RCS: DD-A&T(Q&A)823-445

Next Generation Jammer Mid-Band (NGJ Mid-Band)

As of FY 2021 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

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
Next Generation Jammer Mid-Band (NGJ Mid-Band)

DoD Component
Navy

Responsible Office

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References

SAR Baseline (Development Estimate)

Under Secretary of Defense (Acquisition, Technology & Logistics) Approved Acquisition Program Baseline (APB) dated April 04, 2016

Approved APB

Assistant Secretary of the Navy (Research, Development & Acquisition) (ASN(RDA)) Approved Acquisition Program Baseline (APB) dated November 5, 2018

Mission and Description

The Next Generation Jammer Mid-Band (NGJ Mid-Band) program is an electronic attack system that will provide significantly improved Airborne Electronic Attack (AEA) capabilities against advanced threats in the Mid-Band frequency range through enhanced agility and precision within jamming assignments, increased interoperability and expanded broadband capacity for greater threat coverage against a wide variety of radio frequency emitters. The Effective Isotropic Radiated Power (EIRP) in the NGJ Mid-Band system will be sufficient to provide robust jamming at standoff distances from Integrated Air Defense Systems (IADS) radars, communications, and data links. The NGJ Mid-Band system will augment and then replace the legacy AN/ALQ-99 Tactical Jamming System (fielded 1971) in the mid-band frequency range for the EA-18G, providing significantly improved radar and communication jamming performance as well as improved reliability and maintainability.

The NGJ Mid-Band system will be required to engage sophisticated IADS and information operations (i.e., other electronic threat systems) in multiple areas of responsibility and across all phases of military operations. Threat operators and systems adapt and exploit available frequency ranges, employing techniques and tactics designed to confuse or otherwise defeat friendly AEA capabilities. In order to defeat these continuously evolving enemy radio frequency threats, the NGJ Mid-Band design must provide for sufficient EIRP to achieve threat systems engagement stand-off distances, support increased capacity (number of jamming assignments) as a result of increased threat density, and support agile employment by operators as well as provide a flexible system architecture that can be upgraded quickly to meet new mission demands.

Executive Summary

Program Highlights Since Last Report

Developmental Testing on an EA-18G commenced following the delivery of Engineering Development Model (EDM) #1 to VX -23 at Naval Air Station Patuxent River in July 2019. EDM #2 was delivered to VX-23 in October 2019 and Electromagnetic Environmental Effects testing on an EA-18G started in November 2019 with the first radiating event in the Air Combat Test and Evaluation Facility anechoic chamber.

In September 2019 an NGJ Mid-Band Aeromechanical Pod was flown on the centerline of a Calspan Gulfstream III test bed aircraft and successfully demonstrated the capability of the ram air turbine generator to generate electrical power.

The program successfully completed static structural testing of the redesigned pod structure in October 2019 and cantilever ground vibration test on an aeromechanical pod in November 2019 supporting critical flight clearance requirements for first flight.

A major modification to the EMD contract was awarded to Raytheon in November 2019 for 7 System Demonstration Test Article (SDTA) shipsets (2 pods/shipset). SDTA's will be used for final developmental test efforts, tactics development, operational test and IOC.

The program office released the LRIP lot I request for proposal to Raytheon for three shipsets in November 2019.

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

History of Significant Developments Since Program Initiation

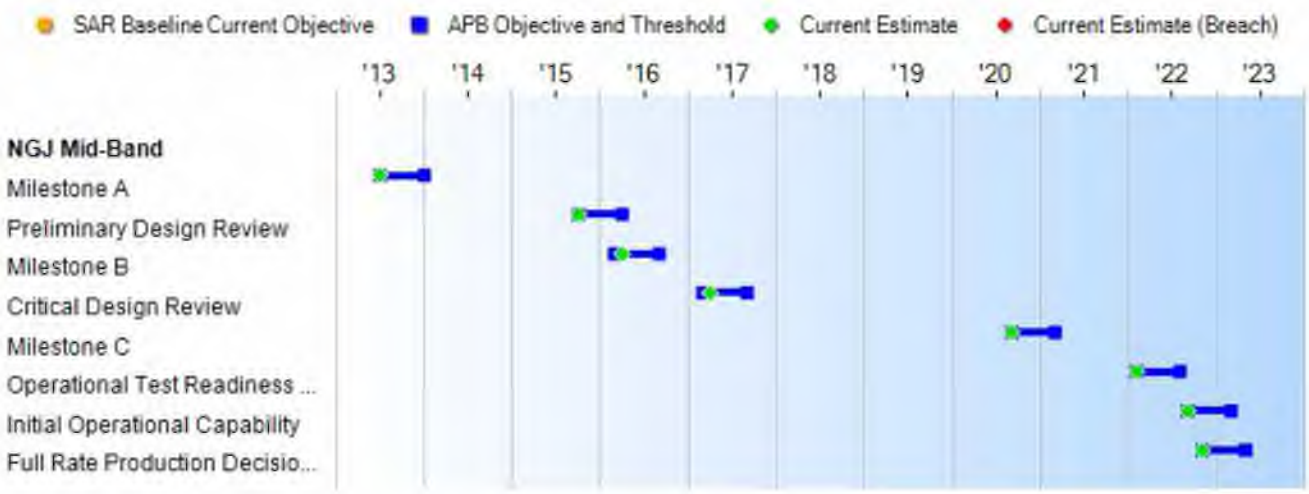
History of Significant Developments Since Program Initiation	
Date	**Significant Development Description**
April 2016	The NGJ Mid-Band program received Milestone B approval to enter EMD.
April 2016	A 56-month sole source Cost Plus Incentive Fee contract was awarded to The Raytheon Company for the EMD phase. During the performance of this contract, the NGJ Mid-Band program will conduct a Critical Design Review and begin delivery of 15 Engineering Development Models that will be used for initial testing.
December 2016	A sole source CPIF contract modification was awarded to The Boeing Company for the integration of the NGJ Mid-Band pod onto the EA-18G aircraft.This effort is in support of the EMD phase of the NGJ Mid-Band program and includes the design and manufacturing of 15 engineering change proposal 6472 A kits, and the integration, demonstration and test of NGJ Mid-Band pods on the EA-18G aircraft.
April 2017	On April 27, 2017, the program completed its CDR.
October 2017	On October 18, 2017, Australia became a cooperative partner for NGJ Mid-Band development.
November 2019	A major modification to the EMD contract was awarded to Raytheon for 7 System Demonstration Test Article shipsets (2 pods/shipset).

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 Development Estimate**	**Current APB Development Objective/Threshold**		**Current Estimate**
Milestone A	Jul 2013	Jul 2013	Jan 2014	Jul 2013
Preliminary Design Review	Oct 2015	Oct 2015	Apr 2016	Oct 2015
Milestone B	Mar 2016	Mar 2016	Sep 2016	Apr 2016
Critical Design Review	Mar 2017	Mar 2017	Sep 2017	Apr 2017
Milestone C	Sep 2019	Sep 2020	Mar 2021	Sep 2020
Operational Test Readiness Review	Dec 2020	Feb 2022	Aug 2022	Feb 2022
Initial Operational Capability	Sep 2021	Sep 2022	Mar 2023	Sep 2022
Full Rate Production Decision Review	Nov 2021	Nov 2022	May 2023	Nov 2022

Change Explanations

None

Track to Budget

RDT&E

Appn	BA	PE
Navy 1319	05	0604274N

Project	Name
0557	Next Generation Jammer

Procurement

Appn	BA	PE
Navy 1506	05	0204154N

Line Item	Name
0591	Next Generation Jammer (NGJ)

Appn	BA	PE
Navy 1506	06	0204161N

Line Item	Name	
0605	Spares and Repair Parts	(Shared)

MILCON

Appn	BA	PE
Navy 1205	01	0712876N

Project	Name
00620258	Next Generation Jammer Facility

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2016 $M			BY 2016 $M	TY $M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	3454.1	3822.9	4205.2	3732.9	3586.2	3998.7	3929.5
Procurement	4002.6	3853.1	4238.4	3839.4	4836.9	4844.4	4848.2
Flyaway	--	--	--	3130.1	--	--	3975.5
Recurring	--	--	--	3099.8	--	--	3933.1
Non Recurring	--	--	--	30.3	--	--	42.4
Support	--	--	--	709.3	--	--	872.7
Other Support	--	--	--	583.8	--	--	726.0
Initial Spares	--	--	--	125.5	--	--	146.7
MILCON	7.0	7.0	7.7	7.0	7.8	7.8	7.9
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	7463.7	7683.0	N/A	7579.3	8430.9	8850.9	8785.6

Current APB Cost Estimate Reference

The Program Office Estimate (POE) is an update to the NGJ Mid-Band Milestone B Program Life Cycle Cost Estimate (PLCCE) and is supported by the methods employed by the Naval Air Systems Command Cost Team (AIR-4.2) dated August 21, 2018

Cost Notes

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

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	4	7	7
Procurement	131	128	128
Total	135	135	135

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	2739.9	491.9	477.7	215.7	4.3	0.0	0.0	0.0	3929.5
Procurement	0.0	0.0	205.9	372.3	514.7	511.2	536.5	2707.6	4848.2
MILCON	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2021 Total	2747.8	491.9	683.6	588.0	519.0	511.2	536.5	2707.6	8785.6
PB 2020 Total	2856.1	530.5	610.6	539.3	525.6	534.0	529.5	2847.4	8973.0
Delta	-108.3	-38.6	73.0	48.7	-6.6	-22.8	7.0	-139.8	-187.4

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	7	0	0	0	0	0	0	0	0	7
Production	0	0	0	3	7	12	14	14	78	128
PB 2021 Total	7	0	0	3	7	12	14	14	78	135
PB 2020 Total	7	0	0	1	6	12	14	14	81	135
Delta	0	0	0	2	1	0	0	0	-3	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
2010	--	--	--	--	--	--	111.7
2011	--	--	--	--	--	--	83.7
2012	--	--	--	--	--	--	154.9
2013	--	--	--	--	--	--	153.3
2014	--	--	--	--	--	--	153.1
2015	--	--	--	--	--	--	221.2
2016	--	--	--	--	--	--	373.5
2017	--	--	--	--	--	--	558.3
2018	--	--	--	--	--	--	584.5
2019	--	--	--	--	--	--	345.7
2020	--	--	--	--	--	--	491.9
2021	--	--	--	--	--	--	477.7
2022	--	--	--	--	--	--	215.7
2023	--	--	--	--	--	--	4.3
Subtotal	7	--	--	--	--	--	3929.5

Annual Funding 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 2016 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2010	--	--	--	--	--	--	120.4
2011	--	--	--	--	--	--	88.1
2012	--	--	--	--	--	--	160.4
2013	--	--	--	--	--	--	157.1
2014	--	--	--	--	--	--	154.7
2015	--	--	--	--	--	--	220.7
2016	--	--	--	--	--	--	366.2
2017	--	--	--	--	--	--	537.6
2018	--	--	--	--	--	--	549.7
2019	--	--	--	--	--	--	318.8
2020	--	--	--	--	--	--	444.7
2021	--	--	--	--	--	--	423.4
2022	--	--	--	--	--	--	187.4
2023	--	--	--	--	--	--	3.7
Subtotal	7	--	--	--	--	--	3732.9

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
2021	3	114.6	--	--	114.6	91.3	205.9
2022	7	233.0	--	--	233.0	139.3	372.3
2023	12	373.4	--	--	373.4	141.3	514.7
2024	14	424.0	--	--	424.0	87.2	511.2
2025	14	419.7	--	--	419.7	116.8	536.5
2026	14	418.4	--	--	418.4	68.1	486.5
2027	14	419.1	--	--	419.1	50.8	469.9
2028	14	421.2	--	--	421.2	41.6	462.8
2029	14	424.1	--	--	424.1	34.8	458.9
2030	14	427.9	--	9.8	437.7	35.6	473.3
2031	8	257.7	--	13.1	270.8	33.9	304.7
2032	--	--	--	19.5	19.5	32.0	51.5
Subtotal	128	3933.1	--	42.4	3975.5	872.7	4848.2

Annual Funding 1506 | Procurement | Aircraft Procurement, Navy							
Fiscal Year	Quantity	BY 2016 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2021	3	100.4	--	--	100.4	80.0	180.4
2022	7	200.1	--	--	200.1	119.6	319.7
2023	12	314.4	--	--	314.4	119.0	433.4
2024	14	350.0	--	--	350.0	72.0	422.0
2025	14	339.7	--	--	339.7	94.5	434.2
2026	14	332.0	--	--	332.0	54.0	386.0
2027	14	326.0	--	--	326.0	39.5	365.5
2028	14	321.2	--	--	321.2	31.7	352.9
2029	14	317.1	--	--	317.1	26.0	343.1
2030	14	313.7	--	7.2	320.9	26.0	346.9
2031	8	185.2	--	9.4	194.6	24.4	219.0
2032	--	--	--	13.7	13.7	22.6	36.3
Subtotal	128	3099.8	--	30.3	3130.1	709.3	3839.4

Annual Funding 1205 | MILCON | Military Construction, Navy and Marine Corps	
Fiscal Year	**TY $M** **Total Program**
2019	7.9
Subtotal	7.9

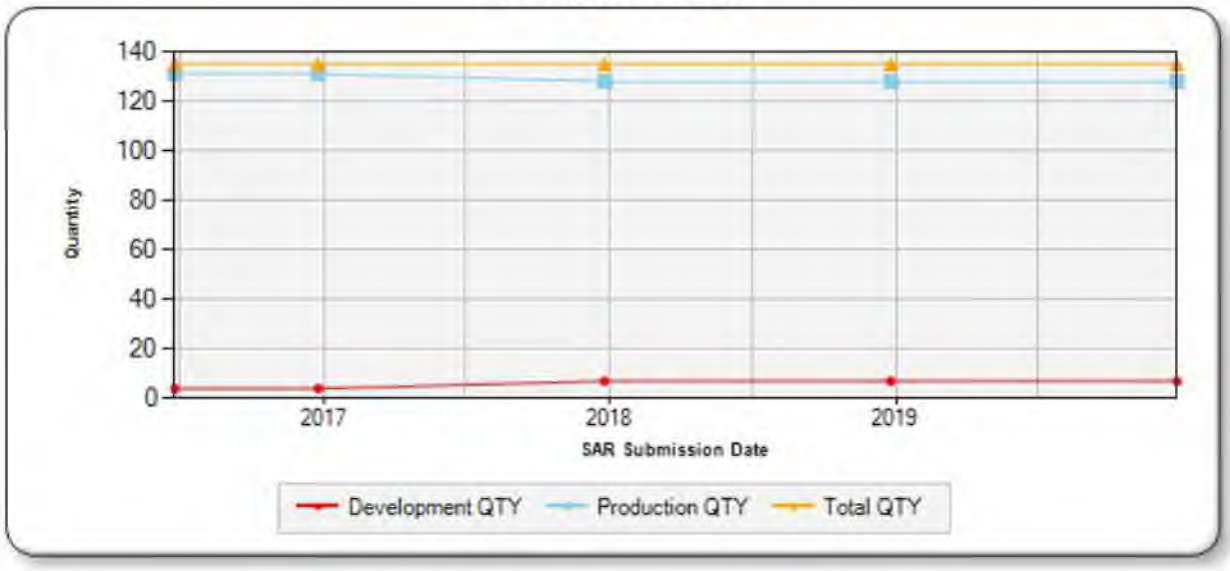
Annual Funding 1205 | MILCON | Military Construction, Navy and Marine Corps	
Fiscal Year	**BY 2016 $M** **Total Program**
2019	7.0
Subtotal	7.0

Charts

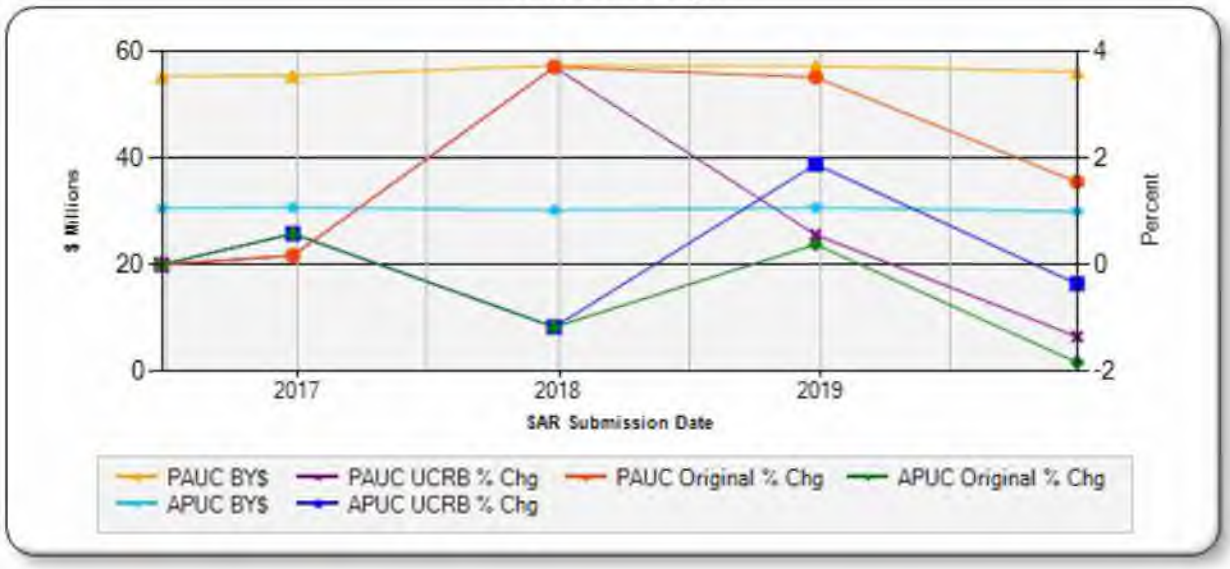
NGJ Mid-Band first began SAR reporting in June 2016

Program Acquisition Cost - NGJ Mid-Band
Base Year 2016 $M

Quantity - NGJ Mid-Band



Unit Cost - NGJ Mid-Band
Base Year 2016 $M



Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	4/5/2016	4/5/2016
Approved Quantity	30	17
Reference	Milestone B ADM	Milestone B ADM
Start Year		
End Year		

The Current Total LRIP Quantity is more than 10% of the total production quantity in order to provide production-representative NGJ Mid-Band systems in support of Initial Operational Test and Evaluation, ensure adequate and efficient manufacturing capability while maintaining the industrial base, and permit an orderly increase, and hence reduced risk, in the NGJ Mid-Band production rate leading to the current planned maximum/optimal economic production rate of 14 ship-sets per year at FRP.

The Milestone B ADM approves an LRIP quantity of up to 30. The start year and end year are not specified.

Foreign Military Sales

Notes

On October 07, 2016 a $4M dollar FMS case was signed with Australia for technical data and support.

On October 18, 2017 Australia became a cooperative partner for NGJ Mid-Band development.

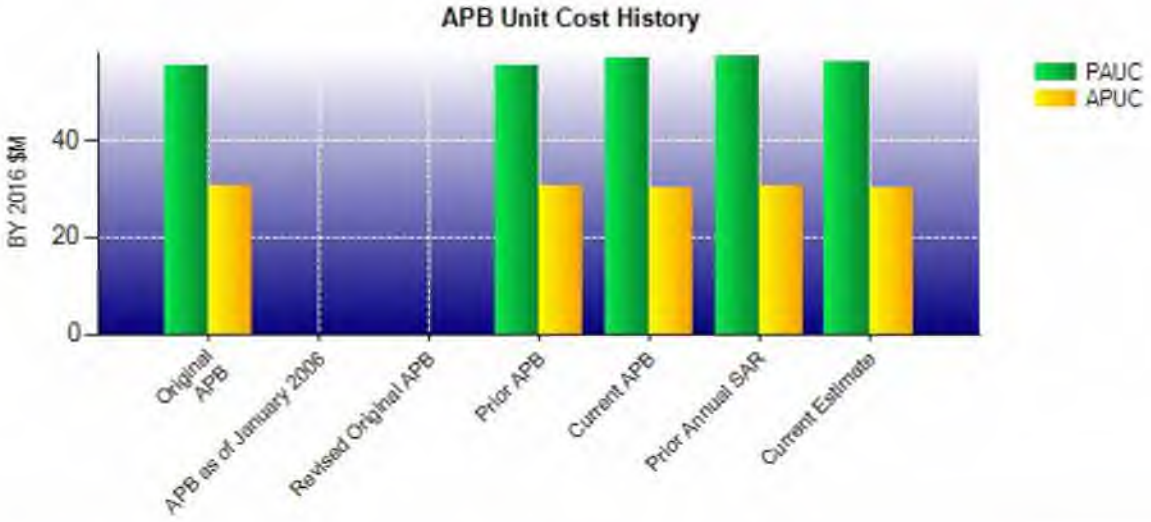
Nuclear Costs

None

Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2016 $M Current UCR Baseline (Nov 2018 APB)	BY 2016 $M Current Estimate (Dec 2019 SAR)	% Change
Program Acquisition Unit Cost			
Cost	7683.0	7579.3	
Quantity	135	135	
Unit Cost	56.911	56.143	-1.35
Average Procurement Unit Cost			
Cost	3853.1	3839.4	
Quantity	128	128	
Unit Cost	30.102	29.995	-0.36

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2016 $M Original UCR Baseline (Apr 2016 APB)	BY 2016 $M Current Estimate (Dec 2019 SAR)	% Change
Program Acquisition Unit Cost			
Cost	7463.7	7579.3	
Quantity	135	135	
Unit Cost	55.287	56.143	+1.55
Average Procurement Unit Cost			
Cost	4002.6	3839.4	
Quantity	131	128	
Unit Cost	30.554	29.995	-1.83



APB Unit Cost History					
Item	Date	BY 2016 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	Apr 2016	55.287	30.554	62.451	36.923
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	Apr 2016	55.287	30.554	62.451	36.923
Current APB	Nov 2018	56.911	30.102	65.562	37.847
Prior Annual SAR	Dec 2018	57.229	30.669	66.467	38.906
Current Estimate	Dec 2019	56.143	29.995	65.079	37.877

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)									
PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
62.451	0.222	0.160	3.712	0.270	-2.480	0.000	0.744	2.628	65.079

Current SAR Baseline to Current Estimate (TY $M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
36.923	0.102	0.177	2.063	0.000	-2.173	0.000	0.785	0.954	37.877

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	Jul 2013	N/A	Jul 2013
Milestone B	N/A	Mar 2016	N/A	Apr 2016
Milestone C	N/A	Sep 2019	N/A	Sep 2020
IOC	N/A	Sep 2021	N/A	Sep 2022
Total Cost (TY $M)	N/A	8430.9	N/A	8785.6
Total Quantity	N/A	135	N/A	135
PAUC	N/A	62.451	N/A	65.079

PAUC is reflected as TY $M.

Cost Variance

Summary TY $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	3586.2	4836.9	7.8	8430.9
Previous Changes				
Economic	+10.7	+25.3	+0.1	+36.1
Quantity	+109.7	-88.2	--	+21.5
Schedule	+237.0	+336.4	--	+573.4
Engineering	+36.4	--	--	+36.4
Estimating	+5.1	-206.4	--	-201.3
Other	--	--	--	--
Support	--	+76.0	--	+76.0
Subtotal	+398.9	+143.1	+0.1	+542.1
Current Changes				
Economic	+6.1	-12.2	--	-6.1
Quantity	--	--	--	--
Schedule	--	-72.3	--	-72.3
Engineering	--	--	--	--
Estimating	-61.7	-71.8	--	-133.5
Other	--	--	--	--
Support	--	+24.5	--	+24.5
Subtotal	-55.6	-131.8	--	-187.4
Total Changes	+343.3	+11.3	+0.1	+354.7
Current Estimate	3929.5	4848.2	7.9	8785.6

Summary BY 2016 $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	3454.1	4002.6	7.0	7463.7
Previous Changes				
Economic	--	--	--	--
Quantity	+99.9	-66.4	--	+33.5
Schedule	+204.0	+116.6	--	+320.6
Engineering	+34.1	--	--	+34.1
Estimating	+1.2	-174.0	--	-172.8
Other	--	--	--	--
Support	--	+46.8	--	+46.8
Subtotal	+339.2	-77.0	--	+262.2
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	-45.6	--	-45.6
Engineering	--	--	--	--
Estimating	-60.4	-61.2	--	-121.6
Other	--	--	--	--
Support	--	+20.6	--	+20.6
Subtotal	-60.4	-86.2	--	-146.6
Total Changes	+278.8	-163.2	--	+115.6
Current Estimate	3732.9	3839.4	7.0	7579.3

Previous Estimate: December 2018

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+6.1
Revised estimate for execution adjustments. (Estimating)	-25.4	-27.3
Revised estimate to reflect rephasing of RDT&E funding resulting from $81.0M FY 2019 Congressional rescission (program recommended). (Estimating)	+71.3	+81.1
Revised estimate to reflect Navy Working Capital Funds labor rates adjustments. (Estimating)	+3.9	+4.5
Revised estimate for under-execution reduction in FY 2021 with partial payback in FY 2022 and FY 2023. (Estimating)	-2.1	-2.2
Revised estimate for Congressional marks in FY 2020. (Estimating)	-29.3	-32.4
Revised estimate for Congressional rescission in FY 2019. (Estimating)	-74.7	-81.0
Adjustment for current and prior escalation. (Estimating)	-4.1	-4.4
RDT&E Subtotal	-60.4	-55.6

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-12.2
Acceleration of procurement buy profile from FY 2031 to FY 2021 and FY 2022. (Schedule)	0.0	-18.1
Additional Schedule Variance due to rephasing of pod shipsets from FY 2031 to FY 2021 - FY 2022. (Schedule)	-45.6	-54.2
Revised estimate for Congressional marks in FY 2020. (Estimating)	-5.7	-6.1
Revised estimate due to the re-alignment of NGJ Mid-Band A-kits and installs to Budget Line Item 0505 in alignment with other EA-18G H-16 modifications. (Estimating)	-55.5	-65.7
Increase in Other Support due to an estimating methodology update for Support Equipment, Data, and Training. (Support)	+22.5	+26.7
Decrease in Initial Spares due to miscellaneous adjustments. (Support)	-1.9	-2.2
Procurement Subtotal	-86.2	-131.8

Contracts

Contract Identification

Appropriation: RDT&E
Contract Name: Engineering and Manufacturing Development
Contractor: Raytheon Company
Contractor Location: 2000 East El Segundo Blvd
El Segundo, CA 90245
Contract Number: N00019-16-C-0002
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: April 13, 2016
Definitization Date: April 13, 2016

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
977.2	N/A	0	1671.7	N/A	0	1695.3	1695.3

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the award of contract modifications for Australian FMS support, Ground Power and Cooling modifications to enable full pod functionality in ground test chambers, Prime Power Generation Capability, structure redesign effort, CEU trade study, pre-operational effort, and the System Demonstration Test Article (SDTA) effort. The difference between the Target Price and Program Manager's Estimated Price is the technical incentive fees on contract.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/10/2020)	-17.7	-23.1
Previous Cumulative Variances	-31.9	-47.1
Net Change	+14.2	+24.0

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to a rebaseline of the contract in April 2019. Cost variances were reset as a result of the structure redesign effort.

The favorable net change in the schedule variance is due to a rebaseline of the contract in April 2019. Schedule variances were reset as a result of the structure redesign effort.

Contract Identification

Appropriation: RDT&E

Contract Name: NGJ Mid-Band EMD Integraton

Contractor: The Boeing Company

Contractor Location: 6200 JS McDonnell Blvd
Saint Louis, MO 63134-1939

Contract Number: N00019-16-C-0032

Contract Type: Cost Plus Incentive Fee (CPIF)

Award Date: April 07, 2016

Definitization Date: April 07, 2016

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
20.0	N/A	N/A	306.0	N/A	N/A	242.7	299.1

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the award of contract modifications to provide for the integration of the NGJ Mid-Band pod onto the EA-18G aircraft.

The difference between the Current Target Price and the Contractor Estimated Price at Completion is due to contractor efficiencies in the areas of software and test. Any delta will be reallocated to mitigate the impact of the pod structure redesign.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/10/2020)	+19.1	-1.3
Previous Cumulative Variances	+6.0	-0.3
Net Change	+13.1	-1.0

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to the realignment of software priorities, and Boeing requiring less overall software integration support and program management support than anticipated.

The unfavorable net change in the schedule variance is due to delays in the aircraft modifications due to hardware availability.

Deliveries and Expenditures

Deliveries				
Delivered to Date	**Planned to Date**	**Actual to Date**	**Total Quantity**	**Percent Delivered**
Development	0	0	7	0.00%
Production	0	0	128	0.00%
Total Program Quantity Delivered	0	0	135	0.00%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	8785.6	Years Appropriated	11
Expended to Date	2673.0	Percent Years Appropriated	47.83%
Percent Expended	30.42%	Appropriated to Date	3239.7
Total Funding Years	23	Percent Appropriated	36.88%

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

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	January 03, 2020
Source of Estimate:	POE
Quantity to Sustain:	135
Unit of Measure:	System
Service Life per Unit:	20.00 Years
Fiscal Years in Service:	FY 2022 - FY 2041

- Unit of measure (system) is defined as a shipset, which consists of 2 pods.

- The service life and usage is tied to the EA-18G platform.

- Total System Operating Years: 1,184.

- Inflation Indices Utilized: FY 2019 OSD indices.

Sustainment Strategy

- Contractor Logistics Support covering the total system through the developmental test and evaluation phase.

- Product support strategy will consider Organizational, Intermediate, and Depot level maintenance capabilities; Organic maintenance support (future).

- Sustainment strategies for NGJ Mid-Band will consider Performance-Based Agreements for repair support.

Antecedent Information

- Antecedent program: ALQ-99 Tactical Jamming System

- The dataset used in the antecedent costs below are reported FY 2008 costs, which are most representative of steady state prior to de-commissioning EA-6B squadrons.

- The dataset includes data from the ALQ-99 system, which covers a larger frequency spectrum than the NGJ Mid-Band system, and is not normalized to specific Mid-Band data.

- Due to data limitations, the antecedent is represented in dollars per aircraft operating years based on Primary Aircraft Authorization.

- Data sources: Decision Knowledge Programming for Logistics Analysis and Technical Evaluation, Naval Visibility and Management of Operating and Support Costs database, and various technical sources, including Naval Air Systems Command AIR 4.2.2, Naval Air Warfare Center Weapons Division Point Mugu, Naval Sea Systems Command Crane, and Center for Naval Aviation Technical Training.

Annual O&S Costs BY2016 $M		
Cost Element	**NGJ Mid-Band Average Annual Cost Per System**	**ALQ-99 (Antecedent) Average Annual Cost Per System**
Unit-Level Manpower	0.058	0.060
Unit Operations	0.000	0.000
Maintenance	0.378	0.538
Sustaining Support	0.126	0.065
Continuing System Improvements	0.394	0.078
Indirect Support	0.066	0.027
Other	0.000	0.000
Total	1.022	0.768

Item	Total O&S Cost $M			
	NGJ Mid-Band			ALQ-99 (Antecedent)
	Current Development APB Objective/Threshold		Current Estimate	
Base Year	1243.7	1368.1	1209.6	908.9
Then Year	1673.0	N/A	1689.1	N/A

Equation to Translate Annual Cost to Total Cost

NGJ Mid-Band Total O&S Cost = NGJ Mid-Band Average Annual O&S Cost per System * Total System Operating Years

$1209.6M Total O&S Cost = $1.022M/System/Year * 1,184 System Operating Years. The derivation of the system operating years is the summation of the estimated cumulative shipset (system) quantity profile for the FYs in service.

O&S Cost Variance		
Category	**BY 2016 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Dec 2018 SAR	1195.7	
Programmatic/Planning Factors	14.2	Updated NGJ Mid-Band procurement and delivery profiles, and fielding plan.
Cost Estimating Methodology	0.0	
Cost Data Update	-0.3	Updated inflation.
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	13.9	
Current Estimate	1209.6	

Disposal Estimate Details

Date of Estimate:	January 03, 2020
Source of Estimate:	POE
Disposal/Demilitarization Total Cost (BY 2016 $M):	2.1

The Demil/Disposal estimate for NGJ Mid-Band will be refined at Milestone C based on the System Disposal Plan Annex to the Life Cycle Sustainment Plan.