Air Defense System (MEADS) Combined Aggregate Program (CAP)

2. (U) **DoD Component:** Army

3. (U) **Responsible Office and Telephone Number:**
   Project Manager — COL John K. Vaughn
   Lower Tier Project Office — Assigned: October 31, 2003
   PO Box 1500 — DSN 645-3240; COMM 256-955-3240
   Huntsville, AL 35807-3801 — john.vaughn@msl.army.mil

4. (U) **Program Elements/Procurement Line Items:**
   RDT&E:
   (U) APPN 2040 BA 04 PE 0603869A (Army) Project 01B
   (U) APPN 2040 BA 05 PE 0604869A (Army)
   (U) APPN 2040 BA 05 PE 06054869A (Army) Project M06
   PROCUREMENT:
   (U) APPN 2032 BA 02 ICN C53101 (Army)
   (U) APPN 2032 BA 02 ICN C53201 (Army)

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8
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Department of Defense

Classified By: [redacted] Security Classification Guide (SCG), February 24, 2006; PATRIOT [redacted] 23, 2003
Downgrade instruction: Degraded UNCLASS when separated from CLASS sections
Declassification: February 24, 2031 / April 23, 2028

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07-C-0616

10. (U) **Performance Characteristics:**

FIRE UNIT

a. Performance --

	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(S) Lethality	(b)(1)			
Battery Defended Radius				
(S) Critical Asset Protection				

10a. (U) Performance Characteristics (Cont'd):
FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
(b)(1)				
Coverage				

10a. (U) **Performance Characteristics (Cont'd):**
FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(b)(1)	(b)(1)			

10a. (U) Performance Characteristics (Cont'd):

FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(b)(1)				

10a. (U) Performance Characteristics (Cont'd):

FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(b)(1)				

(b)(1)

10a. (2) Performance Characteristics (Cont'd):

FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(a)	(b)(1)	(b)(1)		
(b)	(b)(1)			

10a. (U) **Performance Characteristics (Cont'd):**
FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(b)(1)		(b)(1)		
Defense against TBMs and ABTs				

10a. (U) Performance Characteristics (Cont'd):
FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
(b)(1)				

(U) Simultaneous Engagements

(U) ABT Interceptions (Velocity)

10a. (U) **Performance Characteristics (Cont'd):**
FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
(S) External Fire Control Data and Identification	(b)(1)			

10a. (U) **Performance Characteristics (Cont'd):**
FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(S) Defense Against TBMs (Velocity)	(b)(1)			
(S) Defense Against TBMs (Maneuver)				
(S) Classification TBM or ABT Targets				

10a. (U) **Performance Characteristics (Cont'd):**

FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(S) TBM Targets	(b)(1)			
(S) ABT Targets				
Identification - ABT Targets	Fire unit will auto-matical-ly declare ABT	Fire unit will auto-matical-ly declare ABT / Fire unit will auto-matical-ly declare ABT	TBD	Fire unit will auto-matical-ly declare ABT

10a. (U) Performance Characteristics (Cont'd):
FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
(b)(1) Identification Accuracy	targets as friend, foe, or unknown using all available sources of information	targets as friend, foe, or unknown using all available sources of information / targets as friend, foe, or unknown using all available sources of information		targets as friend, foe, or unknown using all available sources of information
(b)(1) Target Database				

10a. (U) **Performance Characteristics (Cont'd):**

FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
(b)(1)				

(U) Discrimination

10a. (U) **Performance Characteristics (Cont'd):**
FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
	(b)(1)			
Transportability/ Mobility				
Drive-on, Drive-off	Drive-on Drive-off loading and unloading: C-5, C-17	Drive-on/ Drive-off / loading and / unloading:/ C-5, / C-17	Drive-on / Drive-off / loading and / unloading: / C-5, / C-17	TBD	Drive-on Drive-off loading and unloading: C-5, C-17
Roll-on, Roll-off	Roll-on Roll-off loading and unloading in a transport configuration on A400M, C-130	Roll-on / Roll-off/ loading / and / unloading / in a / transport / configuration / on / A400M, / C-130	Roll-on / Roll-off / loading / and / unloading / in a / transport / configuration / on / A400M, / C-130	TBD	Roll-on Roll-off loading and unloading in a transport configuration on A400M, C-130
Corps Maneuver and Support Elements	Provide continuous air defense coverage of corps maneuver and support elements as they advance up to 400 km per day at a rate of 50 kmph off-road	Provide / continuous / air / defense / coverage/ of corps/ maneuver/ and / support / elements/ as they / advance / up to / 400 km / per day / at a / rate of / 50 kmph / off-road/	Provide / continuous / air / defense / coverage / of corps / maneuver / and / support / elements / as they / advance / up to / 250km / per day / at a / rate of / 25 kmph	TBD	Provide continuous air defense coverage of corps maneuver and support elements as they advance up to 400 km per day at a rate of 50 kmph off-road

10a. (U) **Performance Characteristics (Cont'd):**
FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
External Transportability	/90 kmph on-road By CH-47 and CH-53 class cargo helicopters up to an ambient temp of 70 deg F, 2000 ft alt MSL, over a 30 nm distance; assembly and disassembly from a march order to a transport configuration with organic equipment in 15 min	/90 kmph/ on-road / By CH-47/ and / CH-53 / class / cargo / helicop-/ ters up / to an / ambient / temp of / 70 deg / F, / 2000 ft / alt MSL,/ over a / 30 nm / distance; / assembly/ and disassembly/ from a / march / order / to a / transport / configuration / with / organic / equipment in / 30 min /	TBD	/90 kmph on-road By CH-47 and CH-53 class cargo helicopters up to an ambient temp of 70 deg F, 2000 ft alt MSL, over a 30 nm distance; assembly and disassembly from a march order to a transport configuration with organic equipment in 15 min
Interoperability	Will interoperate with existing and planned National (top-level)/ Joint/	Will / interoperate / with / existing/ and / planned / National/ (top- / level)/ / Joint/	TBD	Will interoperate with existing and planned National (top-level)/ Joint/

10a. (U) Performance Characteristics (Cont'd):
FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Flexibility				
MEADS in all configurations	Capable of netted distributed and site-centered operations	Capable of netted distributed and site-centered operations	TBD	Capable of netted distributed and site-centered operations
MEADS Battalion	Will provide air and missile defense of selected critical assets and organizations located in an operationally equivalent	Will provide air and missile defense of selected critical assets and organizations located in an operationally equivalent	TBD	Will provide air and missile defense of selected critical assets and organizations located in an operationally equivalent
	Combined Air Defense BMC4I systems of the respective national forces in accordance with each nation's IERs	Combined/ Joint/ Air / Combined Defense / Air BMC4I / Defense systems / BMC4I of the / systems respective / of the national/ respective forces / national in / forces accordance / in with / accordance each / with nation's/ each IERs / nation's / IERs		Combined Air Defense BMC4I systems of the respective national forces in accordance with each nation's IERs

10a. (U) Performance Characteristics (Cont'd):

FIRE UNIT

	SAR Development Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Plug and Fight	area of 100km by 100km Intra/ inter-system plug-and-fight capable by implementing a MEADS network standard to be able to dynamically integrate MEADS and non-MEADS major end items (that comply with MEADS network standard)	area of 100km by 100km / Intra/ inter-system plug-and-fight capable by implementing a MEADS network standard to be able to dynamically integrate MEADS and non-MEADS major end items (that comply with MEADS network standard)	area of 100km by 100km / Intra/ inter-system plug-and-fight capable by implementing a MEADS network standard to be able to dynamically integrate MEADS and non-MEADS major end items (that comply with MEADS network standard)	TBD	area of 100km by 100km Intra/ inter-system plug-and-fight capable by implementing a MEADS network standard to be able to dynamically integrate MEADS and non-MEADS major end items (that comply with MEADS network standard)

(U) Acronyms:

ABT	Air Breathing Threat
AGL	Above Ground Level
alt	Altitude
BMC4I	Battle Management Command, Control, Communications, Computers and Intelligence
deg	Degree
HACM	High Altitude Cruise Missile
km	Kilometer
kmph	Kilometers per hour

10a. (U) Performance Characteristics (Cont'd):
FIRE UNIT

min	Minutes
m/sec	meters/second
MSL	Mean Sea Level
nm	Nautical Mile
PENAID	Penetration Aid
SR	Surveillance Radar
TBM	Tactical Ballistic Missile
temp	Temperature

(U) Performance Characteristics Footnotes:

(b)(1) [redacted]

(U) A MEADS battalion consists of a headquarters and several fire units.

(U) Plug-and-fight is the capability to rapidly and dynamically recognize, incorporate, control, remove, reallocate, and/or reposition system elements (such as sensors, tactical operations centers, and launchers). Plug-and-fight capabilities are required at the intra-system and inter-system levels and therefore require an open, netted-distributed architecture.

(U) The MEADS Key Performance Parameters (KPPs) were validated by the Joint Requirements Oversight Council on June 14, 2004. All KPPs are associated with MEADS objective system requirements for the Fire Unit end item.

b. Current Change Explanations -- None

MISSILE

No data entered.

(U) All performance parameters for the PATRIOT/MEADS Combined Aggregate Program are associated with the Fire Unit end item.

10b. (U) Performance Characteristics (Cont'd):
MISSILE

b. Current Change Explanations -- None

AF-14 JASSM

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-555)

PROGRAM: JASSM

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: Joint Air-to-Surface Standoff Missile (JASSM)

2. (U) **DoD Component**: USAF

   Joint Participants:
   USN

3. (U) **Responsible Office and Telephone Number**:

308th ARSG	Col John Griggs
JASSM System Program Office	Assigned: May 4, 2006
205 West D Ave, Suite 632	DSN 875-5340; COMM 850-883-5340
Eglin AFB, FL 32542-6807	john.griggs@eglin.af.mil

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MAR 29 2007
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Department of Defense

[redacted]

Classified by: JASSM Security Classification Guide, Rev 3, Dec 01, 2001
Downgrade instructions: E.O. [redacted] on 1.5.(e)
Declassify on: X5

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*** [redacted] ***

10. (U) **Performance Characteristics**:

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(b)(1)				

(U) Acronyms:
IER - Information Exchange Requirement
NM - Nautical Mile

(b)(1)

b. Current Change Explanations -- None

N-3 AIM-9X

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-581)

PROGRAM: AIM-9X

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name)**: AIM-9X/Air-to-Air Missile

2. (U) **DoD Component**: Navy

   Joint Participants:
   Air Force

3. (U) **Responsible Office and Telephone Number**:

Program Executive Officer (PMA259)
47123 Buse Road Unit IPT, Suite 451
Patuxent River, MD 20670-1547

CAPT Jeffrey Penfield
Assigned: October 20, 2006
DSN 757-7311; COMM (301)757-7311
jeffrey.penfield@navy.mil

Derived from:
Downgrade Instructions: Sidewinder [redacted] Class Guide of 10/30/01
Declassify on: X2

(THIS PAGE IS UNCLASSIFIED)

- 1 -

*** [redacted] ***

07-C-0649

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
Day/Night Capability (b)(1) Infrared counter counter measures (IRCCM)	[redacted]			
Aircraft Interface				
Missile Weight (lbs)	<.or.= 192	<.or.= 192 / <.or.= 210	<.or.= 186	<.or.= 192
Missile Size				
Length (in.)	<.or.= 115	<.or.= 115 / <.or.= 123	119.2	119.2
Box Size (in.)	<.or.= 12.5 x 12.5	<.or.= 12.5 x 12.5 / 12.5	<12.15 x 12.15	<.or.= 12.5 x 12.5
Diameter (in.)	5	5 / <.or.= 7	5	5
Digital Interface	Employ from current fighter aircraft without digital inter-face	Employ from current fighter aircraft/ without digital inter-face	Employ from future/ current fighter aircraft with digital inter-face	Employed from F/A-18 C/D and E/F, F-15C/D, and F/16 Blk 30/32 with digital inter-face	Employ from current fighter aircraft with digital inter-face
Off Boresight Capability				
Cueing/Verification	Inter-face to all current and planned aircraft systems which	Inter-face to all current and planned aircraft/ systems which	Inter-face with current/ planned aircraft radar systems and	JHMCS and Radar on both F-15C and F/A-18C/ D and E/F.	Inter-face to all current and planned aircraft systems which

10a. (U) **Performance Characteristics (Cont'd):**

	SAR Production Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
	provide accurate Line of Site to target	provide / planned accurate/ Helmet Line of / Mounted Site to / Cueing target / System		provide accurate Line of Site to target
[redacted] Acquisition (deg.)	(b)(1)			
[redacted] Track (deg.)				
[redacted] Launch (deg.)				
[redacted] Probability of Kill				
[redacted] Captive Carry Reliability (hr.)				
[redacted] Incoming Missile Reliability				
Detect Non-Operational Missile (BIT) All Components				
Detect Non-Operational Missile (BIT-able Components)				
False Alarm Rate				
BIT Time (sec)				

(U) Acronyms:

10a. (U) **Performance Characteristics (Cont'd)**:

BIT Built-In-Test

b. Current Change Explanations --
(Ch-1) Probability of Kill changed from (b)(1) and from (b)(1) are due to software improvements on the Integrated Flight Simulation (IFS). This shows that the PK capability and the countermeasure capability have improved.

(Ch-2) Captive Carry changed from b)(1) due to an increase in reliability requirements to meet Full Rate Production design maturity.

N-4 CEC

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-582)

PROGRAM: CEC

AS OF DATE: December 31, 2006

INDEX

Signal Data Processor (SDP)

Planar Array Antenna Assembly (PAAA)

1. (U) **Designation and Nomenclature (Popular Name)**: Cooperative Engagement Capability (CEC); AN/USG-273 and AN/USG-2A/3A

2. (U) **DoD Component**: Navy

   Joint Participants:
   U.S. Air Force (AWACS); U.S. Army (PATRIOT); Joint Land Attack Cruise Missile Defense Elevated Netted Sensor Sys (JLENS)

3. (U) **Responsible Office and Telephone Number**:

Program Executive Office	Capt. Peter A. Nardi
Integrated Warfare Systems	Assigned: November 22, 2005
1333 Isaac Hull Avenue, S.E.	DSN 336-2029; COMM (202) 781-2029
Washington, DC 20376-4401	peter.nardi@navy.mil

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MAR 22 2007
Office of the Chief of Naval Operations
Dept. of the Navy

[redacted]
Downgrade Instructions: [redacted] of 1 November 1999
[redacted] X3

*** [redacted] ***

10. (U) **Performance Characteristics**:

a. Performance --

AS AMENDED

	SAR Production Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
(b)(1)				
Track Base Size				
Track Measurement Update Rate				
Local				
Remote				
Operational Availability				
Data Rate (without any Compression Technology Implemented) (Mbps)				
Anti-jam Resistance (kW/MHz)				
Interoperability				
Information Exchange Requirements (IER)	100% of top-level IERs	100% of top-level IERs.	100% of top-level / IERs / designated / critical	TBD	100% of top-level IERs.
Track File Consistency	Integration will improve track file consistency in each host system	CEC integration will improve track file consistency as measured in each host system	CEC integration must not degrade track file consistency (0% degradation) as measured in each host system	TBD	CEC integration will improve track file consistency as measured in each host system

(U) Acronyms:

CEC	Cooperative Engagement Capability
IER	Information Exchange Requirements
KW	Kilowatts
Mbps	Mega bytes per second
MHz	MegaHertz

10a. (U) Performance Characteristics (Cont'd):

nm	Nautical Mile
sec	Seconds
TBD	To be Determined

(U) Interoperability Information Exchange Requirements (IER) added to Production Acquisition Program Baseline (APB):

Note 1 - All top-level IERs satisfied to standards specified by the Threshold and Objective values.

Note 2 - Unit-to-Unit comparison of tracks held throughout the force. This measure will be computed by comparing averaged data on specific control tracks across the force on a pairwise basis with CEC on and off, respectively for 100% of top-level IERs.

b. Current Change Explanations -- None

N-18 JSOW

*** [redacted] ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-766)

PROGRAM: JSOW

AS OF DATE: December 31, 2006

INDEX

1. **(U) Designation and Nomenclature (Popular Name)**: Joint Standoff Weapon (JSOW) Baseline / Unitary

2. **(U) DoD Component**: Navy

   Joint Participants:
   Air Force

3. **(U) Responsible Office and Telephone Number**:

Precision Strike Weapons, PMA 201
Bldg 2272
47123 Buse Road Unit #IPT
Patuxent River, MD 20670-1547

CAPT M.W. Winter, USN
Assigned: August 4, 2006
DSN 757-7477; COMM (301)757-7477
Mathias.Winter@Navy.mil

[redacted]
Derived from: MULTIPLE SOURCES
Downgrade instructions:
Declassify on: OADR

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*** [redacted] ***

10. (U) **Performance Characteristics:**

Baseline/BLU-108

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Launch Envelope	(b)(1)			
(U) Airspeed (IMN/KCAS)				
Off Axis Launch Angle				
Survivability	IAW Sys Spec (SD-901-1)	IAW Sys Spec (SD-901-1) / IAW Sys Spec (SD-901-1)	IAW Sys Spec (SD-901-1)	IAW Sys Spec (SD-901-1)
Accuracy (CEP)				
Weapon (Air Vehicle) (ft)	70	70 / 91	35	35
Reliability	(b)(1)			
(U) System Mission				
Range (nm from launch at specified conditions)				
Low Altitude (NM)	>or=15 (200 ft MSL, .8 IMN)	>or=15 (200 ft MSL, .8 IMN) / >or=12 (500 ft MSL, .8 IMN)	>or=12 (500 ft MSL, .8 IMN)	>or=12 (500 ft MSL, .8 IMN)
(U) High (NM @30K ft MSL, .8 IMN)	(b)(1)			
BLU-108 System				
(U) Weapon Effectiveness (Kill per Weapon) Non-Countermeasures Environment				
Reliability				
(U) System Mission				

(Ch-1)

(U) Acronyms:
AGL = Above Ground Level
CEP = Circular Error Probable
IAW = In Accordance With
IMN = Indicated Mach No.
KCAS = Knots Calibrated Air Speed
LBA = Limits of Basic Airframe
MSL = Mean Sea Level
NM = Nautical Mile

10b. (U) Performance Characteristics (Cont'd):
Baseline/BLU-108

b. Current Change Explanations --

(b)(1) [redacted]

Unitary

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold	Demon-strated Perf	Current Estimate
Launch Envelope	(b)(1) [redacted]			
(b)(1) Airspeed (IMN/KCAS)				
Off Axis Launch Angle (deg)	+/-30	+/-30 / +/-30	+/-180	+/-180
Survivability	IAW Sys spec SD-901-1	IAW Sys spec SD-901-1 / IAW Sys spec SD-901-1	IAW Sys Spec SD-901-1	IAW Sys Spec SD-901-1
Accuracy (CEP)				
Weapon (ft)	10	10 / 10	4.12	4.12
Weapon (Air Vehicle) (ft)	70	70 / 91	78	78
Range (nm from launch at specified conditions)				
Low Altitude (NM)	>or=15 (200 ft MSL, .8	>or=15 (200 ft MSL, .8 / >or=12 (500 ft MSL, .8	>12	>or=12 (200 ft MSL,.8
(b)(1) High (NM @ 30K ft MSL, .8 IMN)	(b)(1) [redacted]			
Reliability				
(b)(1) System Mission				

(Ch-1)

(U) Acronyms:
AGL = Above Ground Level
CEP = Circular Error Probable
IAW = In Accordance With
IMN = Indicated Mach No.
KCAS = Knots Calibrated Air Speed
LBA = Limits of Basic Airframe
MSL = Mean Sea Level
NM = Nautical Mile

[redacted]

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10b. (U) **Performance Characteristics (Cont'd)**:
Unitary

b. Current Change Explanations --
(U) (Ch-1)- Unitary system mission reliability was updated (b)(1) to reflect current fielded reliability.

*** UNCLASSIFIED ***

[redacted]

A-15 LONGBOW APACHE

*** SECRET ***

SELECTED ACQUISITION REPORT CLASSIFIED EXTRACT (RCS: DD-A&T(Q&A)823-831)
PROGRAM: LONGBOW APACHE

AS OF DATE: December 31, 2006

INDEX

1. (U) **Designation and Nomenclature (Popular Name):** AH-64D LONGBOW APACHE

2. (U) **DoD Component:** Army

3. (U) **Responsible Office and Telephone Number:**

ATTN: SFAE-AV-AAH
Building 5681
Redstone Arsenal, AL 35898-5000

COL DEREK PAQUETTE
Assigned: September 9, 2005
DSN 897-4200; COMM 256-313-4200
derek.paquette@peoavn.redstone.army.mil

Classified by:
Downgrade instructions: Apache Attack Helicopter SCG - Dated 3 May 05
Declassify On: 1 May 2030

*** SECRET ***

10. (U) **Performance Characteristics:**

a. Performance --

	SAR Production Estimate	Approved APB Obj/Threshold	Demonstrated Perf	Current Estimate
Vertical Rate of Climb for AH-64D with FCR Mission Kit (ft/min)	450	450 / 450	705	450
Ordnance Load (primary mission config) Hellfire (no.)	16	16 / 12	8	12
Target Handover	No degrada-	No / 15% degrada- / degrada-	13% Degrada-	No
Engagement time (RF Hellfire) in seconds	(b)(1)			
Ao, Operational Availability (%) of AH-64D w/FCR Kit	79	79 / 75	91.4	79

AS AMENDED

(U) Acronyms:
FCR - Fire Control Radar
RF - Radar Frequency

(U) The objective for Ordnance Load (primary mission configuration) refers to AH-64A goal. The Longbow primary mission configuration is 8 Longbow Hellfire missiles, and 320 30mm rounds.

b. Current Change Explanations -- None