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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy **Date:** May 2021

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604282N / <i>NEXT GENERATION JAMMER (NGJ) INC II</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	171.564	88.635	165.614	248.096	-	248.096	-	-	-	-	-	-
3380: <i>Next Generation Jammer Inc II</i>	171.564	88.635	165.614	248.096	-	248.096	-	-	-	-	-	-

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): P520

A. Mission Description and Budget Item Justification

The Next Generation Jammer (NGJ) is the next step in the evolution of Airborne Electronic Attack (AEA) and is a critical capability necessary to address current, emerging, and evolving Electronic Warfare gaps, ensure kill chain wholeness against growing threat capabilities and capacity, keep pace with enemy threat weapon systems' advancements, and support the continuous expansion of the AEA mission areas that exceed the capability of currently fielded systems. NGJ will utilize enhanced techniques and tactics to deliver significantly improved radar and communications jamming effectiveness as well as other classified capabilities. Utilizing an Open Systems Architecture that supports software and hardware updates to rapidly counter emergent and evolving threats, NGJ is a key enabler and force multiplier for operations across the spectrum of missions defined in the Defense Strategic Guidance, including strike warfare, projecting power despite highly contested environments, and counterinsurgency/irregular warfare. NGJ will also address the shortfalls in scalability, flexibility, supportability, interoperability, availability, and capability of the existing AN/ALQ-99 Tactical Jamming System.

This Program Element (PE 0604282N) supports the Next Generation Jammer - Low Band (NGJ-LB) (formerly known as Next Generation Jammer Increment 2) program. NGJ-LB will address AEA capability and sufficiency gaps against enemy threats operating in the lower frequency bands of the electromagnetic spectrum. NGJ-LB will provide the ability to effectively engage enemy threats from increased stand-off distances, employ increased capacity (number of jamming assignments) against enemy targets, and support agile employment by operators and increases survivability and lethality of 4th and 5th generation platforms and strike weapons. The NGJ-LB system will be integrated on the EA-18G tactical aircraft and will augment and then replace the legacy AN/ALQ-99 Tactical Jamming System in the low band frequencies.

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Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604282N / <i>NEXT GENERATION JAMMER (NGJ) INC II</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	90.922	170.039	224.359	-	224.359
Current President's Budget	88.635	165.614	248.096	-	248.096
Total Adjustments	-2.287	-4.425	23.737	-	23.737
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-4.425			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.287	0.000			
• Program Adjustments	0.000	0.000	29.800	-	29.800
• Rate/Misc Adjustments	0.000	0.000	-6.063	-	-6.063

Change Summary Explanation

The FY2022 funding request was reduced by \$2.634 million to account for the availability of prior year execution balances.

FY 2022 funding request reflects the service cost position as established at Milestone B, adjusted to account for the projected FY 2021 carryover caused by the extended EMD contract award (DEC 2020) protest.

Technical: Not applicable.

Schedule: Reflects the updated acquisition strategy from a Middle Tier of Acquisition program to a Major Defense Acquisition Program (MDAP) program, and the impacts of a protest to the EMD contract by a non-selected prime vendor.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy **Date:** May 2021

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604282N / NEXT GENERATION JAMMER (NGJ) INC II	Project (Number/Name) 3380 / Next Generation Jammer Inc II
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
3380: Next Generation Jammer Inc II	171.564	88.635	165.614	248.096	-	248.096	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: P520

A. Mission Description and Budget Item Justification

This Program Element (PE 0604282N) supports the Next Generation Jammer - Low Band (NGJ-LB) program. NGJ-LB will address Airborne Electronic Attack (AEA) capability and sufficiency gaps against enemy threats operating in the lower frequency bands of the electromagnetic spectrum. NGJ-LB will provide the ability to effectively engage enemy threats from increased stand-off distances, employ increased capacity (number of jamming assignments) against enemy targets, and support agile employment by operators and increases survivability and lethality of 4th and 5th generation platforms and strike weapons. The NGJ-LB system will be integrated on the EA-18G tactical aircraft and will augment and then replace the aging AN/ALQ-99 Tactical Jamming System in the low band frequencies.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Next Generation Jammer Low Band Primary Hardware Development	45.702	96.199	115.945	0.000	115.945
Articles:	-	-	-	-	-
FY 2021 Plans: Begin execution of NGJ-LB EMD contract focusing on pod (hardware and software) design and development. Concentrating on requirements for initial flight clearance, aeromechanical testing and mission systems testing. Develop peculiar support equipment for the NGJ-LB pod. Provide data for training materials in cooperation with the EA-18G aircraft Original Equipment Manufacturer (OEM) for EA-18G operators and maintainers.					
FY 2022 Base Plans: Continue execution of the NGJ-LB EMD contract focusing on pod (hardware and software) design, development, support finalizing interim flight clearance. Build the two (2) aeromechanical and two (2) mission systems test pods to support ground chamber tests and developmental flight tests scheduled to begin early FY23. Continue development of peculiar support equipment, provide data to support the EA-18G H build software configuration set and training materials in cooperation with the EA-18G aircraft OEM.					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement:					

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604282N / NEXT GENERATION JAMMER (NGJ) INC II	Project (Number/Name) 3380 / Next Generation Jammer Inc II			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Funding increases from FY2021 to FY2022 due to the first full year of EMD contract execution to develop and build 2 mission systems test pods, 2 aeromechanical test pods and develop/assess required data to support an interim flight clearance in 4QFY22. The FY22 budget request has been adjusted to account for the projected FY21 carryover caused by the extended EMD contract award (DEC 2020) protest.					
Title: Next Generation Jammer Low Band Systems Engineering					
	27.807	31.527	33.138	0.000	33.138
Articles:	-	-	-	-	-
FY 2021 Plans: Perform System Engineering efforts in support of continued NGJ-LB development to include system qualification activities, an initial flight clearance, technique and initial system security engineering development activities. Provide Systems Engineering support to integration and test activities. Develop and release Contractor Logistics Support/Repair of Repairables (CLS/ROR) Request for Proposal (RFP) for prototype pod support. Conduct Failure Mode Effects and Critical Analysis (FMECA), Level of Repair Analysis (LORA) and Reliability Centered Maintenance (RCM) analysis to support product support documentation development. Support operator and maintainer training product development and development of pod specific support equipment.					
FY 2022 Base Plans: Continue the NGJ-LB EMD Systems Engineering efforts, which will support system performance specification verification, Software Integration Lab testing, platform software integration at government and contractor facilities, Aeromechanical Flight test and Mission Systems chamber test preparation. Provide Systems Engineering support to the integration and test activities. Begin technical evaluation of the Integrated Logistics Support (ILS)/ROR proposal for prototype pod support.					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement: Funding increases from FY2021 to FY2022 due to systems engineering required to support integration, test activities and NGJ-LB advanced development efforts.					
Title: Next Generation Jammer Low Band Support & Management Services					
	2.992	3.441	3.510	0.000	3.510
Articles:	-	-	-	-	-
FY 2021 Plans:					

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Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604282N / NEXT GENERATION JAMMER (NGJ) INC II	Project (Number/Name) 3380 / Next Generation Jammer Inc II

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Provide Support and Management Services associated with the NGJ-LB Program. FY 2022 Base Plans: Provide Support and Management Services associated with the NGJ-LB Program. FY 2022 OCO Plans: N/A FY 2021 to FY 2022 Increase/Decrease Statement: Funding increases from FY 2021 to FY 2022 due to inflation.					
Title: Next Generation Jammer Low Band Test & Evaluation Articles:	2.883 -	1.673 -	9.435 -	0.000 -	9.435 -
FY 2021 Plans: Plan initial aeromechanical contractor ground testing (Wind Tunnel, Power and Ground Noise and Vibration). Begin instrumentation of 1 F-18E and 1 EA-18G aircraft for aeromechanical flight qualities and loads flight test and 2 EA-18G aircraft for mission systems testing. Begin test planning for aeromechanical flight testing and mission systems ground testing. Complete test infrastructure improvements necessary to validate full NGJ-LB capabilities. FY 2022 Base Plans: Finalize modification and instrumentation of F/A-18 E /G test aircraft to support NGJ-LB aeromechanical testing. Finalize modification and instrumentation of EA-18G NGJ and H18 mission systems aircraft to support NGJ-LB test program. Complete test planning for aeromechanical flight testing and mission systems ground testing. Initiate Modeling and Simulation activities. Complete test infrastructure improvements necessary to validate full NGJ-LB capabilities. FY 2022 OCO Plans: N/A FY 2021 to FY 2022 Increase/Decrease Statement: Funding increases from FY 2021 to FY 2022 due to the modification of test aircraft and facilities required to support aeromechanical, mission systems and ACETEF chamber testing.					
Title: Next Generation Jammer Low Band Integration Articles:	9.251 -	32.774 -	86.068 -	0.000 -	86.068 -
FY 2021 Plans:					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
<p>Continue software (H build) development and begin aircraft integration efforts which include Non-Recurring Engineering (NRE) for the development EA-18G A-kits. Conduct engineering design Systems Integration Lab (SIL) testing and associated reports and documentation. Begin the development of the training materials in cooperation with the NGJ-LB pod prime contractor for EA-18G operators and maintainers.</p> <p>FY 2022 Base Plans: Continue software (H build) development and aircraft integration efforts, which include completing development, beginning the delivery and installation of NGJ-LB A-kits into test aircraft. Continue Software Anomaly Report analysis, implementation and test. Continue to support development of advance techniques, Jammer Training Mode and Receive-Only capabilities. Continue the development of the training materials in cooperation with the NGJ-LB pod prime contractor for EA-18G operators and maintainers.</p> <p>FY 2022 OCO Plans: N/A</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Funding increases from FY 2021 to FY 2022 due to H build software development, A-kit installation into test aircraft, and aircraft integration efforts.</p>					
Accomplishments/Planned Programs Subtotals	88.635	165.614	248.096	0.000	248.096

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• APN/0591: <i>Next Generation Jammer (NGJ)</i>	0.000	163.735	266.676	-	266.676	-	-	-	-	-	-

Remarks

D. Acquisition Strategy
The NGJ-LB program is designated an ACAT-1B Major Defense Acquisition Program (MDAP), MDAP program number 520. The activity will focus on the Engineering and Manufacturing Development (EMD) phase, to develop and build (4) NGJ-LB test pods (2 aeromechanical and 2 mission systems) for developmental test, and ultimately deliver (8) operational prototypes.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy												Date: May 2021			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 5				PE 0604282N / NEXT GENERATION JAMMER (NGJ) INC II				3380 / Next Generation Jammer Inc II							
Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary H/W Dev - Aircraft Specification Refinement	SS/CPIF	Boeing : St. Louis, MO	4.708	9.163	Feb 2020	0.000		0.000		-		0.000	-	-	-
Primary H/W Dev - Technology Demonstrators 1	C/CPFF	L3H : Salt Lake City, UT	40.391	9.054	Nov 2019	0.000		0.000		-		0.000	-	-	-
Primary H/W Dev - Technology Demonstrators 2	C/CPFF	NGC : Bethpage, NY	41.721	6.977	Feb 2020	0.000		0.000		-		0.000	-	-	-
Primary H/W Dev - EMD	C/CPIF	L3H : Salt Lake City, UT	0.000	20.508	Dec 2020	96.199	Dec 2020	115.945	Nov 2021	-		115.945	-	-	-
Aircraft Integration	WR	NAWCWD : China Lake, CA	0.000	3.541	Dec 2019	6.939	Nov 2020	11.045	Nov 2021	-		11.045	-	-	-
Aircraft Integration	SS/CPIF	Boeing : St. Louis, MO	0.000	0.000		6.267	Nov 2020	33.432	Nov 2021	-		33.432	-	-	-
Software Integration	WR	NAWCWD : Point Mugu, CA	0.000	0.000		6.806	Nov 2020	5.675	Nov 2021	-		5.675	-	-	-
Software Integration	SS/CPIF	Boeing : St. Louis, MO	0.000	0.000	Mar 2020	9.191	Nov 2020	31.557	Nov 2021	-		31.557	-	-	-
Software Integration	SS/CPIF	NGC : Bethpage, NY	0.000	5.710	Jan 2020	3.571	Nov 2020	4.359	Nov 2021	-		4.359	-	-	-
Systems Engineering	TBD	NSMA : Arlington, VA	8.440	5.201	Oct 2019	9.302	Oct 2020	10.469	Oct 2021	-		10.469	-	-	-
Systems Engineering	WR	NAWCAD : Patuxent River, MD	33.142	11.125	Dec 2019	12.209	Nov 2020	12.453	Nov 2021	-		12.453	-	-	-
Systems Engineering	WR	NAWCWD : Point Mugu, CA	6.974	5.164	Dec 2019	1.608	Nov 2020	1.640	Nov 2021	-		1.640	-	-	-
Systems Engineering	WR	NSWC Crane : Crane, IN	4.287	2.264	Dec 2019	4.913	Nov 2020	5.011	Nov 2021	-		5.011	-	-	-
Systems Engineering	SS/CPFF	JHU : Laurel, MD	9.818	3.470	Feb 2020	2.927	Dec 2020	2.985	Dec 2021	-		2.985	-	-	-
Systems Engineering	Various	Various : Various	0.891	0.583	Jan 2020	0.568	Dec 2020	0.580	Dec 2021	-		0.580	-	-	-
Prior Year Prod Dev no longer funded in FYDP	Various	Various : Various	14.311	0.000		0.000		0.000		-		0.000	-	-	-
Subtotal			164.683	82.760		160.500		235.151		-		235.151	-	-	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy **Date:** May 2021

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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
Funding increases from FY 2021 to FY 2022 due to platform and pod software efforts increasing, A-kit installation into test aircraft and aircraft integration efforts. The FY 2022 budget request has been adjusted to account for the projected FY21 carryover caused by the extended EMD contract award (DEC 2020) protest.

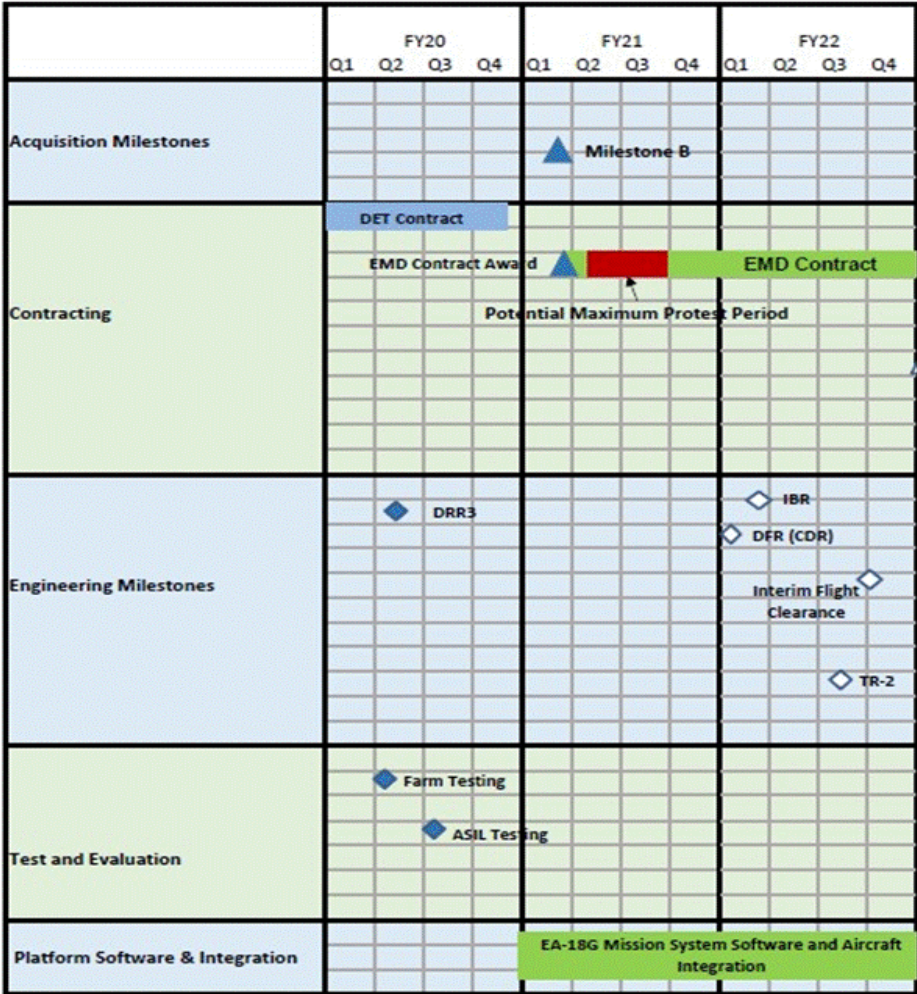
Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Eng & Tech Srvs (Non FFRDC)	Various	Various : Various	6.084	2.988	Dec 2019	3.341	Dec 2020	3.408	Dec 2021	-		3.408	-	-	-
Subtotal			6.084	2.988		3.341		3.408		-		3.408	-	-	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development T&E - TEST DT	WR	NAWCAD : Patuxent River, MD	0.409	2.137	Dec 2019	0.759	Nov 2020	6.854	Nov 2021	-		6.854	-	-	-
Development T&E VX-23/31 - Engineers	TBD	Boeing : St. Louis, MO	0.000	0.000		0.000		1.717	Apr 2022	-		1.717	-	-	-
Development T&E - Wind Tunnel	TBD	Various : Various	0.000	0.564	Jan 2020	0.696	Jun 2021	0.604	Dec 2021	-		0.604	-	-	-
Development T&E - COTF	SS/FFP	FSC : San Diego, CA	0.348	0.182	Jan 2020	0.218	Nov 2020	0.260	Nov 2021	-		0.260	-	-	-
Operational T&E - TEST OT	Various	Various : Various	0.000	0.000		0.000		0.000		-		0.000	-	-	-
Subtotal			0.757	2.883		1.673		9.435		-		9.435	-	-	N/A

Remarks
Funding increases from FY 2021 to FY 2022 due to the modification of test aircraft and facilities required to support aeromechanical, mission systems and ACETEF chamber testing.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604282N / NEXT GENERATION JAMMER (NGJ) INC II	Project (Number/Name) 3380 / Next Generation Jammer Inc II



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604282N / <i>NEXT GENERATION JAMMER (NGJ) INC II</i>	Project (Number/Name) 3380 / <i>Next Generation Jammer Inc II</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Next Generation Jammer Low Band (Increment II)</i>				
Acquisition Milestones: Milestone: B	1	2021	1	2021
Contracting Milestones: Demonstration of Existing Technologies (DET)	1	2020	4	2020
Contracting Milestones: EMD Contract	1	2021	4	2022
Engineering Milestones: Design Readiness Review 3	2	2020	2	2020
Engineering Milestones: Design Familiarization Review	1	2022	1	2022
Engineering Milestones: Integrated Baseline Review	1	2022	1	2022
Engineering Milestones: Test Readiness Review 2	3	2022	3	2022
Engineering Milestones: Interim Flight Clearance	4	2022	4	2022
Test and Evaluation: Farm Testing	2	2020	2	2020
Test and Evaluation: ASIL Testing	3	2020	3	2020
Test and Evaluation: NGJ-LB Platform Software: EA-18G Mission System Software and Aircraft Integration	1	2021	4	2022