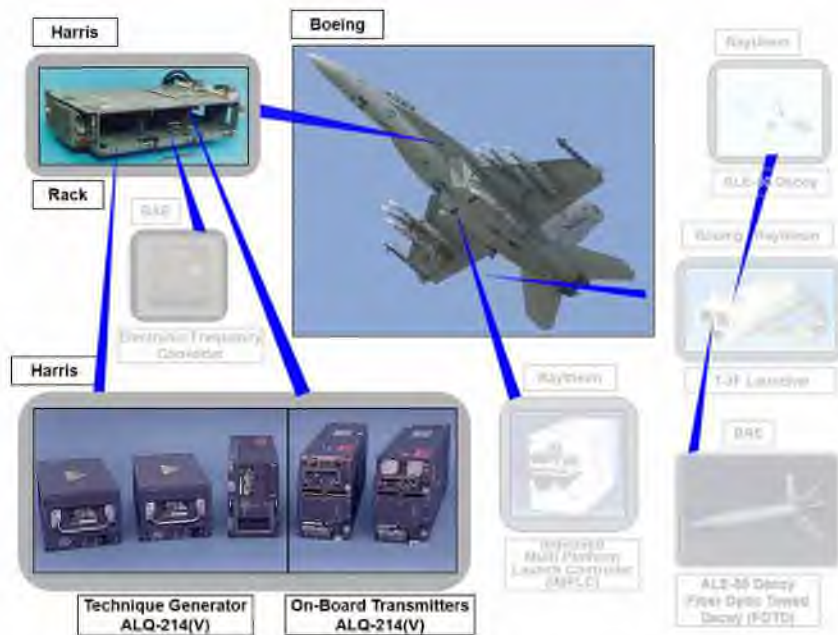


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RCS: DD-A&T(Q&A)823-418



Integrated Defensive Electronic Countermeasures (IDECM)

As of FY 2021 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)

Program Information

Program Name

Integrated Defensive Electronic Countermeasures (IDECM)

DoD Component

Navy

Responsible Office

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References

SAR Baseline (Production Estimate)

Assistant Secretary of the Navy (Research, Development & Acquisition) (ASN(RDA)) Approved Acquisition Program Baseline (APB) dated June 29, 2018

Approved APB

Assistant Secretary of the Navy (Research, Development & Acquisition) (ASN(RDA)) Approved Acquisition Program Baseline (APB) dated June 29, 2018

Mission and Description

The Integrated Defensive Electronic Countermeasures (IDECM) System is a Radio Frequency (RF), self-protection electronic countermeasure suite on the F/A-18 aircraft. IDECM improves the survivability of the F/A-18 aircraft against RF guided threats during Air-to-Ground/Surface and Air-to-Air missions. The system is comprised of onboard components, which receive and process radar signals, along with onboard and offboard jammer components that transmit appropriate RF jamming responses.

There are four IDECM variants in development, production, or sustainment. Blocks 1-3 are compatible with F/A-18E/F aircraft only and are no longer in reporting. Block 4 is compatible with F/A-18C-F aircraft.

IDECM Block 1: A federated suite, consisting of the ALQ-165 On-Board Jammer (OBJ) and ALE-50 expendable decoy.

IDECM Block 2: An integrated suite, consisting of the ALQ-214 OBJ and ALE-50 expendable decoy.

IDECM Block 3: An integrated suite, consisting of the ALQ-214 OBJ and ALE-55 Fiber Optic Towed Decoy.

IDECM Block 4: A hardware Engineering Change Proposal to the ALQ-214 OBJ to render it suitable for operation on F/A-18C/D aircraft, while retaining all functionality, when installed on F/A-18E/F.

ALQ-214 Software Improvement Program (SWIP): ALQ-214 Software/Firmware updates that will enhance F/A-18 mission execution and improve mission survivability against modern air, land and naval threat systems by degrading (denying/delaying) threat ability to engage.

ALQ-214 Adaptive Radar Countermeasures (ARC): ALQ-214 ARC will provide the ALQ-214 with improved RF Threat Detection algorithms and jamming against modern threat radars not programmed in mission data files (unknowns).

Executive Summary

Program Highlights Since Last Report

The IDECM System is a Radio Frequency (RF), self-protection electronic countermeasure suite on the F/A-18 aircraft. IDECM improves the survivability of the F/A-18 aircraft against RF guided threats during Air-to-Ground/Surface and Air-to-Air missions. The system is comprised of onboard components, which receive and process radar signals, along with onboard and offboard jammer components that transmit appropriate RF jamming responses.

IDECM Block-4 (IB-4) ALQ-214 Software Improvement (SWIP)

SWIP fielding decision delayed pending correction of critical software deficiencies and follow on test verification. Software root cause identification/mitigation delayed by range threat asset availability and delivery of range asset data in FY 2019. Government lab test is in process, initial results favorable. Flight test required following lab test. The Program is investigating test methodology, timeline, and prioritization at Electronic Combat Range (ECR) and Nevada Test and Training Range (NTTR) to support expedited flight test. The Program is also evaluating the use of additional test assets to support root cause identification/correction and to enable schedule opportunities. SWIP fielding decision planned in 4th Quarter FY 2020.

Adaptive Radar Countermeasures (ARC)

The ARC Risk Reduction contract was awarded on February 25, 2019 to Leidos Incorporated and includes ARC Quick Reaction Capability (QRC) Technology Demonstration, requirements definition, and system architecture and integration. Exit criteria for ARC Risk Reduction is successful completion of a System Requirements Review (SRR). The ARC Non-Recurring Engineering (NRE) Phase II contract award is planned in 3rd Quarter FY 2020 to Leidos Incorporated for development and integration of ARC on the F/A-18 for operational performance.

IDECM Block-4 (IB-4) Production

Current as of February 10, 2020, L3Harris has delivered two hundred twenty-three (223) ALQ-214(V) production systems under the Full Rate Production (FRP) 9 through 13 contracts. FRP 13 deliveries are complete.

FRP 14 through 16 contract (base with two options) was awarded on September 27, 2017. As of February 10, 2020, L3Harris has delivered fourteen (14) ALQ-214A(V) production systems. Software/firmware delays for the ALQ-214 Shop Replaceable Assembly (SRA) Engineering Change Proposal (ECP) development have impacted the FRP 14 delivery schedule. An ALQ-214 SRA ECP Program Technical Baseline Assessment has been conducted. A Request for Variance (RFV) for delivery of non-conforming items is in place for the duration of FRP 14 hardware deliveries due to schedule progress demonstrated by L3Harris's SWIP and ALQ-214 SRA ECP efforts. FRP 15 was awarded on February 8, 2018 and deliveries are planned to begin in June 2020. FRP 16 was awarded on February 19, 2019 and deliveries are planned to begin in June 2021.

A follow on production contract, FRP 17-20 (base with 3 options) is planned for award in 3Q FY 2020.

History of Significant Developments Since Program Initiation

History of Significant Developments Since Program Initiation	
Date	Significant Development Description
1st Quarter FY 2008	In September 2007, PMA272 requested re-designation of IDECM from Acquisition Category (ACAT) II to ACAT IC. The requirement to re-designate was identified as part of a cost estimate performed by the AIR 4.2 Cost Department in support of the re-baseline effort and in preparation for the IB-3 FRP decision. The analysis identified that continued RDT&E investments over the course of the IBs 1-3 development program resulted in cumulative RDT&E funding, which is above the demarcation line between ACAT II and ACAT I (\$365M total in FY 2000\$). The request to re-designate as ACAT IC was approved by ASN (RD&A) in March 2008.
2nd Quarter FY 2008	In January 2008, corrective actions (hardware and software) for all anomalies required for IB-3 to return to OT were incorporated and demonstrated to be effective through DT laboratory and flight testing. IB-3 returned to Initial Operational Test and Evaluation (IOT&E) in February 2008. IB-3 IOT&E completed in September 2008. The OT Report was received on December 19, 2008 with a finding of "operationally effective" but "not operationally suitable".
3rd Quarter FY 2008	The IDECM ACAT IC APB was approved and includes the increments for IB 2/3 and the increment for IB-4.
2nd Quarter FY 2009	An IDECM Block 4 Program Decision Review was conducted with ASN (RD&A) in March 2009. The IB-4 acquisition and contract strategy, which supported development of a Common OBJ for the F/A-18 C/D/E/F aircraft through sole source contract awards to Harris (formerly Exelis) for modifications to the ALQ-214, was presented to ASN (RD&A). An IB-4 APB schedule deviation was recommended to replace IB-4 Milestone B and C events with In-Process Reviews (IPRs) to provide more appropriate oversight of an ECP modification to a system already in FRP. ASN (RD&A) support for the IB-4 strategy was documented by an ADM, dated May 4, 2009. IB-4 cost, schedule and performance requirements were contained in the IDECM APB Change 1, approved July 10, 2009.
2nd Quarter FY 2009	An IDECM Block 3 Program Decision Review was conducted with ASN (RD&A) in March 2009. The purpose of the review was to evaluate Program Office recommendations to deviate from APB schedules and to include additional IB-3 LRIP awards, allowing for the correction of deficiencies identified during IB-3 IOT&E Report (OT-IIB), prior to FRP. ASN (RD&A) supported the IB-3 acquisition strategy change to include additional LRIP lots; specifically LRIP 5 in FY 2009 and LRIP 6 in FY 2010. ASN (RD&A) support for the IB-3 strategy was documented by an Acquisition Decision Memorandum (ADM), dated April 13, 2009. IB-2/3 cost, schedule and performance requirements were contained in the IDECM APB Change 1, approved July 10, 2009.
1st Quarter FY 2010	An IDECM Block 4 ECP Preliminary Design Review (PDR) was successfully completed in November 2009.
3rd Quarter FY 2010	An IDECM Block 4 ECP Critical Design Review (CDR) was successfully completed in May 2010. As a result of CDR, AIR-4.2 updated the cost estimate and identified an Operations & Support (O&S) cost deviation to the APB. The O&S cost estimate increased due to use of an incorrectly calculated Mean Time Between Failure (MTBF), which resulted in an artificially low estimate of the number of failures and associated repair costs. A Program Deviation Report was routed and the IDECM APB Change 2 was approved on October 18, 2010.
2nd Quarter FY 2011	As a result of PB12, IB-4 required a cost re-baseline to address an increase of funds over the Future Years Defense Program (FYDP). The RDT&E breach was due to an increase of funds for ALQ-214 SWIP for Deny-Delay jamming functionality. The procurement breach was due to an increase of funds to procure additional IB-4 systems. A Program Deviation

	Report (PDR) was routed and the IDECM APB Change 3 was approved on June 07, 2011.
3rd Quarter FY 2013	An In-Process Review was conducted with ASN(RD&A) on April 9, 2013. System software demonstrated a lack of maturity requiring additional time, which resulted in an APB schedule breach of the Operational Test (OT) Start. ASN(RD&A) approved revision of the APB objectives to reflect current estimates for OT Start, IPR 5, IPR 6 and IOC. There was no impact to cost or performance. The IPR resulted in direction to update the IDECM Acquisition Strategy to reflect award of the existing Firm Fixed Price (FFP) production option in FY 2014 following IPR 5 in early FY 2014 and conduct of the final IPR (IPR 6) after completion of Operational Test.
1st Quarter FY 2014	An In-Process Review was conducted electronically with ASN(RD&A) from January 10, 2014 to January 24, 2014. The purpose of this IPR was to provide status of IB-4; gain concurrence to exercise the FY 2014 production award; and provide an assessment of the IDECM Configuration Steering Board (CSB) annual requirement. All input criteria were satisfied. The program was directed to return for IPR 6 following completion of OT to support the FY 2015 and planned subsequent annual procurements of the ALQ-214.
2nd Quarter FY 2015	On March 10, 2015, PMA 272 submitted a PDR for the ECP portion of the IB-4 program due to a flight test schedule breach. OT had been delayed due to a lack of aircraft and threat simulator availability at the test range. The previous "electronically conducted" IPR 5, documented stability of the IB-4 ECP hardware and software configuration and the OTRR granted start to OT. Based on IDECM maturity, ASN(RD&A) concurred with the IDECM program plan to award the FY 2015 ALQ-214 production contract and remove the requirement for IPR 6. A revised APB which reflects the current schedule estimates was signed February 17, 2016.
3rd Quarter FY 2015	IB-4 Hardware ECP Initial Operational Capability (IOC) achieved May 2015.
4th Quarter FY 2015	The Navy completed an IDECM SWIP operational assessment (OA) on September 30, 2015.
4th Quarter FY 2017	IDECM Block 2/3 reported deviations in the December 2015 and 2016 Selected Acquisition Report (SARs) for procurement costs as a result of funding/budget reductions which stretched out the program duration. In the December 2016 SAR, the IDECM program office recommended managing the expendable requirements through the Naval Munitions Requirements Process (which aligns with Department of Defense Instruction (DoDI) 3000.04) along with all other countermeasure expendables in the Department of Navy (DoN) Inventory. In August 2017, the Navy supported the recommendation, via an Acquisition Decision Memorandum, which directed PMA-272 to manage the ALE-55 expendable Fiber Optic Towed Decoy solely through the NMRP. The 2019 President's Budget includes the requirement for a Dual Band Decoy (DBD) to counter future threats and is funded (RDT&E in FY2019 and Procurement (PANMC) in FY2022). DBD will not be part of IDECM Block 2/3 or Block 4 subprograms. In the process of aligning/planning the FYDP funding, DBD is planning for production readiness in FY2022 resulting in no future requirements for ALE-55 beyond FY2021. As a result of DBD planning/funding, the quantity projections for ALE-55 are drastically reduced and create a critical Nunn-McCurdy breach against both the original and current baseline of IDECM Block 2/3. This breach is due solely to reducing the quantity of ALE-55 by 69%.
4th Quarter FY 2017	On August 18, 2017, via ADM, PMA-272 was authorized to route a revised APB to reflect IDECM Block 4 changes to Procurement and O&S parameters due to an increase in quantities, from 190 units to 324 units. A revised APB which reflects the current cost estimates was signed February 12, 2018.
2nd Quarter FY 2018	Adaptive Radar Countermeasures (ARC) is an upgrade to the on-board component of the IDECM suite. The RDT&E associated with ARC, funded in PB 2019, was significant enough to cause an RDT&E deviation for IDECM Block 4. The Program Office documented this deviation in a Program Deviation Report (PDR). The RDT&E associated with ARC was

	incorporated into the APB approved on June 29, 2018.
3rd Quarter FY 2018	IDECM Block 2/3 reported a critical Nunn-McCurdy in the December 2017 SAR. The root cause analysis determined the Nunn-McCurdy to be quantity based and unrelated to the execution of the program. On May 10, 2018 the SAE approved a program restructure to include only the quantity required to reach IOC within the APB. Moving forward, the ALE-55 will be managed solely through the Naval Munitions Requirements Process (NMRP) in accordance with OPNAVINST 8011.9B. On May 28, 2018 the Nunn-McCurdy program certification was submitted to Congress. A new APB was approved June 29, 2018. Based on the program restructure, IDECM Block 2/3 is considered 100% delivered/expended.

Threshold Breaches

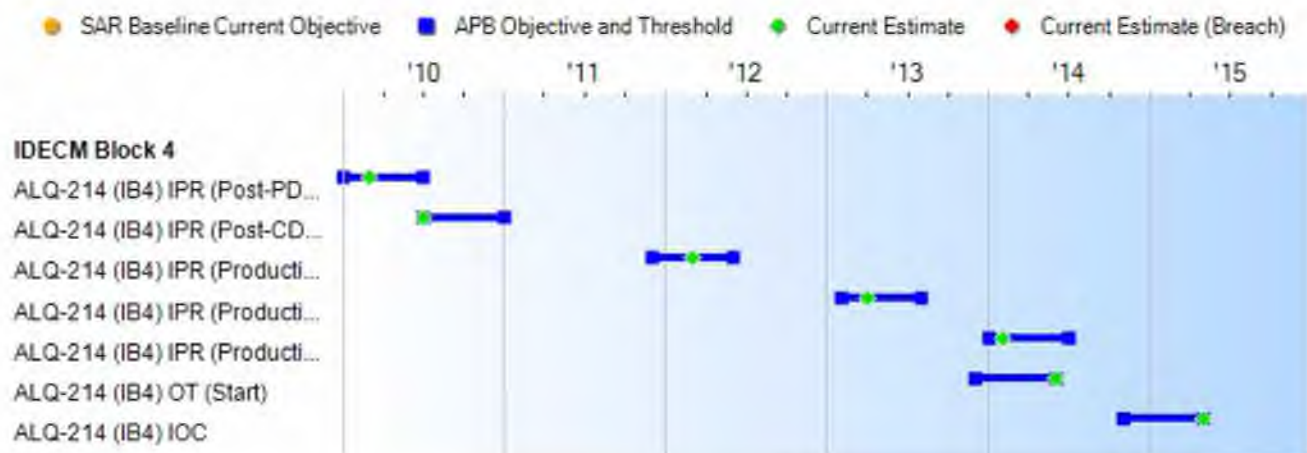
APB Breaches

Schedule		<input type="checkbox"/>
Performance		<input type="checkbox"/>
Cost	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
O&S Cost		<input type="checkbox"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches

Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule



Schedule Events				
Events	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate
ALQ-214 (IB4) IPR (Post-PDR Assessment)	Jan 2010	Jan 2010	Jul 2010	Mar 2010
ALQ-214 (IB4) IPR (Post-CDR Assessment)	Jul 2010	Jul 2010	Jan 2011	Jul 2010
ALQ-214 (IB4) IPR (Production Cut-in Review 1)	Dec 2011	Dec 2011	Jun 2012	Mar 2012
ALQ-214 (IB4) IPR (Production Cut-in Review 2)	Feb 2013	Feb 2013	Aug 2013	Apr 2013
ALQ-214 (IB4) IPR (Production Cut-in Review 3)	Jan 2014	Jan 2014	Jul 2014	Feb 2014
ALQ-214 (IB4) OT (Start)	Dec 2013	Dec 2013	Jun 2014	Jun 2014
ALQ-214 (IB4) IOC	Nov 2014	Nov 2014	May 2015	May 2015

Change Explanations

None

Acronyms and Abbreviations

CDR - Critical Design Review
 IB4 - IDECM Block 4
 IPR - In-Process Review
 MS - Milestone
 OPEVAL - Operational Evaluation
 OT - Operational Test
 PDR - Preliminary Design Review

Performance

Performance Characteristics				
SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
ALQ-214 (IB2/3/4 On-Board Jammer) Ao				
0.95	0.95	0.9	0.92	0.92
ALQ-214 (IB2) Operating Envelope				
LBA	LBA	LBA	LBA	LBA

Classified Performance information is provided in the classified annex to this submission.

Requirements Reference

ORD (Block 4) dated November 2003 and Statement of Functionality (SOF) dated October 12, 2010

Change Explanations

None

Acronyms and Abbreviations

Ao - Operational Availability
 IB-2 - IDECM Block 2
 IB-3 - IDECM Block 3
 IB-4 - IDECM Block 4
 LBA - Limits of Basic Airframe
 ORD - Operational Requirements Document

Track to Budget

RD&E

Appn	BA	PE
Navy	1319 05	0604270N

Project	Name
---------	------

2175 Tactical Air Electronic Warfare (Shared)

Notes: This project also funds Dual Band Decoy (DBD) development efforts.

Procurement

Appn	BA	PE
Navy	1506 05	0204161N

Line Item	Name
-----------	------

0576 Common ECM Equipment (Shared)

Notes: This line item funds other aircraft modification efforts.

Navy 1506 06 0204161N

Line Item	Name
-----------	------

0605 Spares and Repair Parts (Shared)

Notes: This line item funds other spares procurement efforts.

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2018 \$M			BY 2018 \$M	TY \$M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	409.7	409.7	450.7	427.7	404.1	404.1	421.9
Procurement	895.5	895.5	985.1	846.3	928.8	928.8	872.1
Flyaway	--	--	--	656.8	--	--	677.1
Recurring	--	--	--	653.1	--	--	673.6
Non Recurring	--	--	--	3.7	--	--	3.5
Support	--	--	--	189.5	--	--	195.0
Other Support	--	--	--	111.8	--	--	117.6
Initial Spares	--	--	--	77.7	--	--	77.4
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1305.2	1305.2	N/A	1274.0	1332.9	1332.9	1294.0

Current APB Cost Estimate Reference

PMA272/AIR 4.2 dated April 06, 2018

Cost Notes

No cost estimate for the program has been completed in the previous year.

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E	0	0	0
Procurement	324	324	324
Total	324	324	324

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2021 President's Budget / December 2019 SAR (TY\$ M)									
Appropriation	Prior	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
RDT&E	273.6	17.2	27.9	29.2	32.5	28.0	13.5	0.0	421.9
Procurement	589.9	56.2	42.4	49.5	50.4	52.0	21.5	10.2	872.1
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2021 Total	863.5	73.4	70.3	78.7	82.9	80.0	35.0	10.2	1294.0
PB 2020 Total	861.8	72.5	67.9	73.7	80.8	83.3	25.8	10.2	1276.0
Delta	1.7	0.9	2.4	5.0	2.1	-3.3	9.2	0.0	18.0

Quantity Summary										
FY 2021 President's Budget / December 2019 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	211	19	18	23	23	24	6	0	324
PB 2021 Total	0	211	19	18	23	23	24	6	0	324
PB 2020 Total	0	211	19	18	23	23	24	6	0	324
Delta	0	0	0	0	0	0	0	0	0	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2008	--	--	--	--	--	--	5.2
2009	--	--	--	--	--	--	9.8
2010	--	--	--	--	--	--	62.3
2011	--	--	--	--	--	--	49.3
2012	--	--	--	--	--	--	60.3
2013	--	--	--	--	--	--	26.9
2014	--	--	--	--	--	--	13.5
2015	--	--	--	--	--	--	11.1
2016	--	--	--	--	--	--	9.1
2017	--	--	--	--	--	--	7.0
2018	--	--	--	--	--	--	2.1
2019	--	--	--	--	--	--	17.0
2020	--	--	--	--	--	--	17.2
2021	--	--	--	--	--	--	27.9
2022	--	--	--	--	--	--	29.2
2023	--	--	--	--	--	--	32.5
2024	--	--	--	--	--	--	28.0
2025	--	--	--	--	--	--	13.5
Subtotal	--	--	--	--	--	--	421.9

Annual Funding 1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 2018 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2008	--	--	--	--	--	--	6.0
2009	--	--	--	--	--	--	11.1
2010	--	--	--	--	--	--	69.8
2011	--	--	--	--	--	--	53.9
2012	--	--	--	--	--	--	64.9
2013	--	--	--	--	--	--	28.7
2014	--	--	--	--	--	--	14.2
2015	--	--	--	--	--	--	11.5
2016	--	--	--	--	--	--	9.3
2017	--	--	--	--	--	--	7.0
2018	--	--	--	--	--	--	2.1
2019	--	--	--	--	--	--	16.3
2020	--	--	--	--	--	--	16.2
2021	--	--	--	--	--	--	25.7
2022	--	--	--	--	--	--	26.4
2023	--	--	--	--	--	--	28.8
2024	--	--	--	--	--	--	24.3
2025	--	--	--	--	--	--	11.5
Subtotal	--	--	--	--	--	--	427.7

Annual Funding								
1506 Procurement Aircraft Procurement, Navy								
Fiscal Year	Quantity	TY \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2012	7	33.1	--	3.5	36.6	15.5	52.1	
2013	17	42.7	--	--	42.7	21.0	63.7	
2014	25	66.5	--	--	66.5	15.0	81.5	
2015	46	87.3	--	--	87.3	19.4	106.7	
2016	59	90.2	--	--	90.2	3.9	94.1	
2017	26	47.5	--	--	47.5	17.5	65.0	
2018	18	32.6	--	--	32.6	21.5	54.1	
2019	13	47.6	--	--	47.6	25.1	72.7	
2020	19	36.9	--	--	36.9	19.3	56.2	
2021	18	35.9	--	--	35.9	6.5	42.4	
2022	23	44.5	--	--	44.5	5.0	49.5	
2023	23	45.1	--	--	45.1	5.3	50.4	
2024	24	47.2	--	--	47.2	4.8	52.0	
2025	6	16.5	--	--	16.5	5.0	21.5	
2026	--	--	--	--	--	5.1	5.1	
2027	--	--	--	--	--	5.1	5.1	
Subtotal	324	673.6	--	3.5	677.1	195.0	872.1	

Annual Funding 1506 Procurement Aircraft Procurement, Navy							
Fiscal Year	Quantity	BY 2018 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2012	7	35.2	--	3.7	38.9	16.6	55.5
2013	17	45.0	--	--	45.0	22.1	67.1
2014	25	69.1	--	--	69.1	15.6	84.7
2015	46	89.4	--	--	89.4	19.9	109.3
2016	59	90.5	--	--	90.5	3.9	94.4
2017	26	46.7	--	--	46.7	17.3	64.0
2018	18	31.5	--	--	31.5	20.8	52.3
2019	13	45.1	--	--	45.1	23.8	68.9
2020	19	34.3	--	--	34.3	17.9	52.2
2021	18	32.7	--	--	32.7	5.9	38.6
2022	23	39.7	--	--	39.7	4.5	44.2
2023	23	39.5	--	--	39.5	4.6	44.1
2024	24	40.5	--	--	40.5	4.1	44.6
2025	6	13.9	--	--	13.9	4.2	18.1
2026	--	--	--	--	--	4.2	4.2
2027	--	--	--	--	--	4.1	4.1
Subtotal	324	653.1	--	3.7	656.8	189.5	846.3

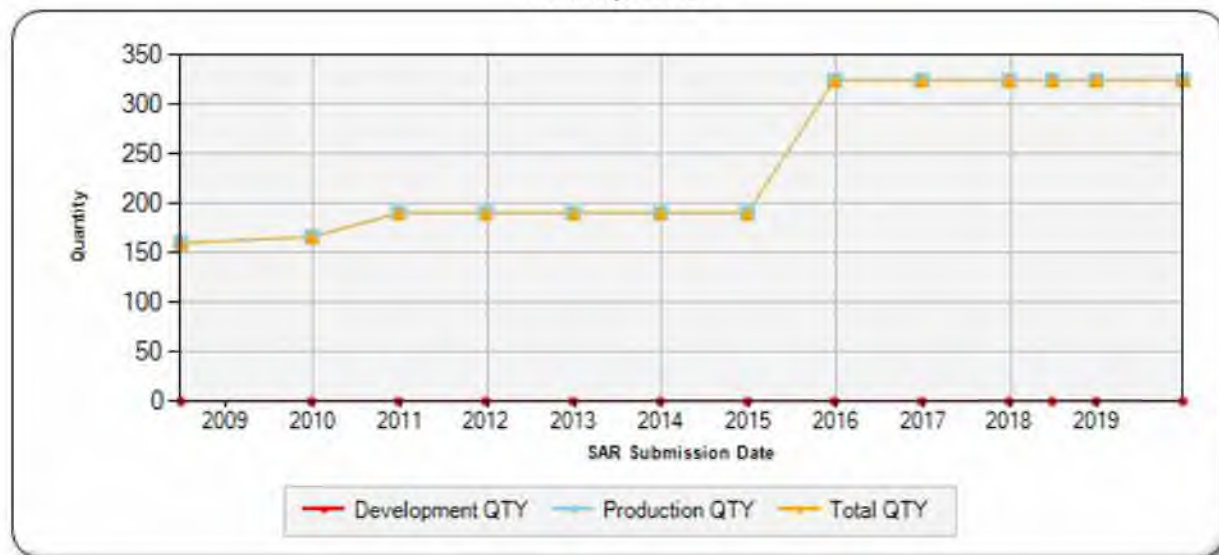
Charts

IDECM first began SAR reporting in June 2008

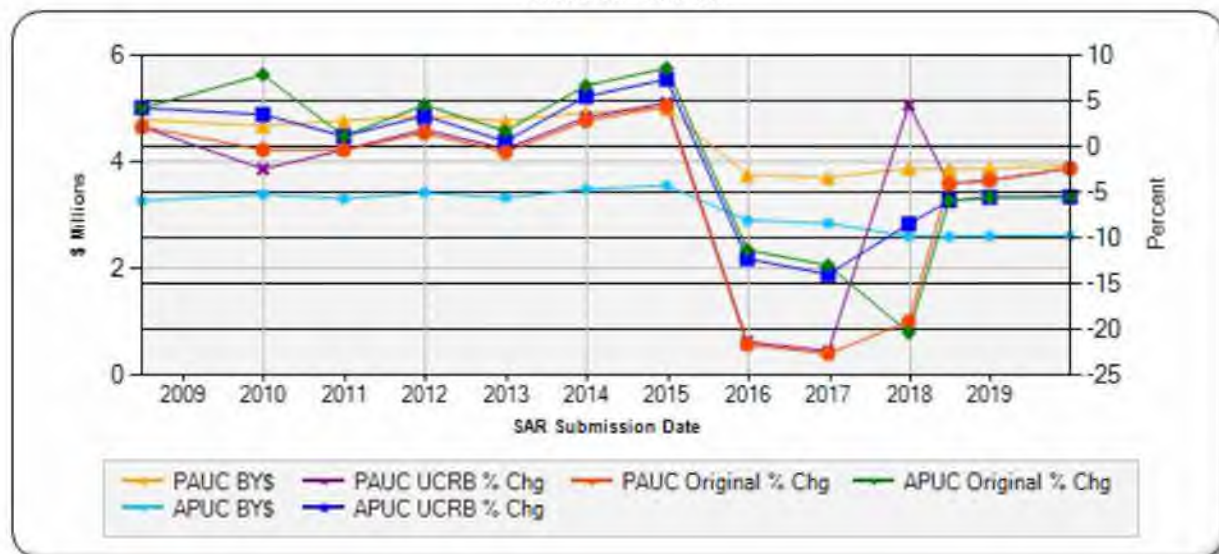
Program Acquisition Cost - IDECM
Base Year 2018 \$M



Quantity - IDECM



Unit Cost - IDECM
Base Year 2018 \$M



Risks

Significant Schedule and Technical Risks

Significant Schedule and Technical Risks	
Current Estimate (December 2019)	
1.	Diminishing Manufacturing Sources and Material Shortages
2.	Budget Reductions and Congressional Actions
3.	Availability of adequate threat test assets
4.	Software Improvement Program (SWIP) fielding scheduled 4th Quarter FY 2020

Risks

Risk and Sensitivity Analysis

Risks and Sensitivity Analysis	
Current Baseline Estimate (June 2018)	
1.	The current baseline estimate reflects the AIR 4.2 Cost Department estimate used as the basis of the IDECM President's 2019 Budget. The current baseline is based upon a cost risk adjusted model that reflects costs at the 50% Confidence level to account for schedule uncertainty, production uncertainty and other risks and uncertainties.
Original Baseline Estimate (June 2008)	
1.	In September 2007, PMA 272 requested re-designation of IDECM from Acquisition Category (ACAT) II to ACAT IC. The requirement to re-designate was identified as part of a cost estimate performed by the AIR 4.2 Cost department in support of the re-baseline effort and in preparation for the IB-3 FRP decision. The request to re-designate as ACAT IC was approved by ASN (RD&A) in March 2008. The original baseline estimate was developed in support of the IDECM ACAT IC APB for IB 1-3 and was approved in June 2008.
Revised Original Estimate (June 2018)	
1.	The revised original estimate reflects the AIR 4.2 Cost Department estimate used as the basis of the IDECM President's 2019 Budget. The current baseline is based upon a cost risk adjusted model that reflects costs at the 50% Confidence level to account for schedule uncertainty, production uncertainty and other risks and uncertainties.
Current Procurement Cost (December 2019)	
1.	The current procurement cost estimate reflects the AIR 4.2 Cost Department estimate used as the basis of the IDECM President's 2019 Budget. The current baseline estimate remains current and unchanged. The current procurement cost estimate is based upon a cost risk adjusted model that reflects costs at the 50% Confidence level to account for schedule uncertainty, production uncertainty and other risks and uncertainties.

Low Rate Initial Production

Notes

There is no LRIP for this program.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost \$M	Description
Kuwait	3/7/2019		43.3	Kuwait procured IDECM Block 4 (ALQ-214 systems and Lab assets as part of the Kuwait Super Hornet procurement, per line 0008, Basic Case KU-P-SBG.
Kuwait	3/26/2018		24.5	Kuwait procured IDECM Block 4 (ALQ-214 systems and Lab assets as part of the Kuwait Super Hornet procurement, per line 0008, Basic Case KU-P-SBG.
Australia	2/8/2018		59.9	Australia procured IDECM Block 4 (ALQ-214) systems and spares as part of the Australian Super Hornet procurement, per Line 20, Basic Case AT-P-GQT.
Australia	9/27/2017		9.0	Australia procured IDECM Block 4 (ALQ-214) systems and spares as part of the Australian Super Hornet procurement, per Line 20, Basic Case AT-P-GQT.

Notes

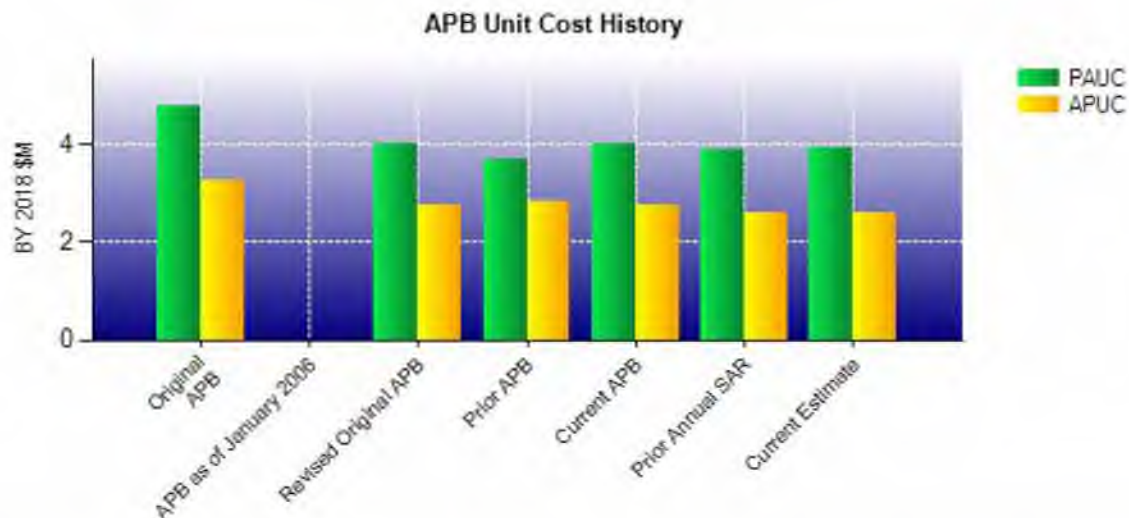
Australian and Kuwaiti quantities are considered classified by the country.

Nuclear Costs

None

Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2018 \$M	BY 2018 \$M	% Change
	Current UCR Baseline (Jun 2018 APB)	Current Estimate (Dec 2019 SAR)	
Program Acquisition Unit Cost			
Cost	1305.2	1274.0	
Quantity	324	324	
Unit Cost	4.028	3.932	-2.38
Average Procurement Unit Cost			
Cost	895.5	846.3	
Quantity	324	324	
Unit Cost	2.764	2.612	-5.50
Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2018 \$M	BY 2018 \$M	% Change
	Revised Original UCR Baseline (Jun 2018 APB)	Current Estimate (Dec 2019 SAR)	
Program Acquisition Unit Cost			
Cost	1305.2	1274.0	
Quantity	324	324	
Unit Cost	4.028	3.932	-2.38
Average Procurement Unit Cost			
Cost	895.5	846.3	
Quantity	324	324	
Unit Cost	2.764	2.612	-5.50



APB Unit Cost History					
Item	Date	BY 2018 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Jun 2008	4.792	3.272	4.663	3.262
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	Jun 2018	4.028	2.764	4.114	2.867
Prior APB	Feb 2018	3.708	2.848	3.805	3.010
Current APB	Jun 2018	4.028	2.764	4.114	2.867
Prior Annual SAR	Dec 2018	3.880	2.611	3.938	2.694
Current Estimate	Dec 2019	3.932	2.612	3.994	2.692

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
4.663	-0.069	-1.667	0.652	0.195	-0.107	0.180	0.267	-0.549	4.114

Current SAR Baseline to Current Estimate (TY \$M)									
PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
4.114	-0.008	0.000	-0.002	0.058	-0.003	-0.180	0.015	-0.120	3.994

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
3.262	-0.060	-0.958	0.652	0.000	-0.476	0.180	0.267	-0.395	2.867

Current SAR Baseline to Current Estimate (TY \$M)									
APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
2.867	-0.005	0.000	-0.002	0.000	-0.004	-0.180	0.015	-0.176	2.692

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	Mar 2009	N/A	N/A
Milestone C	N/A	Mar 2012	N/A	N/A
IOC	N/A	Feb 2014	Nov 2014	May 2015
Total Cost (TY \$M)	N/A	746.1	1332.9	1294.0
Total Quantity	N/A	160	324	324
PAUC	N/A	4.663	4.114	3.994

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	404.1	928.8	--	1332.9
Previous Changes				
Economic	-1.4	-0.4	--	-1.8
Quantity	--	--	--	--
Schedule	--	-0.7	--	-0.7
Engineering	--	--	--	--
Estimating	+0.4	+4.8	--	+5.2
Other	--	-58.2	--	-58.2
Support	--	-1.4	--	-1.4
Subtotal	-1.0	-55.9	--	-56.9
Current Changes				
Economic	+0.2	-1.1	--	-0.9
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+18.8	--	--	+18.8
Estimating	-0.2	-6.0	--	-6.2
Other	--	--	--	--
Support	--	+6.3	--	+6.3
Subtotal	+18.8	-0.8	--	+18.0
Total Changes	+17.8	-56.7	--	-38.9
Current Estimate	421.9	872.1	--	1294.0

Summary BY 2018 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	409.7	895.5	--	1305.2
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+1.5	+3.3	--	+4.8
Other	--	-53.0	--	-53.0
Support	--	+0.1	--	+0.1
Subtotal	+1.5	-49.6	--	-48.1
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+16.7	--	--	+16.7
Estimating	-0.2	-5.8	--	-6.0
Other	--	--	--	--
Support	--	+6.2	--	+6.2
Subtotal	+16.5	+0.4	--	+16.9
Total Changes	+18.0	-49.2	--	-31.2
Current Estimate	427.7	846.3	--	1274.0

Previous Estimate: December 2018

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+0.2
Additional funding for Mission Computer and Fire Control Radar Integration in support of Adaptive Radar Countermeasures (ARC). (Engineering)	+16.7	+18.8
Revised estimate due to the application of new outyear inflation indices. (Estimating)	-0.2	-0.2
RDT&E Subtotal	+16.5	+18.8

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-1.1
Revised estimate to reflect prior year actuals. (Estimating)	-6.7	-7.0
Adjustment for current and prior escalation. (Estimating)	+0.3	+0.4
Revised estimate due to the application of new outyear inflation indices. (Estimating)	+0.6	+0.6
Adjustment for current and prior escalation. (Support)	+0.3	+0.2
Increase in Other Support due to change in Peculiar Support Equipment estimate and other budget updates. (Support)	+5.9	+6.1
Procurement Subtotal	+0.4	-0.8

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: IDECM Block 4 (ALQ-214) FRP 14 & 15
Contractor: Harris Corporation
Contractor Location: 77 River Road
 Clifton, NJ 07014
Contract Number: N00019-17-C-0090
Contract Type: Firm Fixed Price (FFP)
Award Date: September 27, 2017
Definitization Date: September 27, 2017

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
133.2	N/A	72	547.2	N/A	282	547.2	547.2

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the award of FRP 16.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP) contract.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	159	159	324	49.07%
Total Program Quantity Delivered	159	159	324	49.07%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	1294.0	Years Appropriated	13
Expended to Date	790.1	Percent Years Appropriated	65.00%
Percent Expended	61.06%	Appropriated to Date	936.9
Total Funding Years	20	Percent Appropriated	72.40%

The above data is current as of February 10, 2020.

Notes

Expenditures reflect IDECM Block 4 RDT&E and Aircraft Procurement, Navy (APN-5).

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	December 27, 2019
Source of Estimate:	POE
Quantity to Sustain:	324
Unit of Measure:	System
Service Life per Unit:	20.00 Years
Fiscal Years in Service:	FY 2014 - FY 2045

System - ALQ-214(V)4/5
 Flight Hours per aircraft per month: 30
 Number of Operating System Years: 6,480
 Total Life Cycle Flight Hours: 959,462

Sustainment Strategy

The IDECM Block 4 (IB-4), ALQ-214(V)4/5, is an Engineering Change Proposal to the ALQ-214(V)2/3 and as such will follow the same sustainment strategy and infrastructure established for the fielded ALQ-214(V)2/3.

The maintenance concept for the ALQ-214(V)4/5 is two levels, Organizational to Depot. Organizational Level activities will include: removal and replacement of faulty Weapons Replaceable Assemblies (WRAs) identified by Built-In Test (BIT)/Maintenance Service Panel (MSP) Code; loading of Operational Flight Program/Mission Data File with Memory Loader Verifier System as required; retest by BIT to verify repair action; end-to-end testing with Government support equipment (GSE) as required; corrosion control and phase inspections. Maintenance Support for the IB-4 is performed by fleet personnel. There are presently no Contractor Engineering & Technical Services or Navy Engineering & Technical Services representatives. If additional support is required, the Type Commander can then request technical assistance for the IDECM Deputy Assistant Program Manager Logistics (DAPML). The DAPML will assess the issue and request support from the Fleet Support Team (FST) and/or Original Equipment Manufacturer (OEM).

Depot Level activities will include: removal and replacement of faulty modules/parts to the component or Shop Replaceable Assembly (SRA) level and verification of repair. Depot level maintenance consists of inspection, test, troubleshooting, repair, overhaul and disposal of WRAs/SRAs which are beyond repair. Depot support is provided by the OEMs managed by the Naval Supply Systems Command Weapon Systems Support, Philadelphia.

The ALQ-214(V)4/5 contain a BIT capability consisting of Periodic BIT (PBIT) and Initiated BIT (IBIT). IBIT is used as a preflight and maintenance test on the ground when commanded by the mission computer or other controller. These BIT determine if the ALQ-214(V)4/5 WRAs are operational. PBIT provides automatic and continuous monitoring of mission critical parameters on a background basis during normal system operation. PBIT will not fault isolate but will give clear indications of mission critical failures signaling that IBIT needs to be run. IBIT consists of a series of tests to assess the operational status of the system as well as fault isolate problem hardware. End-to-end testing utilizes a combination of Organizational Support Equipment (OSE) and BIT as required.

A Maintenance Plan (MaPI) for IB-4 is currently available to support the logistics program. The MaPIs are updated as necessary to reflect configuration changes. IB-4 MaPI is a deliverable from the Logistics Management Information database and contains all necessary information for interim supply support and development of source data for the F/A-18 Interactive Electronic Technical Manual. The IB-4 MaPI is managed by the FST at Fleet Readiness Center-Southeast, In-Service Support Center, Jacksonville, Florida.

Antecedent Information

- Antecedent program: ASPJ
- # of Aircraft Operating Years: 6,480 (Not actual, but used in order to provide a comparison between the ALQ-214(V) 4 /5 Suite and its antecedent system)

The Antecedent Average Annual Cost per System is derived from total cost from Naval VAMOS database NAMSIR divided by the total number of systems in NAMSIR. This value is then multiplied by the total number of operating system years associated with ALQ-214(V)4/5 Suite to provide a point of comparison.

Annual O&S Costs BY2018 \$M			
Cost Element	IDECM Block 4		ASPJ (Antecedent)
	Average Annual Cost Per System		Average Annual Cost Per ASPJ
Unit-Level Manpower		0.000	0.000
Unit Operations		0.000	0.000
Maintenance		0.018	0.092
Sustaining Support		0.002	0.008
Continuing System Improvements		0.013	0.008
Indirect Support		0.000	0.000
Other		0.000	0.000
Total		0.033	0.108

Item	Total O&S Cost \$M			
	IDECM Block 4			ASPJ (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	589.8	648.8	212.5	699.0
Then Year	746.2	N/A	269.4	N/A

Equation to Translate Annual Cost to Total Cost

The Average Annual Cost Per Aircraft for the ALQ-214(V)4/5 Suite is calculated by dividing the Total O&S Cost by the Total Operational System Years for the program.

ALQ-214(V)4/5 Total O&S Cost = ALQ-214(V)4/5 Annual O&S Cost per System * Total Operating System Years
 \$212.5 Total O&S Cost = \$33K / System / Year * 6,480 Operating Years

O&S Cost Variance		
Category	BY 2018 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2018 SAR	505.6	
Programmatic/Planning Factors	-303.3	Decrease in maintenance due to an update in the predicted flight hours.
Cost Estimating Methodology	12.0	Increase in Continuing Systems Improvements due to an update in estimating methodology.
Cost Data Update	-1.8	Decrease in sustaining support and continuing

systems improvements due to update of budget data.

Labor Rate	0.0
Energy Rate	0.0
Technical Input	0.0
Other	0.0
Total Changes	-293.1
Current Estimate	212.5

Disposal Estimate Details

Date of Estimate:	December 27, 2019
Source of Estimate:	POE
Disposal/Demilitarization Total Cost (BY 2018 \$M):	2.6

While these costs are not part of the CAPE 2007 O&S Cost Element Structure and hence are not included in the totals above, their Life Cycle Cost impact has been estimated at 2.592 BY 2018 \$M and 4.029 TY \$M.