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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0207163N / AMRAAM							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	159.254	34.010	25.364	32.473	-	32.473	35.853	38.499	29.394	26.866	49.446	431.159
0981: AMRAAM	159.254	34.010	25.364	32.473	-	32.473	35.853	38.499	29.394	26.866	49.446	431.159
Program MDAP/MAIS Code: Project MDAP/MAIS Code(s): 185												
A. Mission Description and Budget Item Justification												
This joint Navy/Air Force program is structured in response to the Joint Service Operational Requirement and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. This program supports the integration of the Advanced Medium Range Air-to-Air Missile (AMRAAM) into Navy aircraft with analysis of Navy unique applications, aircraft missile integration tasks, product improvement efforts including missile software upgrade development and procurement of hardware to support Navy test and evaluation tasks. Funding in FY 2017 through FY 2023 supports Navy unique Test & Evaluation for Navy fielding of the AIM-120C7 and AIM-120D Electronic Protection Improvement Program (EPIP) capability via System Improvement Program (SIP).												
This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.												
B. Program Change Summary (\$ in Millions)				FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total				
Previous President's Budget				40.350	25.364	32.358	-	32.358				
Current President's Budget				34.010	25.364	32.473	-	32.473				
Total Adjustments				-6.340	0.000	0.115	-	0.115				
• Congressional General Reductions				-	-							
• Congressional Directed Reductions				-	-							
• Congressional Rescissions				-	-							
• Congressional Adds				-	-							
• Congressional Directed Transfers				-	-							
• Reprogrammings				-5.000	0.000							
• SBIR/STTR Transfer				-1.340	0.000							
• Rate/Misc Adjustments				0.000	0.000	0.115	-	0.115				
Change Summary Explanation												
The FY 2019 funding request was reduced by \$0.605 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.												

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<p>Technical: FY 2019 includes funding for improved missile performance at longer range, increased survivability, improved lethality, continues Advanced AIM-120C7 & AIM-120D Electronic Protection Improvement Program (EPIP) and System Improvement Program (SIP) efforts through software development, simulation and test efforts, and 5th generation aerial target emulation initiatives.</p> <p>Schedule: SIP schedule slip is a result of flight test complexities and delays.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy									Date: February 2018			
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0207163N / AMRAAM				Project (Number/Name) 0981 / AMRAAM			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
0981: AMRAAM	159.254	34.010	25.364	32.473	-	32.473	35.853	38.499	29.394	26.866	49.446	431.159
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 185												
A. Mission Description and Budget Item Justification												
This joint Navy/Air Force program is structured in response to the Joint Service Operational Requirement and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. This program supports the integration of the Advanced Medium Range Air-to-Air Missile (AMRAAM) into Navy aircraft with analysis of Navy unique applications, aircraft missile integration tasks, product improvement efforts including missile software upgrade development and procurement of hardware to support Navy test and evaluation tasks. Funding in FY 2017 through FY 2023 supports Navy unique Test & Evaluation for Navy fielding of the AIM-120C7 and AIM-120D Electronic Protection Improvement Program (EPIP) capability via SIP.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Test and Evaluation								5.485	4.062	5.433	0.000	5.433
								Articles: -	-	-	-	-
Description: Test and Evaluation (T&E) and associated governmental support required to ensure AIM-120 missile integration with threshold US Navy aircraft platforms (F/A-18 C/D/E/F and Joint Strike Fighter). Increased funding in FY19 is required due to additional flight test requirements and to evaluate the Hardware-in-the Loop Facility to support 5th generation aerial target emulation.												
FY 2018 Plans:												
Conduct OTRR for SIP-2 and EPIP Advanced Tape 2. Conduct AIM-120D SIP-2 and AIM-120C7 IT/OT test events, supply inputs to the OT test report. Certify and field EPIP Advanced Tape 1 on F/A-18. Provide test and evaluation inputs to SIP-3 designs and support the Critical Design Review.												
FY 2019 Base Plans:												
Complete EPIP Advanced Tape 2 OT test report and generate the fielding decision for EPIP Advanced Tape 2 fielding decision for F/A-18 aircraft in 2QFY19. Complete AIM-120D SIP-2 OT test events, supply inputs to the OT test report and generate the fielding decision for SIP-2 on F/A-18 aircraft in 4QFY19. Provide necessary documentation and provide test results for SIP-3 DT events. Evaluate Hardware-in-the-Loop Facility to support 5th generation aerial target emulation initiatives.												
FY 2019 OCO Plans:												

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Appropriation/Budget Activity 1319 / 7		R-1 Program Element (Number/Name) PE 0207163N / AMRAAM		Project (Number/Name) 0981 / AMRAAM		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: Increase in FY 2019 reflects additional Operational Test and Evaluation work being performed at COMOPTEVFOR and NAWC WD China lake to incorporate software v9.4 improvements into the missile.						
Title: Identify potential improvements		0.227	0.230	0.234	0.000	0.234
Articles:		-	-	-	-	-
Description: Engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems.						
FY 2018 Plans: Continue engineering support of AMRAAM, to include investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems.						
FY 2019 Base Plans: Continue engineering support of AMRAAM, to include investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems.						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: Increase in FY 2019 funding is due to additional program requirements.						
Title: System Improvement Program (SIP) Efforts		28.298	21.072	26.806	0.000	26.806
Articles:		-	-	-	-	-
Description: Continuation of System Improvement Program (SIP)/Technical Maturity and Risk Reduction (TMRR) efforts for the AMRAAM weapon system. These include systems engineering, program management, missile software and/or hardware upgrades to increase capability, survivability, lethality, as well as aircraft Operational Flight Profile updates on a recurring basis. EPIP Advanced Tape 1 and Tape 2 capability improvements on the C7 missile variant will be incorporated into AIM-120D SIP-2 and 3 software updates.						
FY 2018 Plans: Complete AIM-120D SIP-2 IT test events, conduct Functional Configuration Audit/Test Readiness Board and enter into OT. Conduct AIM-120D SIP-3 Critical Design Review and enter into DT testing. Complete						

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Appropriation/Budget Activity 1319 / 7		R-1 Program Element (Number/Name) PE 0207163N / AMRAAM		Project (Number/Name) 0981 / AMRAAM							
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total			
AIM-120C7 EPIP Advanced Tape 1 OT report and field for the F/A-18. Conduct AIM-120C7 EPIP Advanced Tape 2 OT. Continue AIM-120D SIP-3 design and conduct Critical Design Review. <i>FY 2019 Base Plans:</i> Complete SIP-2 OT events required for fielding decision for the AIM-120D software improvement. Complete AIM-120C7 EPIP Advanced Tape 2 OT efforts and field Tape 2 in the AIM-120C7 variant. Continue AIM-120D SIP-3 development efforts. Award AIM-120D SIP-4 Risk Reduction contract and begin technology maturation and risk reduction. <i>FY 2019 OCO Plans:</i> N/A <i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> Funding increase in FY 2019 is due to SIP-3 requirements along with SIP-4 risk reduction contract and technology maturation.											
Accomplishments/Planned Programs Subtotals				34.010	25.364	32.473	0.000	32.473			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• WPN/ 2206: AMRAAM	197.229	197.109	211.058	1.183	212.241	284.895	348.246	359.433	367.486	385.083	4,695.718
• MPAF/3479: AMRAAM	337.844	304.327	342.316	-	342.316	430.962	468.452	444.471	481.959	1,199.900	13,084.244
• RDTE,AF/673777: AMRAAM	62.470	61.145	65.228	-	65.228	66.430	67.613	68.830	56.820	45.550	1,002.330
Remarks											
D. Acquisition Strategy											
AMRAAM production procurements will continue across the FYDP with periodic pre-planned technical design refreshes and value engineering change proposals.											
AMRAAM's Acquisition Program Baseline (APB) was updated on 28 Oct 2015.											
E. Performance Metrics											
Meeting cost, schedule, performance, funding and life cycle sustainment requirements in accordance with the Acquisition Program Baseline.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy													Date: February 2018		
Appropriation/Budget Activity 1319 / 7						R-1 Program Element (Number/Name) PE 0207163N / AMRAAM				Project (Number/Name) 0981 / AMRAAM					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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 Hdw Development (EGLIN)	SS/CPAF	RAYTHEON COMPANY : Tucson AZ	61.247	23.616	Jan 2017	17.462	Jan 2018	22.349	Jan 2019	-		22.349	94.188	218.862	218.862
Award Fees (EGLIN)	SS/CPAF	RAYTHEON COMPANY : Tucson AZ	9.312	4.168	Jan 2017	3.082	Jan 2018	3.944	Jan 2019	-		3.944	16.621	37.127	37.127
Primary Hdw Development (NAWCAD)	WR	NAWCAD : Patuxent River MD	3.577	0.437	Nov 2016	0.460	Nov 2017	0.447	Nov 2018	-		0.447	2.366	7.287	-
Prior Years Dev Cost no longer funded in the FYDP	Various	Various : Various	26.921	0.000		0.000		0.000		-		0.000	0.000	26.921	-
Subtotal			101.057	28.221		21.004		26.740		-		26.740	113.175	290.197	N/A
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Development Support (NSMA)	WR	NAVY SYST MGT ACT : Arlington VA	4.273	0.227	Jan 2017	0.230	Jan 2018	0.234	Jan 2019	-		0.234	1.240	6.204	-
Prior Years Support costs no longer funded in the FYDP	Various	Various : Various	19.295	0.000		0.000		0.000		-		0.000	0.000	19.295	-
Subtotal			23.568	0.227		0.230		0.234		-		0.234	1.240	25.499	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Dev Test & Eval (NAWCWD)	WR	NAWCWD : China Lake CA	26.709	5.485	Nov 2016	3.452	Nov 2017	4.811	Nov 2018	-		4.811	40.493	80.950	-
Oper Test & Eval	WR	COMOPTEVFOR : Norfolk, VA	0.595	0.000		0.610	Mar 2018	0.622	Mar 2019	-		0.622	3.290	5.117	-
Subtotal			27.304	5.485		4.062		5.433		-		5.433	43.783	86.067	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
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Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Travel	MIPR	PMA-259 : Eglin AFB FL	3.323	0.077	Oct 2016	0.068	Oct 2017	0.066	Oct 2018	-		0.066	0.332	3.866	-
Prior Years Mgmt Costs no longer funded in the FYDP	Various	Various : Various	4.002	0.000		0.000		0.000		-		0.000	0.000	4.002	-
Subtotal			7.325	0.077		0.068		0.066		-		0.066	0.332	7.868	N/A

	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	159.254	34.010	25.364	32.473	-	32.473	158.530	409.631	N/A

Remarks

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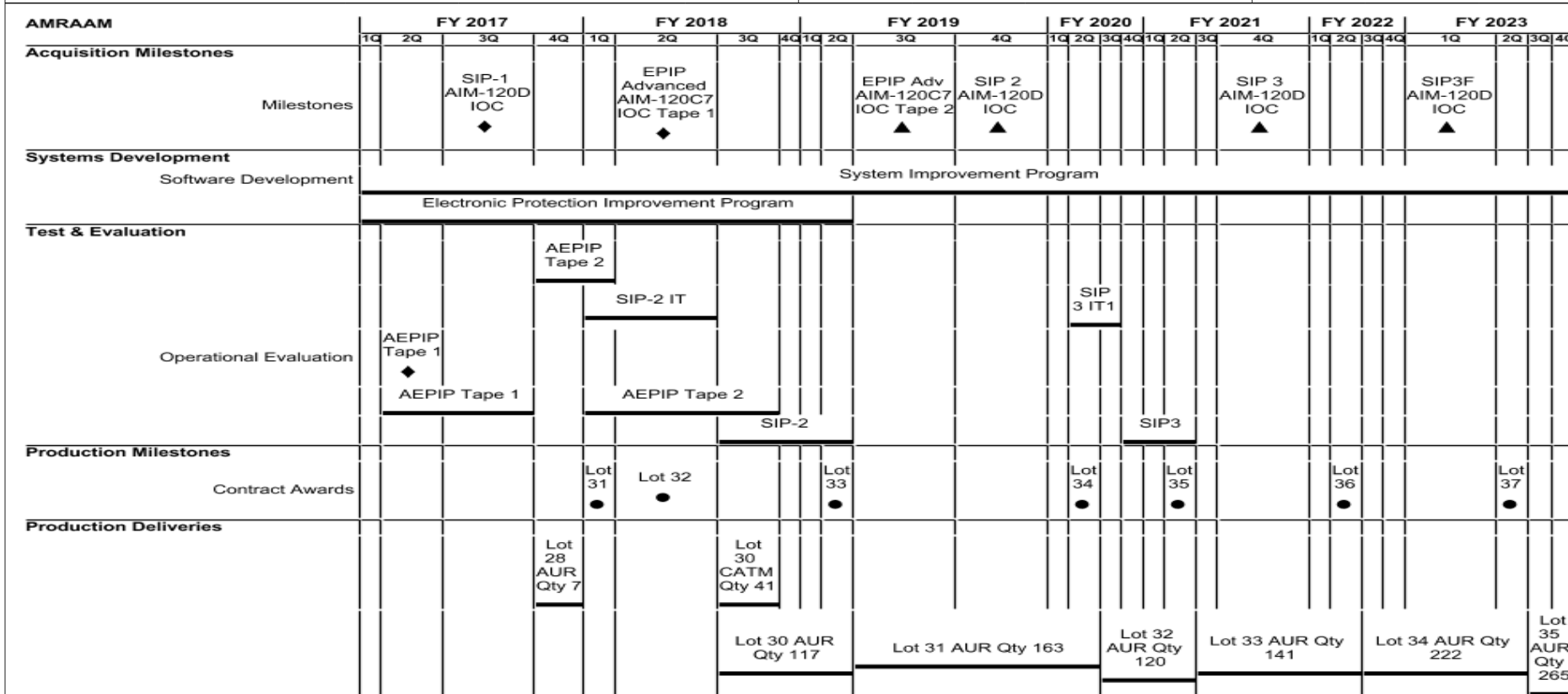
Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy

Date: February 2018

Appropriation/Budget Activity
1319 / 7

R-1 Program Element (Number/Name)
PE 0207163N / AMRAAM

Project (Number/Name)
0981 / AMRAAM



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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0207163N / AMRAAM	Project (Number/Name) 0981 / AMRAAM	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AMRAAM				
Acquisition Milestones: Milestones: SIP-1 AIM-120D IOC	3	2017	3	2017
Acquisition Milestones: Milestones: EPIP Advanced AIM-120C7 IOC Tape 1	2	2018	2	2018
Acquisition Milestones: Milestones: SIP 2 AIM-120D IOC	4	2019	4	2019
Acquisition Milestones: Milestones: SIP 3 AIM-120D IOC	4	2021	4	2021
Acquisition Milestones: Milestones: SIP3F AIM-120D IOC	1	2023	1	2023
Acquisition Milestones: Milestones: EPIP Advanced AIM-120C7 IOC Tape 2	3	2019	3	2019
Systems Development: Software Development: System Improvement Program	1	2017	4	2023
Systems Development: Software Development: Electronic Protection Improvement Program	1	2017	2	2019
Test & Evaluation: AEPIP Tape 2 IT-4/5	4	2017	1	2018
Test & Evaluation: SIP-2 IT-1/2/3	1	2018	2	2018
Test & Evaluation: SIP 3 IT1-3	2	2020	3	2020
Test & Evaluation: Operational Evaluation: AEPIP Tape 1 OT-1	2	2017	2	2017
Test & Evaluation: Operational Evaluation: AEPIP Tape 1 OT-2/3	2	2017	3	2017
Test & Evaluation: Operational Evaluation: AEPIP Tape 2 OT-4/5/6	1	2018	3	2018
Test & Evaluation: Operational Evaluation: SIP-2 OT-1/2/3/4	3	2018	2	2019
Test & Evaluation: Operational Evaluation: SIP3 OT1-4	4	2020	2	2021
Production Milestones: Contract Awards: Production Lot 31 Contract Award	1	2018	1	2018
Production Milestones: Contract Awards: Production Lot 32 Contract Award	2	2018	2	2018
Production Milestones: Contract Awards: Production Lot 33 Contract Award	2	2019	2	2019
Production Milestones: Contract Awards: Production Lot 34 Contract Award	2	2020	2	2020
Production Milestones: Contract Awards: Production Lot 35 Contract Award	2	2021	2	2021

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy	Date: February 2018
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Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0207163N / AMRAAM	Project (Number/Name) 0981 / AMRAAM
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestones: Contract Awards: Production Lot 36 Contract Award	2	2022	2	2022
Production Milestones: Contract Awards: Production Lot 37 Contract Award	2	2023	2	2023
Production Deliveries: Production Lot 28 AUR Qty 7	4	2017	4	2017
Production Deliveries: Production Lot 30 CATM Qty 41	3	2018	3	2018
Production Deliveries: Production Lot 30 AUR Qty 117	3	2018	2	2019
Production Deliveries: Production Lot 31 AUR Qty 163	3	2019	2	2020
Production Deliveries: Production Lot 32 AUR Qty 120	3	2020	2	2021
Production Deliveries: Production Lot 33 AUR Qty 141	3	2021	2	2022
Production Deliveries: Production Lot 34 AUR Qty 222	3	2022	2	2023
Production Deliveries: Production Lot 35 AUR Qty 265	3	2023	4	2023