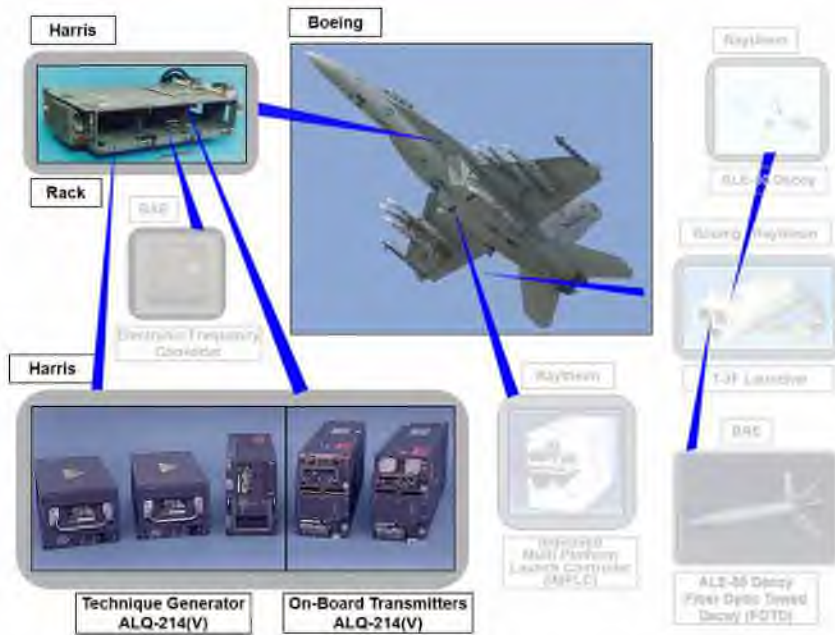




# Selected Acquisition Report (SAR)

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



## Integrated Defensive Electronic Countermeasures (IDECM)

As of FY 2020 President's Budget

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

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## **Sensitivity Originator**

No originator information is available at this time.

## 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 Program (SWIP):**  
SWIP Integrated Test (IT) completed 2nd Quarter FY 2019. Range availability impacted testing schedule in FY 2018 resulting in three month delay. SWIP fielding decision delayed pending resolution of issue identified during final regression flight testing.

**IDECM Block 4 Adaptive Radar Countermeasures (ARC):**  
ARC Risk Reduction contract was awarded on February 25, 2019. Exit criteria for ARC Risk Reduction is successful completion of a System Requirements Review, which encompasses the entire IDECM ARC Suite.

**IDECM Block-4 (IB-4) Production:**  
As of March 11, 2019, Harris has delivered 223 ALQ-214(V)4 production systems under the FRP 9 through 13 contracts. FRP 14 through 16 contract (base with two options) was awarded on September 27, 2017. FRP 14 deliveries are planned to begin in June 2019. FRP 15 was awarded on February 8, 2018 and deliveries are planned to begin in June 2020.

There are no significant software-related issues with this program at this time.



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

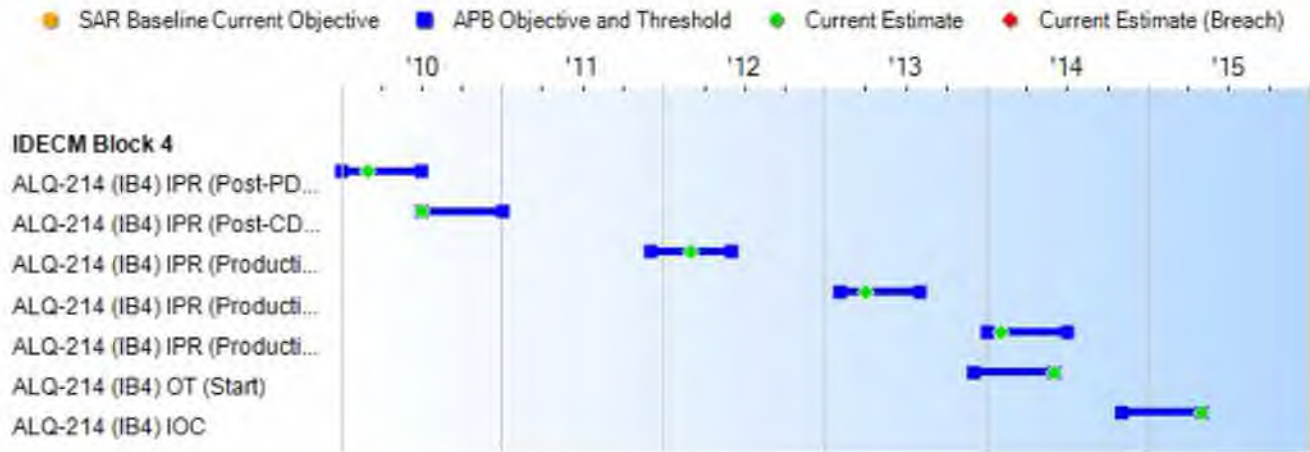
#### APB Breaches

- Schedule
- Performance
- Cost 
  - RDT&E
  - Procurement
  - MILCON
  - Acq O&M
- O&S Cost
- Unit Cost 
  - PAUC
  - APUC

#### 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
<b>ALQ-214 (IB2/3/4 On-Board Jammer) Ao</b>				
0.95	0.95	0.9	0.92	0.92
<b>ALQ-214 (IB2) Operating Envelope</b>				
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



## Track to Budget

### RDT&E

Appn	BA	PE	
Navy	1319	05	0604270N
	<b>Project</b>	<b>Name</b>	
	2175	Tactical Air Electronic Warfare (Shared)	

### Procurement

Appn	BA	PE	
Navy	1506	05	0204161N
	<b>Line Item</b>	<b>Name</b>	
	0576	Common ECM Equipment (Shared)	
Navy	1506	06	0204161N
	<b>Line Item</b>	<b>Name</b>	
	0605	Spares and Repair Parts (Shared)	

## 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	411.2	404.1	404.1	403.1
Procurement	895.5	895.5	985.1	845.9	928.8	928.8	872.9
Flyaway	--	--	--	662.6	--	--	684.1
Recurring	--	--	--	658.9	--	--	680.6
Non Recurring	--	--	--	3.7	--	--	3.5
Support	--	--	--	183.3	--	--	188.8
Other Support	--	--	--	105.7	--	--	111.4
Initial Spares	--	--	--	77.6	--	--	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	1257.1	1332.9	1332.9	1276.0

#### Current APB Cost Estimate Reference

PMA272/AIR 4.2 dated April 06, 2018

#### Cost Notes

A certification of the cost estimate for the IDECM Block 4 subprogram was completed in accordance with the requirements of Section 2433a of title 10, United States Code (i.e. Nunn-McCurdy certification). During the review/certification process performed by the office of Cost Assessment (CA), no programmatic, cost, or schedule risks were identified in the root cause analysis.

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 2020 President's Budget / December 2018 SAR (TY\$ M)									
Appropriation	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
RDT&E	256.6	15.4	16.9	24.6	24.0	30.3	31.0	4.3	403.1
Procurement	517.2	72.6	55.6	43.3	49.7	50.5	52.3	31.7	872.9
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 2020 Total	773.8	88.0	72.5	67.9	73.7	80.8	83.3	36.0	1276.0
PB 2019 Total	779.2	67.9	68.8	71.9	73.2	80.5	66.6	66.6	1274.7
Delta	-5.4	20.1	3.7	-4.0	0.5	0.3	16.7	-30.6	1.3

Quantity Summary										
FY 2020 President's Budget / December 2018 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	198	13	19	18	23	23	24	6	324
PB 2020 Total	0	198	13	19	18	23	23	24	6	324
PB 2019 Total	0	190	21	21	21	22	22	22	5	324
Delta	0	8	-8	-2	-3	1	1	2	1	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	--	--	--	--	--	--	15.4
2020	--	--	--	--	--	--	16.9
2021	--	--	--	--	--	--	24.6
2022	--	--	--	--	--	--	24.0
2023	--	--	--	--	--	--	30.3
2024	--	--	--	--	--	--	31.0
2025	--	--	--	--	--	--	4.3
Subtotal	--	--	--	--	--	--	403.1

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	--	--	--	--	--	--	14.8
2020	--	--	--	--	--	--	15.9
2021	--	--	--	--	--	--	22.7
2022	--	--	--	--	--	--	21.7
2023	--	--	--	--	--	--	26.9
2024	--	--	--	--	--	--	27.0
2025	--	--	--	--	--	--	3.7
Subtotal	--	--	--	--	--	--	411.2

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	54.6	--	--	54.6	18.0	72.6	
2020	19	36.9	--	--	36.9	18.7	55.6	
2021	18	35.9	--	--	35.9	7.4	43.3	
2022	23	44.5	--	--	44.5	5.2	49.7	
2023	23	45.1	--	--	45.1	5.4	50.5	
2024	24	47.2	--	--	47.2	5.1	52.3	
2025	6	16.5	--	--	16.5	5.0	21.5	
2026	--	--	--	--	--	5.1	5.1	
2027	--	--	--	--	--	5.1	5.1	
Subtotal	324	680.6	--	3.5	684.1	188.8	872.9	

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	17.2	63.9	
2018	18	31.4	--	--	31.4	20.7	52.1	
2019	13	51.6	--	--	51.6	17.0	68.6	
2020	19	34.2	--	--	34.2	17.3	51.5	
2021	18	32.6	--	--	32.6	6.7	39.3	
2022	23	39.6	--	--	39.6	4.7	44.3	
2023	23	39.4	--	--	39.4	4.7	44.1	
2024	24	40.4	--	--	40.4	4.4	44.8	
2025	6	13.8	--	--	13.8	4.2	18.0	
2026	--	--	--	--	--	4.2	4.2	
2027	--	--	--	--	--	4.1	4.1	
Subtotal	324	658.9	--	3.7	662.6	183.3	845.9	



## Low Rate Initial Production

There is no LRIP for this program.

## Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost \$M	Description
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

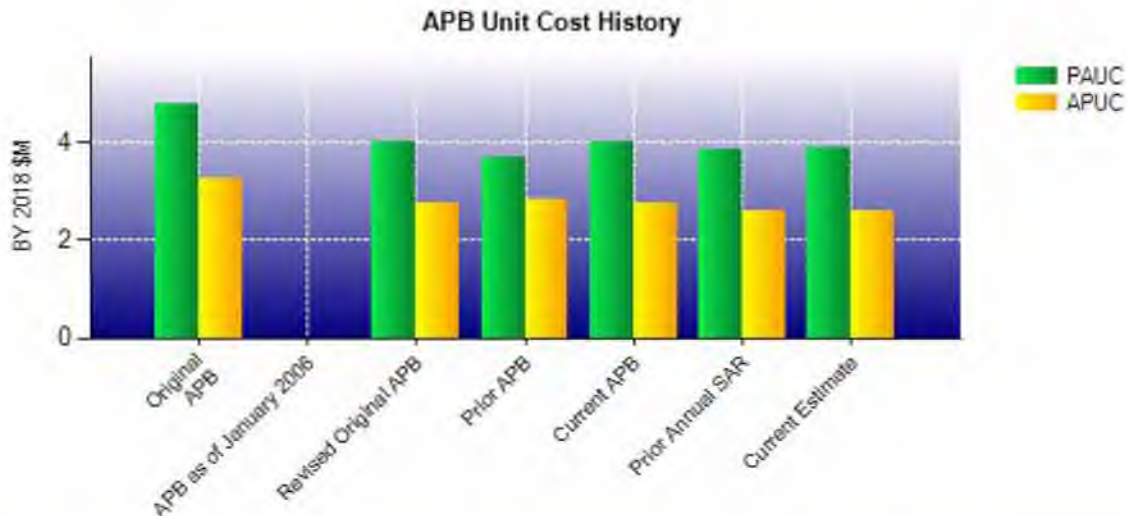
None

**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 2018 SAR)	
<b>Program Acquisition Unit Cost</b>			
Cost	1305.2	1257.1	
Quantity	324	324	
Unit Cost	4.028	3.880	-3.67
<b>Average Procurement Unit Cost</b>			
Cost	895.5	845.9	
Quantity	324	324	
Unit Cost	2.764	2.611	-5.54

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 2018 SAR)	
<b>Program Acquisition Unit Cost</b>			
Cost	1305.2	1257.1	
Quantity	324	324	
Unit Cost	4.028	3.880	-3.67
<b>Average Procurement Unit Cost</b>			
Cost	895.5	845.9	
Quantity	324	324	
Unit Cost	2.764	2.611	-5.54



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 2017	3.876	2.608	3.934	2.687
Current Estimate	Dec 2018	3.880	2.611	3.938	2.694

### 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	-0.006	0.000	-0.002	0.000	0.016	-0.180	-0.004	-0.176	3.938



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	-0.001	0.000	-0.002	0.000	0.015	-0.180	-0.004	-0.172	2.694

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

**Cost Variance**

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	404.1	928.8	--	1332.9
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	-58.2	--	-58.2
Support	--	--	--	--
<b>Subtotal</b>	--	<b>-58.2</b>	--	<b>-58.2</b>
Current Changes				
Economic	-1.4	-0.4	--	-1.8
Quantity	--	--	--	--
Schedule	--	-0.7	--	-0.7
Engineering	--	--	--	--
Estimating	+0.4	+4.8	--	+5.2
Other	--	--	--	--
Support	--	-1.4	--	-1.4
<b>Subtotal</b>	<b>-1.0</b>	<b>+2.3</b>	--	<b>+1.3</b>
<b>Total Changes</b>	<b>-1.0</b>	<b>-55.9</b>	--	<b>-56.9</b>
CE - Cost Variance	403.1	872.9	--	1276.0
CE - Cost & Funding	403.1	872.9	--	1276.0

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	--	--	--	--
Other	--	-53.0	--	-53.0
Support	--	--	--	--
Subtotal	--	-53.0	--	-53.0
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+1.5	+3.3	--	+4.8
Other	--	--	--	--
Support	--	+0.1	--	+0.1
Subtotal	+1.5	+3.4	--	+4.9
Total Changes	+1.5	-49.6	--	-48.1
CE - Cost Variance	411.2	845.9	--	1257.1
CE - Cost & Funding	411.2	845.9	--	1257.1

Previous Estimate: June 2018

#### Cost Variance Notes

The CAPE completed an evaluation of the IDECM Block 4 subprograms. The office of Cost Assessment (CA) found the Dec 2017 SAR cost estimate did not include the 154 ALQ-214(V)4/5 retrofit quantities required. CA prepared an updated cost estimate to include these retrofit quantities, which totaled \$58.2M (TY\$), \$53.0M (BY\$) more than the figure reported in the December 2017 SAR.



RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-1.4
Adjustment for current and prior escalation. (Estimating)	+1.5	+1.5
Revised estimate to reflect actuals. (Estimating)	0.0	-1.1
<b>RDT&amp;E Subtotal</b>	<b>+1.5</b>	<b>-1.0</b>

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.4
No acceleration or extension of ALQ-214(V)4/5s buy profile, program end date remains FY 2025 (BY\$ (M) variance is equal to zero). (Schedule)	0.0	-0.7
Adjustment for current and prior escalation. (Estimating)	+1.0	+1.0
Revised estimate to reflect actual cost data from ALQ-214(V)4/5 full rate production lot 12 (FY 2015). (Estimating)	+2.3	+3.8
Adjustment for current and prior escalation. (Support)	+0.4	+0.4
Decrease in Other Support to reflect revised Government in-house support. (Support)	0.0	-1.5
Decrease in Initial Spares to reflect actuals. (Support)	-0.3	-0.3
<b>Procurement Subtotal</b>	<b>+3.4</b>	<b>+2.3</b>

## Contracts

### Contract Identification

**Appropriation:** Procurement  
**Contract Name:** IDECM Block 4 (ALQ-214) FRP 12 & 13  
**Contractor:** Harris Corporation  
**Contractor Location:** 77 River Road  
 Clifton, NJ 07014  
**Contract Number:** N00019-15-C-0104  
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF)  
**Award Date:** July 30, 2015  
**Definitization Date:** July 30, 2015

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
97.3	100.1	46	187.9	188.3	94	187.9	187.9

### 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 13.

### Cost and Schedule Variance Explanations

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

### General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because an earned value management waiver was granted by Deputy Assistant Secretary of the Navy (Acquisition and Procurement) on July 23, 2015 due to the prime contractor successfully producing 11 Full Rate Production lots and delivered the ALQ-214 on or ahead of schedule.

### Notes

This contract is more than 90% complete; therefore, this is the final report for this contract.

**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	330.2	N/A	180	330.2	330.2

**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 15 and FMS (Kuwait) procurement.

**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	145	145	324	44.75%
Total Program Quantity Delivered	145	145	324	44.75%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	1276.0	Years Appropriated	12
Expended to Date	712.5	Percent Years Appropriated	60.00%
Percent Expended	55.84%	Appropriated to Date	861.8
Total Funding Years	20	Percent Appropriated	67.54%

The above data is current as of March 11, 2019.

### Notes

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

## Operating and Support Cost

### Cost Estimate Details

<b>Date of Estimate:</b>	November 16, 2018
<b>Source of Estimate:</b>	POE
<b>Quantity to Sustain:</b>	324
<b>Unit of Measure:</b>	System
<b>Service Life per Unit:</b>	20.00 Years
<b>Fiscal Years in Service:</b>	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: 1,166,400

### 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 VAMOSOC database NAMSAR divided by the total number of systems in NAMSAR. 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	0.064		0.092
Sustaining Support	0.002		0.008
Continuing System Improvements	0.012		0.008
Indirect Support	0.000		0.000
Other	0.000		0.000
<b>Total</b>	<b>0.078</b>		<b>0.108</b>

Item	Total O&S Cost \$M			
	IDECM Block 4			ASPJ (Antecedent)
	Current Production APB Objective/Threshold	Current Estimate		
<b>Base Year</b>	589.8	648.8	505.6	699.0
<b>Then Year</b>	746.2	N/A	673.4	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  
 \$505.6 Total O&S Cost = \$78K / System / Year \* 6,480 Operating Years

O&S Cost Variance		
Category	BY 2018 \$M	Change Explanations
Prior SAR Total O&S Estimates - Jun 2018 SAR	509.1	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	13.0	Increase in Continuing Systems Improvements due to an update in estimating methodology specific to estimating hardware modifications.
Cost Data Update	-16.5	Decrease in maintenance cost due to an update for

actuals.

Labor Rate	0.0
Energy Rate	0.0
Technical Input	0.0
Other	0.0
Total Changes	-3.5
Current Estimate	505.6

#### Disposal Estimate Details

Date of Estimate:	October 16, 2018
Source of Estimate:	POE
Disposal/Demilitarization Total Cost (BY 2018 \$M):	3.0

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 3.0 BY 2018 \$M and 4.641 TY \$M.