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# INFRARED SEARCH AND TRACK (IRST)

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December 2021 Selected Acquisition Report (SAR) **CLEARED AS AMENDED  
For Open Publication**

Apr 28, 2022



DECEMBER 31, 2021  
DEPARTMENT OF THE NAVY

Department of Defense  
OFFICE OF PREPUBLICATION AND SECURITY REVIEW

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**Common Acronyms and Abbreviations**

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(A&S) - Under Secretary of Defense (Acquisition and Sustainment)  
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

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## Program Manager

**Name:** CAPT Jason Denney

**Date Assigned:** July 11, 2019

**Address:** Bldg 2272, Suite 445, NAVAIRSYSCOMHQ

47123 Buse Road, Unit IPT

Patuxent River, MD 20670-1547

**Phone:** 301-757-7669

**Email:** Jason.m.denney.mil@us.navy.mil

## Mission and Description

The F/A-18E/F (Block II and later aircraft) Infrared Search and Track (IRST) system is a centerline-mounted store consisting of a passive long-wave infrared sensor and aerodynamic structural assembly integrated onto the front end of an external fuel tank.

The IRST system will provide the F/A-18E/F an alternative fire control solution with the ability to search for, detect, and track targets in a high electronic attack / radar-denied environment. It will also give the F/A-18E/F the ability to guide Beyond Visual Range missiles to engage those targets.

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## Executive Summary

### **Significant Accomplishments:**

Naval Air Warfare Development Center continues to fly the Block I IRST systems to support tactics development and Strike Fighter Tactics Instructor training in conjunction with the TOPGUN course. This allows TOPGUN course graduates an opportunity to train on IRST before Block II IOC and assist in ensuring fleet employment recommendations are in place prior to IOC.

In February 2021, Carrier Air Wing SEVENTEEN and USS NIMITZ returned to homeport after a successful 10 month deployment which included a fleet demonstration of 12 Block I IRST systems which were used in support of combat operations in the FIFTH Fleet Area of Responsibility.

To date, the program has conducted 15 dedicated flight test events using Block II "Prototype" assets at China Lake, CA (Naval Air Warfare Center- Weapons Division) and Patuxent River, MD (Naval Air Warfare Center- Aircraft Division) in support of Block II software development and H16 integration. Additionally, the IRST program has participated in 28 collaborative test events with Block I and Block II Prototype systems to further mature H16 integration and obtain additional data with no further cost to the program.

Prototype assets continue to be used for testing during "tag" events to gather additional data and continue maturing the H16 integration. Production and development will continue with Block II production representative hardware & software when it becomes available for testing in September 2022.

A Schedule Risk Assessment was conducted and completed in October 2021. This provided an integrated government schedule with the government and contractor as the new baseline for the APB update.

An acquisition strategy update for an alternate contracting strategy was approved on November 15, 2021 by the MDA. This strategy accounted for a \$100M cost avoidance and maintaining program affordability.

On March 18, 2022, the IRST program received delivery of the Fiber Optic Gyro's from subcontractor KVH to Lockheed Martin for integration into the first IROC POD. The program expects production HW to be available for testing in August 2022.

### **Significant Issues:**

The program breached the current APB schedule for Initial Operational Test & Evaluation and subsequent milestones as a result of delays in hardware deliveries induced by production quality issues and COVID impacts. A Program Deviation Report was generated and approved by the MDA on December 16, 2021. An APB update has been developed and has been submitted to the MDA for approval.

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### *History of Significant Developments Since Program Initiation*

History of Significant Developments Since Program Initiation	
Date	Significant Development Description
1 <sup>st</sup> Quarter FY 2008	The F/A-18E/F IRST program was designated as an ACAT III new start. In the Summer of 2008, early prototyping of the IRST system was underway. With the use of independent research and development funding, The Boeing Company used the F-14D baseline IRST with improved hardware to demonstrate passive ranging proof of concept. An ADM was issued by PEO for Tactical Aircraft Programs, approving the IRST system entry into the Technical Development (TD) phase. As a result of the ADM, System Requirements Reviews 1 and 2 were conducted. A funding reduction resulted in the baseline changing from planned delivery of the CDD-required 92 to 68 units.
3 <sup>rd</sup> Quarter FY 2010	The IRST program completed the System Functional Review in May.
1 <sup>st</sup> Quarter FY 2011	The Preliminary Design Review (PDR) was held in November. The system PDR reflected a major change driven by funding reductions for Program Objective Memorandum, which rendered the planned program un-executable. The IRST program implemented a phased, evolutionary approach to delivery of required IRST capability and the program was reclassified as an ACAT II program. The IRST CDD was updated to capture an evolutionary acquisition approach and approved in April 2011. In June 2011, the IRST program completed a successful Milestone (MS) B and entered the EMD phase. The resultant EMD contract was awarded to Boeing.
1 <sup>st</sup> Quarter FY 2012	The IRST Block I initial product baseline was established at the Critical Design Review (CDR).
3 <sup>rd</sup> Quarter FY 2013	The IRST program conducted a Delta CDR in April and Test Readiness Review in July.
1 <sup>st</sup> Quarter FY 2014	IRST Block I entered the Production and Deployment phase after a successful MS C event.
2 <sup>nd</sup> Quarter FY 2015	As a result of the successful MS C event, the IRST Block I LRIP I contract for six systems was awarded in January. In March, ASN (RDA) released the ADM authorizing entry into the Production and Deployment phase and the procurement of LRIP Lot I units.
1 <sup>st</sup> Quarter FY 2016	In November 2015, USD (AT&L) approved the IRST APB, delegated the MDA for the IRST program to the Navy, and designated the program as an ACAT IC due to the reprogramming of APN-5 funds to RDT&E for Block II development. The IRST program completed a successful Navy Gate 6 / In Progress Review.
4 <sup>th</sup> Quarter FY 2016	In November 2015, USD (AT&L) approved the IRST APB, delegated the MDA for the IRST program to the Navy, and designated the program as an ACAT IC due to the reprogramming of APN-5 funds to RDT&E for Block II development. The IRST program completed a successful Navy Gate 6 / In Progress Review.
2 <sup>nd</sup> Quarter FY 2017	An updated APB was approved in February 2017 to reflect the acceleration of the IRST (IOC) by two years. The IRST Block II Phase 1 contract action for six Block II engineering change proposal test assets was awarded in May.
3 <sup>rd</sup> Quarter FY 2018	RST Sensor Sub-Systems (Infrared Receiver and Processor) delta CDR was conducted in May 2018 with the Government Technical Review Board assessing

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	that the design maturity sufficient to justify an accelerated procurement. The IRST Block II Phase 2 development contract to support CDR, non-recurring engineering, and hardware development was awarded in August.
1 <sup>st</sup> Quarter FY 2019	1 <sup>st</sup> Quarter FY 2019 The Block I Infrared Optimized Configuration contract for 16 hardware kits awarded in October. Parallel activities were conducted to mature the Block II initial product baseline with successful CDR conducted in November.
1 <sup>st</sup> Quarter FY 2019	On December 4, 2018, the MS C Decision Review for the IRST program was held to assess program readiness to continue the Block II Production and Deployment phase. All criterion were successfully met, and the program received MS C approval and authorization to procure Block II LRIP units. The IRST Block II LRIP III contract action for six units was awarded in December.
2 <sup>nd</sup> Quarter FY 2020	On January 27, 2020, The IRST program had its first initial FMS procurement when the Royal Australian Air Force signed a Letter of Acceptance (LOA) for 12 IRST Units. The 12 RAAF units are included on the IRST LRIP IV procurement, totaling 16 LRIP IV systems.
4 <sup>th</sup> Quarter FY 2020	On July 7, 2020, the Acquisition Strategy for IRST was updated to include a decrease in LRIP quantities.
4 <sup>th</sup> Quarter FY 2021	On November 15, 2021, the Acquisition Strategy for IRST was updated to include a new contracting strategy.
4 <sup>th</sup> Quarter FY 2021	On December 16, 2021, the Program Deviation Report was approved by the MDA.

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## Schedule

### Schedule Events

Schedule Events					
Events	Development APB Objective	Current APB Development Objective/Threshold		Current Estimate/Actual	Deviation
Block 1 MS B	Jun 2011	Jun 2011	Dec 2011	Jun 2011	
Block 1 MS C	May 2014	Mar 2015	Mar 2015	Mar 2015	
Block II Pre-Developmental IPR	Jul 2017	Oct 2017	Oct 2017	Oct 2017	
Block II MS C	Jun 2018	Dec 2018	Dec 2018	Dec 2018	
IOT&E Start	Aug 2020	Aug 2020	Feb 2021	Aug 2023	X
FRP-DR	Jul 2021	Jul 2021	Jan 2022	April 2024	X
IOC	Sep 2021	Sep 2021	Mar 2022	Mar 2024	X

#### Deviation Explanations:

IOT&E current estimate changed from Feb 2021 to Aug 2023 as a result of delays in hardware deliveries induced by quality escapes and COVID impacts. Subsequent milestones (FRP-DR and IOC) were also impacted due to this schedule deviation. An APB update has been developed and has been submitted to the MDA for approval.

#### Acronyms and Abbreviations

MS – Milestone

IPR – In Progress Review

IOT&E – Initial Operational Test & Evaluation

### Significant Schedule Risks

Significant Schedule Risks	
<b>Milestone B (April 2011)</b>	
1.	Schedule risk of the EMD phase was assessed as moderate. Preliminary trade studies, modeling and simulation, more than ten demonstration flights with a representative prototype sensor flying on F/A- 18E/F aircraft, and the extensive use of non-developmental item design and hardware all work to minimize risk. The program could only afford a limited number of flight test assets, with spare weapon replaceable assemblies being supplied on an as-needed basis by borrowed laboratory assets. Test assets were aggressively managed throughout the program to mitigate the schedule risk caused by this asset limitation.
<b>Milestone C (December 2018)</b>	
1.	N/A
<b>Current Estimate (December 2021)</b>	
1.	N/A

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## Performance

Performance Characteristics					
Development APB Objective	Current APB Development Objective/Threshold		Demonstrated Performance (include Date of Demonstration)	Current Estimate/Actual	Deviation
<b>Operational Availability</b>					
	>/0.95	>/0.8	TBD	>/0.95	

**Performance Notes:**

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

**Requirements Source:** F/A-18E/F Infrared Search and Track CDD, Change 2, dated October 20, 2014

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## Acquisition Budget Estimate

### Total Acquisition Cost

Category	Base Year	Development APB	APB Name (Production) 12/5/2018)		Budget Estimate PB 2023		Deviation
		Objective (BY\$)	Objective (BY\$)	Threshold (BY\$)	BY\$	TY\$	
RDT&E	2008	764.0	799.7	879.7	825.7	972.4	
Procurement	2008	1150.6	1,192.4	1,311.6	1226.7	1639.8	
MILCON	2008	0.0	0.0	0.0	0.0	0.0	
Acq. O&M	2008	0.0	0.0	0.0	0.0	0.0	
<b>Total</b>	<b>2008</b>	<b>1914.6</b>	<b>1992.1</b>	<b>N/A</b>	<b>2052.4</b>	<b>2612.2</b>	
PAUC	2008	10.696	11.515	12.667	11.864	15.099	
APUC	2008	6.768	7.014	7.716	7.216	9.646	

### Total End Item Quantity

Quantity Category	Current APB Quantity	Current Estimate Quantity
Development	3	3
Procurement	170	170

#### Budget Notes:

Congressional adjustments:

FY21: -\$9.654M Installation equipment excess growth (APN-5)

FY21: -\$30.269M Restoring acquisition accountability: Reduce concurrency IRST pods (OSIP 04-14) (APN-5)

FY21: -\$20.706M Support equipment excess growth (APN-5)

FY22: -\$18.450M Reduction of four units/limit production growth (APN-5)

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### *Risk and Sensitivity Analysis*

Risks and Sensitivity Analysis	
Current Procurement Cost (December 2021)	
1.	F/A-18E/F IRST Cost risk is assessed as moderate. During the Block II Development Phase, there will be cost risks associated with the Infrared Receiver due to four major new components being developed (elevation drive update, new optics, Digital Focal Plane-Array, and Fiber Optic Gyros). Flight test risk is also anticipated with reference to flight test experience during Block I. There is a moderate-level risk that the current dome coating will wear faster than was originally planned, requiring more dome replacements. Maintenance costs incurred for dome replacement will contribute to higher life-cycle costs. The Block II configuration will incorporate a Boron Phosphide-coated dome that will reduce the rate of erosion on the dome, thereby reducing the number of dome replacements over the life of the system.
Original Baseline Estimate (February 2017)	
1.	Cost risk for the EMD Phase is assessed as moderate. The IRST system is being developed as an evolutionary Block I / II program due to funding limitations. The Block I IRST system has been developed to support IOC. Due to budget constraints, Block II is not currently funded. The program currently carries one moderate-level cost risk relating to dome reliability. There is a risk that the current dome coating will wear faster than was originally planned, requiring more dome replacements. Maintenance costs incurred for dome replacement will contribute to higher life-cycle costs.
Revised Original Estimate (N/A)	
None	
Current Baseline Estimate (December 2021)	
1.	The current Procurement Cost is the same as the Current Baseline Estimate.

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## Unit Cost

### *Current Baseline Compared with Current Estimate*

Category (\$M)	Current APB	Current Estimate	% Change	NMC Breach
<b>PAUC</b>				
Cost	1192.1	2052.4	-	-
Quantity	173	173	-	-
Unit Cost	11.515	11.86	3.0%	
<b>APUC</b>				
Cost	1192.4	1226.7	-	-
Quantity	170	170	-	-
Unit Cost	7.014	7.2	2.9%	

### *Original Baseline Compared with Current Estimate*

Category (\$M)	Current APB	Current Estimate	% Change	NMC Breach
<b>PAUC</b>				
Cost	1192.1	2052.4	-	-
Quantity	173	173	-	-
Unit Cost	11.515	11.86	7.2%*	
<b>APUC</b>				
Cost	1192.4	1226.7	-	-
Quantity	170	170	-	-
Unit Cost	7.014	7.2	6.6%*	

\*% Change calculated based on Original 2017 APB data that is not reflected in this table

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## Contracts

Contract Data (\$TYM)		
Contract Number	N00019-18-C-1022	
Effort Number	5	
Modification Number	P00020	
Award Date	August 17, 2018	
Definitization Date	August 17, 2018	
Order Number		
CAGE Code/CAGE Legal Name	76301/ The Boeing Company	
Contract Title	Block II Phase II	
Contract Address	St Louis, MO	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price \$152.5	Current Target Price \$167.0	
Initial Ceiling Price \$152.50	Current Ceiling Price \$170.0	
Contract's EAC \$164.2	PM's EAC \$164.9	
Initial Quantity 1	Current Quantity 1	Delivered Quantity 0
BAC \$143,354	BCWP \$120,193	ACWP \$123,987
BCWS \$127,803	Cost Variance 0.97	Schedule Variance 0.94

### Contract Notes:

P00020 provided incremental funding in the amount of \$1.95M, which provides funding for continued development.

### Cost Variance:

The favorable net change in the cost variance is due to a fee calculation done by Boeing on LM's reported data in July 2021. When the new incentive fee percentage was applied to LM's Cumulative Actuals, it resulted in a current period favorable cost variance and an overall favorable net change in cost variance.

### Schedule Variance:

The unfavorable net change in the Schedule variance is due to hardware delivery delays from suppliers due to manufacturing issues.

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Contract Data (\$TYM)		
Contract Number	N00019-16-G-0001	
Effort Number	6	
Modification Number	P00005	
Award Date	October 25, 2018	
Definitization Date	May 19, 2020	
Order Number	N0019-19-F-2410	
CAGE Code/CAGE Legal Name	76301/ The Boeing Company	
Contract Title	Infrared Optimized Configuration (IROC)	
Contract Address	St. Louis, MO	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price \$112.0	Current Target Price \$122.6	
Initial Ceiling Price \$114.0	Current Ceiling Price \$124.8	
Contract's EAC \$131.6	PM's EAC \$131.6	
Initial Quantity 16	Current Quantity 18	Delivered Quantity 0
BAC \$102,543	BCWP \$76,502	ACWP \$67,150
BCWS \$93,532	Cost Variance 1.14	Schedule Variance 0.82

**Contract Notes:**

P00005 added a Not Separately Priced (NSP) line item to the contract for delivery of eight solid state drives (SSDs).

**Cost Variance:**

The favorable net change in the cost variance is due to less effort required than originally planned due to late deliveries of hardware by Lockheed Martin and subcontractors.

**Schedule Variance:**

The unfavorable net change in the schedule variance is due to IROC hardware delay due to production quality issues and COVID impacts. The contractor has missed the initial delivery under the IROC contract.

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Contract Data (\$TYM)		
Contract Number	N00019-19-C-0019	
Effort Number	7	
Modification Number	P00002	
Award Date	December 28, 2018	
Definitization Date	March 27, 2020	
Order Number		
CAGE Code/CAGE Legal Name	76301/ The Boeing Company	
Contract Title	Block II LRIP III and IV	
Contract Address	St. Louis, MO	
Contracts/Effort Price, Quantity, and Performance (\$M)		
Initial Target Price \$44.7	Current Target Price \$156.7	
Initial Ceiling Price \$45.6	Current Ceiling Price \$159.8	
Contract's EAC	PM's EAC	
Initial Quantity 6	Current Quantity 22	Delivered Quantity 0
BAC \$37,032	BCWP \$26,095	ACWP \$23,878
BCWS \$32,458	Cost Variance 1.09	Schedule Variance 0.80

**Contract Notes:**

P00002 added DFARS clause 252.232-7002 Progress Payments for FMS Acquisitions. Earned Value Management is only being reported for the LRIP III portion of this Contract. An EVM deviation waiver for the LRIP IV portion of this contract was approved on August 27, 2020.

**Cost Variance:**

The favorable net change in the cost variance is due to a favorable Focal Plan Array (FPA) yield compared to the original plan. Due to this favorable yield, fewer FPAs are required to meet the Infrared Detector Assembly (IDA) build requirement creating a favorable cost variance.

**Schedule Variance:**

The unfavorable net change in the cost variance is due to hardware delivery delays from suppliers due to manufacturing issues.

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## Technologies and Systems Engineering

### Significant Technical Risks

Significant Technical Risks	
<b>Milestone B (April 2011)</b>	
1.	Performance risk was assessed as moderate. Initial Infrared Search and Track (IRST) technical risk assessments by the prime contractor revealed only low and medium risks. The technology behind the legacy F-14D IRST system is well documented over its history. Hardware improvements being incorporated from other platforms are, likewise, known sub-systems. The primary source of technological risks came from software development and aircraft integration. Of the medium category risks, the only hardware-related item was the centerline pod environment. Other medium risks were integration and software issues such as Multi-Source Integration, data processing throughput, Inertial Measurement Unit integration, new technology compatibility, and false alarm rate. Therefore, future risk reduction activities were centered on these areas as both the prime contractor and sub-contractor offer considerable experience on the F/A-18 and other aircraft.
<b>Milestone C (December 2018)</b>	
1.	Technical risk for Impact of Processor Stability on System Performance. Mitigation begins with critical design review (CDR) showing compliant design (timing, memory, processing and throughput), lab testing with flight data and off-nominal flight data, static analysis and corrections prior to flight tests.
2.	Technical risk for Impact of Built In Test (BIT) False Alarms on Reliability. Mitigation includes BIT design characterization analysis and compliance prediction at critical design review (CDR), verification that correction of Block I BIT false alarms translate to Block II, verifies correction in flight test, implements fixes for new BIT false alarms occurring in Block II flight test, verifies correction in F/A-18 prototype flight test, conduct scored OA event, and demonstrate threshold value in OPEVAL (1L/4C).
<b>Current Estimate (December 2021)</b>	
1.	Technical risk of reliability and maturity of Build in Test (BIT) to support reliance on it for O-level maintenance at IOC. BIT must be sufficiently matured by V3 Build 2.0 to support O-level maintenance until O-level test sets can be delivered to fleet squadrons equipped with IRST. Mitigation steps include potential opportunities to pull BIT maturation activities to the left in the development schedule to accelerate maturation, usage of contractor logistics support field service representatives to compensate for lack of fielded O-level maintenance capability and release of software updates in the field as BIT maturation continues post IOC.

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## Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	3	3	3	100.00%
Production	18	18	170	10.59%
Total Program Quantity Delivered	21	21	173	12.14%

### Expended and Appropriated (TY \$M)

Total Acquisition Cost: 2612.2

Expended to Date: \$969.97

Percent Expended: 37.1%

Total Funding Years: 26

Years Appropriated: 16

Percent Years Appropriated: 61.5%

Appropriated to Date: 1650.5

Percent Appropriated: 63.2%

The above data is current as of April 18, 2022.

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## Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
<b>Approval Date</b>	12/2/2014	7/21/2020
<b>Approved Quantity</b>	6	35
<b>Reference</b>	Milestone C ADM	IRST Acquisition Strategy
<b>Start Year</b>	2015	2018
<b>End Year</b>	2017	2021

**Rationale if Current Total LRIP Quantity exceeds 10% of the total Procurement quantities:**

The Current Total LRIP Quantity is more than 10% of the total production quantity in order to field the Resource Sponsor's required number of IRST systems prior to CY 2024.

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## Operating and Support Costs

### Total Program O&S Cost Compared with Baseline

	Current APB Objective (BY\$)	Current APB Threshold (BY\$)	Current Estimate (BY\$)	Current Estimate (TY\$)	Deviation (BY\$)
<b>Total O&amp;S (\$Millions)</b>	\$1,354.6	\$1,490.1	\$906.11	\$1,428.50	\$448.49

#### Deviation Explanation:

Deviation due to incorporation of PB 2023 inflation.

### O&S Cost Breakdown

Allocate O&S estimate by each weapon system (or system variants) acquired by the program) into the CAPE Cost Categories. Add a fresh column for each variant/system.

Category (BY\$ Million)	IRST
Unit-Level Manpower	\$0.00
Unit Operations	\$0.00
Maintenance	\$0.24
Sustaining Support	\$0.03
Continued System Improvements	\$0.10
Other	\$0.00
<b>Total O&amp;S</b>	<b>\$0.37</b>

**Cost Estimate Source:** POE

#### O&S Cost Notes:

- a. Disposal/Demilitarization Cost Estimate and Source of Estimate:  
\$4.40M CY2008; \$8.23M TY; POE
- b. Sustainment Strategy:  
IRST is set to operate in F/A-18E/F squadrons and the service life of the IRST system is limited only by the existence of those squadrons. The estimate utilizes the Naval Synchronization Toolset data version 2021-06 to model F/A-18 E/F aircraft and TACAIR squadron availability. The current plan is for six IRST assets per squadron to be fielded to 24 operating F/A-18E/F squadrons. These squadrons are to be located at Naval Air Station (NAS) Oceana, NAS Lemoore and Marine Corps Air Station Iwakuni; and will deploy aboard aircraft carriers based on the most current operational schedule.

The IRST program is an evolutionary acquisition program with Block I and Block II systems. Procurement involves the acquisition of 18 Block I systems, followed by 152 Block II systems and retrofits of the 18 Block I systems to the Block II configuration. The 18 Block I LRIP systems will be used to initially support IRST tactics development, aircrew familiarization, test and evaluation, maintainer training, software configuration set testing, and early fleet demonstration. Block I systems are not intended to be permanently fielded to fleet squadrons. The program will reach Initial Operating Capability (IOC) upon delivery of the first six Block II IRST systems in late FY2024.

The IRST system logistics concept will leverage off logistics support processes currently in place for the F/A-18E/F aircraft. No specialized logistics processes should be required to support the IRST system.

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- c. For Each Acquired System or System Variant: IRST
  - i. Quantity to Sustain: 170
  - ii. First Operational Fiscal Year: 2024
  - iii. Final Operational Fiscal Year: 2040
  - iv. Unit Expected Service Life: 14.5
  
- d. Antecedent System(s) O&S Costs:
  - i. There is no antecedent for this system.