

# **Selected Acquisition Report (SAR)**

RCS: DD-A&T(Q&A)823-349



# Warfighter Information Network-Tactical Increment 2 (WIN-T Inc 2)

As of FY 2017 President's Budget

Defense Acquisition Management Information Retrieval (DAMIR)

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## **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)

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# **Program Information**

## **Program Name**

Warfighter Information Network-Tactical Increment 2 (WIN-T Inc 2)

#### **DoD Component**

Army

# **Responsible Office**

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#### References

#### **SAR Baseline (Production Estimate)**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 8, 2010

## **Approved APB**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated June 21, 2015

## **Mission and Description**

Warfighter Information Network-Tactical Increment 2 (WIN-T Inc 2) provides the Army with On-The-Move (OTM) networking capability. The WIN-T Inc 2 network retains capabilities delivered by WIN-T Inc 1 and by leveraging proven Government and commercial technologies, adds greater network throughput and automated network management to optimize planning (to include spectrum use), initialization, monitoring and troubleshooting, WIN-T Inc 2 employs satellite communication OTM to extend the network in maneuver Brigade Combat Teams to Company-level. Using equipment mounted on combat platforms, WIN-T Inc 2 delivers a mobile capability that reduces reliance on fixed infrastructure and allows key leaders to move on the battlefield while retaining situational awareness and mission command capabilities. Using the Highband Networking Radio, with the Highband Networking Waveform and high performance antennas, the WIN-T Inc 2 line-of-sight network offers an adaptive 30 Megabit per second aggregate throughput to key leaders in their Command Post or in their vehicle. The WIN-T Inc 2 network is self-forming, which means that it automatically creates transmission paths based on terrain and environmental conditions; and self-healing, meaning that the paths will automatically re-route traffic to complete network transactions and calls even if one or more nodes break down or lose connectivity. This offers greater network reliability and better end-to-end connectivity than traditional point-to-point networks. WIN-T Inc 2 introduces the network management capability needed to keep the mobile and dispersed forces networked through automated planning. initialization, monitoring, and troubleshooting. Finally, WIN-T Inc 2 adopts "Colorless Core" technology that encrypts both classified and unclassified user information in the network and minimizes the number of users on the "core" of the network. The Colorless Core allows commanders to utilize the tactical network without fear of the enemy intercepting information. Colorless Core is a technical insertion in the WIN-T Inc 1b network which enables information sharing between WIN-T Inc 1b and WIN-T Inc 2.

WIN-T Inc 3 developed NetOps software and NetCentric Waveform updates will be inserted into WIN-T Inc 2 equipped units.

## **Executive Summary**

The following WIN-T Inc 2 New Equipment Training and New Equipment Fielding activities were completed during 2015: 2/82 Infantry Brigade Combat Team (IBCT) (Airborne) at Fort Bragg; 1st Armored Division (AD) Headquarters and 1/1 Armor Division Stryker BCT (SBCT) at Fort Bliss; 3/2 and 2/2 SBCTs at Joint Base Lewis-McChord; 4/10 IBCT (Mountain) at Fort Polk (reflagged as 3/10); 2/101 and 3/101 IBCT (Air Assault) Engineer Company and Maneuver Support Battalion additions at Fort Campbell; 2/82 IBCT (Airborne) Engineer Company and Maneuver Support Battalion additions at Fort Bragg; 1st Cavalry Division Headquarters at Fort Hood; and the 25th Infantry Division Headquarters at Schofield Barracks.

101st Air Assault Division Headquarters Tactical Communications Nodes were deployed and integrated into the Africa Command overall mission support network as part of Operation United Assistance. The 82d Airborne Division Headquarters, 2/82 IBCT and 1/10 Mountain IBCT deployed in support of Operation Inherent Resolve.

During 2015, WIN-T Inc 2 successfully completed support to 2/1 Armor BCT and Network Integration Evaluation 15.2 and 16.1. WIN-T Increment 2 participated as a baseline system in both events.

On February 4, 2015, the Office of the Deputy Assistant Secretary of Defense for Systems Engineering (ODASD(SE)) and the Defense Contract Management Agency conducted a Program Support Assessment at the General Dynamics facility in Taunton, Massachusetts. The review supported the ODASD(SE) assessment for the FRP Decision Review. The program was assessed in five categories: Mission Capabilities, Resources, Management, Technical Process and Performance. The evaluation showed mature, stable and disciplined processes that are in accordance with DoD policy/guidelines. The team determined that the program was at low risk in proceeding to FRP.

On May 29, 2015, the program office successfully completed Record Testing for the Joint Interoperability Certification 2015 with 100% of the test threads completed with no issues. Certification was granted on January 15, 2016.

On June 3, 2015, the DAE authorized entry into FRP for WIN-T Inc 2. The ADM required that the Army: a) Fund the program in accordance with the validated SCP; b) Submit a corrective action plan to the DAE by June 30, 2015 to address Stryker integration issues and improvements to Network Operations tools and training to optimize performance of the Highband Networking Waveform, Tactical Relay-Tower, and Range Throughput Extension Kit; and c) Provide to the DAE an independent cyber design and implementation assessment using a system analysis no later than September 30, 2015 which identifies program cyber vulnerabilities and provides corrective action recommendations for future implementation. The program office completed all three ADM actions, received DAE concurrence, and is working to execute corrective actions as outlined and in accordance with the submitted plans.

On June 12, 2015, the Army Communications-Electronics Command (CECOM) granted WIN-T Inc 2 Full Materiel Release (FMR). FMR was based on satisfying conditions set forth by CECOM in a Conditional Materiel Release dated November 8, 2012.

On June 21, 2015, the DAE approved the WIN-T Inc 2 FRP APB. This APB provides updated program cost thresholds and establishes acquisition and sustainment affordability caps.

In 2014 the program experienced a unit cost increase greater than or equal to the significant cost growth threshold, resulting in a significant Nunn-McCurdy cost breach to the PAUC and APUC against its original APB. Congressional notification of this Nunn-McCurdy breach was completed on February 25, 2015. The program office is aggressively managing cost growth.

The program office is using Alpha contracting processes to negotiate a follow-on production contract. The program office held a technical integrated product team discussions and reviews during September through December 2015. Meetings are continuing in FY 2016. On January 8, 2016, a justification and authorization was signed to allow extension of the current production contract period of performance into FY 2017 to ensure required equipment can be procured and that services can be provided in support of fielded units.

The FY 2016 PB request decremented \$88M in FY 2016 Procurement funding and rescinded \$40M in FY 2014 Procurement funding. The impact is procuring one less IBCT, one less Division and one less IBCT Engineer Company and Maneuver Support Battalion. In the FY 2017 PB, the program received decrements totaling \$443.7M across FY 2017 to FY 2021, including a reduction in FY 2017 Procurement funding of \$228M. This caused a major reduction in units procured from FY 2017 to FY 2021 and slipped procurement beyond the FYDP and into the Extended Planning Period to include an additional year of procurement. It reduces FY 2017 procurement to the minimum sustaining rate. Any further funding decrements in FY 2017 will cause a break in production and the loss of economic order quantities.

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

## **Threshold Breaches**

APB Breach	ies	
Schedule		
Performance	е	
Cost	RDT&E	$\checkmark$
	Procurement	
	MILCON	
	Acq O&M	
O&S Cost		
<b>Unit Cost</b>	PAUC	
	APUC	

## **Explanation of Breach**

The RDT&E cost breach in FY 2015 is due to an increase in FY 2017 to FY 2021 funding to provide additional capability to develop small, phased array satellite communication on-the-move product for armored platforms. A Program Deviation Report will be submitted.

The Nunn-McCurdy cost breach against the original APB was previously previously in the December 2014 SAR.

## **Nunn-McCurdy Breaches**

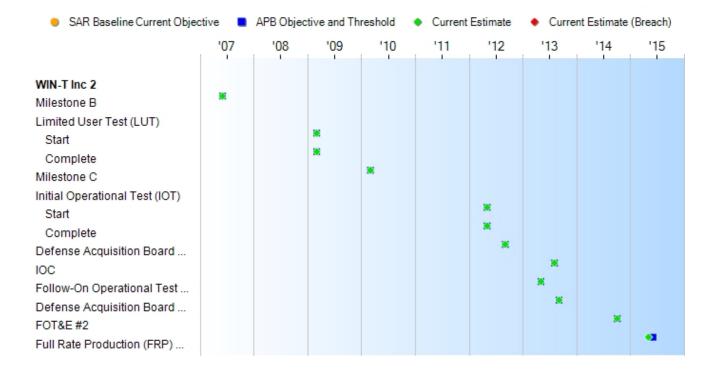
#### **Current UCR Baseline**

PAUC None APUC None

## **Original UCR Baseline**

PAUC Significant APUC Significant

## **Schedule**



Schedule Events										
Events	SAR Baseline Production Estimate	Curre Prod Objective	Current Estimate							
Milestone B	Jun 2007	Jun 2007	Jun 2007	Jun 2007						
Limited User Test (LUT)										
Start	Mar 2009	Mar 2009	Mar 2009	Mar 2009						
Complete	Mar 2009	Mar 2009	Mar 2009	Mar 2009						
Milestone C	Feb 2010	Mar 2010	Mar 2010	Mar 2010						
Initial Operational Test (IOT)										
Start	Nov 2011	May 2012	May 2012	May 2012						
Complete	Nov 2011	May 2012	May 2012	May 2012						
Defense Acquisition Board Review	N/A	Sep 2012	Sep 2012	Sep 2012						
IOC	Nov 2012	Aug 2013	Aug 2013	Aug 2013						
Follow-On Operational Test and Evaluation (FOT&E) #1	N/A	May 2013	May 2013	May 2013						
Defense Acquisition Board Review #2	N/A	Sep 2013	Sep 2013	Sep 2013						
FOT&E #2	N/A	Oct 2014	Oct 2014	Oct 2014						
Full Rate Production (FRP) Decision Review	Feb 2012	Jun 2015	Jun 2015	May 2015						

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# **Change Explanations**

None

## Notes

The FRP Decision Review was held on May 11, 2015. The program was granted approval for FRP; the ADM in support of this decision was signed by the DAE on June 3, 2015.

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# **Performance**

Performance Characteristics											
SAR Baseline Production Estimate	Produ	nt APB uction Threshold	Demonstrated Performance	Current Estimate							
Net Ready											
The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net -Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authenticat -ion, confidential-ity, and non-repudiation, issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and	DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, and 5) Operationally effective	The system must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for transition to Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an IATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	Achieved threshold at IOT.	The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and nonrepudiation, issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.							

system integrated				
architecture views.				
Network Manageme	ent			
Increment 2 will enable the BCT S6 NetOps managers to plan, monitor, prioritize, control and visually display (e.g., current network status and connectivity) its WIN-T equipped units (Bde, Bn, Co) that connect: Objective: Top Secret, Secret, and Unclassified users.	Increment 2 will enable the BCT S6 NetOps managers to plan, monitor, prioritize, control and visually display (e.g., current network status and connectivity) its WIN-T equipped units (Bde, Bn, Co) that connect: Objective: Top Secret, Secret, and Unclassified users.	Increment 2 will enable the BCT S6 NetOps managers to plan, monitor, prioritize, control and visually display (e.g., current network status and connectivity) its WIN-T equipped units (Bde, Bn, Co) that connect: Threshold: Secret and Unclassified users.	Achieved threshold at IOT.	Inc 2 will enable the BCT S6 NetOps managers to plan, monitor, prioritize, control and visually display (e.g., current network status and connectivity) its WIN-T equipped units (Bde, B Co) that connect: Objective: Top Secret, Secret, and Unclassified users.
Information Dissem	ination			
Increment 2 will provide a transport capability that enables battle command and situational awareness data message information to be exchanged within a BCT's WIN-T Increment 2 enabled ATH platforms and to its WIN-T enabled ATH Divisional HQ: Objective: Critical survival information (Category 1) delivery in <0.5 seconds (95% of completed messages) and time sensitive information (Category 2) in <1 seconds (92% of completed messages).	Divisional HQ:	Increment 2 will provide a transport capability that enables battle command and situational awareness data message information to be exchanged within a BCT's WIN-T Increment 2 enabled ATH platforms and to its WIN-T enabled ATH Divisional HQ: Threshold: Critical survival information (Category 1) delivery in < or = to 5 seconds (95% of completed messages) and time sensitive information (Category 2) in <8 seconds (92% of completed messages).	Achieved threshold at IOT.	Inc 2 will provide a transport capability that enables battle command and situational awareness data message information to be exchanged within a BCT's WIN-T Inc 2 enabled ATH platforms and to its WIN-T enabled ATH Divisional HQ: Objective: Critical survival information (Category 1) delivery in <0.5 seconds (95% of completed messages) and time sensitive information (Category 2 in <1 seconds (92% of completed messages).
	rmor required for proted nti-vehicle/personnel th		de the vehicle ca	b from small arms fire
Increment 2 unique vehicles require	N/A	N/A	Achieved threshold at IOT.	Increment 2 unique vehicles require armor

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armor kits for protection of passengers inside the vehicle cab from small arms fire, mines, and other anti-vehicle/ personnel kits for protection of passengers inside the vehicle cab from small arms fire, mines, and other antivehicle/personnel threats (IAW JROCM 120-05).

#### Mobile Throughput For Brigade/Battalion maneuver commanders and their CPs

Increment 2 will enable selected warfighters (Bde/Bn maneuver commanders and their CPs) to conduct decisive operations while moving "crosscountry" utilizing satellite communicat-ions: Objective: Ground vehicles: from 0 to 45 mph with 4 Mbps per link available for user data.

Increment 2 will enable selected warfighters (Bde/Bn maneuver commanders and their CPs) to conduct decisive operations while moving "crosscountry" utilizing satellite communications: Objective: Ground vehicles: from 0 to 45 mph with 4 Mbps per link available for user data.

Increment 2 will enable selected warfighters (Bde/Bn maneuver commanders and their CPs) to conduct decisive operations while moving "crosscountry" utilizing satellite communications: Threshold: Ground vehicles: from 0 to 25 mph with 256 Kbps per link available for user data.

Achieved threshold at PQT -G (DT) in 2011. User feedback from IOT indicated potential mobility and connectivity issues. Mobility and connectivity issues demonstrated significant improvement at the FOT in May 2013.

Inc 2 will enable selected warfighters (Bde/Bn maneuver commanders and their CPs) to conduct decisive operations while moving "crosscountry" utilizing satellite communications: Objective: Ground vehicles: from 0 to 45 mph with 4 Mbps per link available for user data.

## **Requirements Reference**

CPD Revision 1 dated February 14, 2012 as modified by Revision 3 approved October 17, 2014

#### **Change Explanations**

None

#### **Notes**

JROCM 069-15 of June 24, 2015 revalidated the program and established thresholds for cost growth and reductions in end item quantities.

Demonstrated performance is as demonstrated at the PQT-G of 2011 and the IOT of May 2012 and documented in the Operational Test Agency Evaluation Report for the WIN-T Inc 2 dated July 2012.

## **Acronyms and Abbreviations**

ATH - At-The-Halt

ATO - Authority to Operate

BCT - Brigade Combat Team

Bde - Brigade

Bn - Battalion

Co - Company

**CP - Command Post** 

DAA - Designated Approving Authority

DISR - Department of Defense Information Technology Standards and Profile Registry

DT - Development Test

FOT - Follow-On Test

GIG - Global Information Grid

HQ - Headquarters

IA - Information Assurance

IATO - Interim Authority to Operate

IAW - In Accordance With

IOT - Initial Operational Test

IT - Information Technology

JROCM - Joint Requirements Oversight Council Memorandum

Kbps - Kilobits Per Second

KIPs - Key Interface Profiles

Mbps - Megabits Per Second

mph - miles per hour

NCOW - Network Centric Operations and Warfare

NetOps - Network Operations

PQT-G - Production Qualification Testing - Government

RM - Reference Model

S6 - Battalion or Brigade Communications Cell

TV - Technical View

# **Track to Budget**

DT&E				
Appn		ВА	PE	
Army	2040	07	0370349A	_
	Proje	ect	Name	
EE7			WIN-T Inc 2 Initial Networking This was not a new start in FY was funded under 0603782A P FY 2014. It is currently funded u Project EE7.	roject 367 through
Army	2040	04	0603782A	-
	Proje	ect	Name	
	355		WIN-T DEM/VAL/Warfighter Information Network Tactical - DEM/VAL	(Sunk)
	367		WIN-T DEM/VAL/Warfighter Information Network Tactical - DEM/VAL	(Sunk)
	No	otes:	Project 367 began in FY 2009 fe exclusively. Prior to FY 2009 Pr shared line for both WIN-T Inc 2	roject 355 was a

Notes

PE number changed from 0310349A to 0370349A to reflect accurate account code.

BA number changed from 03 to 07 to reflect accurate account code.

Procurement					
Appn		ВА	PE		
Army	2035	04	0310706A		
	Line Item			Name	
	BS974	1	WIN-T INCR	EMENT 2 Spares	
Army	2035	02	0310706A		
	Line I	tem		Name	
	BW711	5	Increment 2 I	nitial Networking On The Move	
Notes					

The parent Line Item for the WIN-T Inc 2 Spares (BS9741) is Initial Spares - C&E (BS9100). The parent Line Item for the WIN-T Inc 2 procurement (BW7115) is Win-T - Ground Forces Tactical Network (BW7100).

# **Cost and Funding**

## **Cost Summary**

	Total Acquisition Cost												
	B	/ 2010 \$M		BY 2010 \$M		TY \$M							
Appropriation	SAR Baseline Production Estimate	Produc	Current APB Production Objective/Threshold		SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate						
RDT&E	264.7	260.8	286.9	289.2 <sup>1</sup>	266.5	262.3	296.5						
Procurement	4421.3	9128.5	9800.0	9296.1	4730.4	11089.6	11364.8						
Flyaway				5992.9			7205.5						
Recurring				5593.8			6753.8						
Non Recurring				399.1			451.7						
Support				3303.2			4159.3						
Other Support				2853.0			3604.9						
Initial Spares				450.2			554.4						
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Total	4686.0	9389.3	N/A	9585.3	4996.9	11351.9	11661.3						

<sup>1</sup> APB Breach

#### **Current APB Cost Estimate Reference**

Army Cost Position (ACP) dated April 28, 2015

## **Confidence Level**

Confidence Level of cost estimate for current APB: 50%

The ACP is considered low risk due to the Increment 2 phase of its life cycle. The variability of funding and corresponding changes in procurement quantities are the only identifiable risks.

Total Quantity										
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate							
RDT&E	56	56	56							
Procurement	2160	3674	3674							
Total	2216	3730	3730							

## **Quantity Notes**

The unit of measure is a combination of communications nodes which vary in capability. The WIN-T Inc 2 unit of measure is comprised of Tactical Communications Nodes, Points of Presence, and Soldier Network Extensions.

## **Cost and Funding**

# **Funding Summary**

	Appropriation Summary												
FY 2017 President's Budget / December 2015 SAR (TY\$ M)													
Appropriation	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total				
RDT&E	258.4	3.8	4.9	6.0	4.8	5.1	13.5	0.0	296.5				
Procurement	2767.9	456.1	311.8	625.4	612.9	712.8	679.3	5198.6	11364.8				
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
PB 2017 Total	3026.3	459.9	316.7	631.4	617.7	717.9	692.8	5198.6	11661.3				
PB 2016 Total	3066.3	547.8	545.6	666.9	678.4	755.3	714.7	4481.2	11456.2				
Delta	-40.0	-87.9	-228.9	-35.5	-60.7	-37.4	-21.9	717.4	205.1				

## **Funding Notes**

The FY 2016 PB request decremented \$88M in FY 2016 Procurement funding and rescinded \$40M FY 2014 Procurement funding. The impact is procuring one less Infantry Brigade Combat Team (IBCT), one less Division and one less IBCT Engineer Company and Maneuver Suport Battalion. In the FY 2017 PB the program received decrements totaling \$443.7M across FY 2017 to FY 2021, including a reduction in FY 2017 Procurement funding of \$228M. This caused a major reduction in units procured from FY 2017 through FY 2021 and slipped procurement beyond the FYDP and into the Extended Planning Period to include an additional year of procurement. It reduces FY 2017 procurement to the minimum sustaining rate. Any further funding decrements in FY 2017 will cause a break in production and the loss of economic order quantities.

Node counts in FY 2017 through FY 2019 reflect the lateral transfer of Soldier Network Extensions (SNE) from previously fielded units, hence fewer nodes are required. Funding in FY 2019 and FY 2020 increases slightly while quantities increase significantly. This is due to the reintroduction of the lower cost SNE configuration item in FY 2020.

	Quantity Summary												
FY 2017 President's Budget / December 2015 SAR (TY\$ M)													
Quantity Undistributed Prior FY FY FY FY FY FY TO Complete T									Total				
Development	56	0	0	0	0	0	0	0	0	56			
Production	0	1367	170	12	139	114	250	241	1381	3674			
PB 2017 Total	56	1367	170	12	139	114	250	241	1381	3730			
PB 2016 Total	56	1303	248	201	129	135	266	254	1047	3639			
Delta	0	64	-78	-189	10	-21	-16	-13	334	91			

# **Cost and Funding**

# **Annual Funding By Appropriation**

Annual Funding 2040   RDT&E   Research, Development, Test, and Evaluation, Army												
			TY \$M									
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program					
2007							8.2					
2008							107.6					
2009							91.3					
2010							18.3					
2011						16.8						
2012							9.3					
2013							2.7					
2014							1.1					
2015							3.1					
2016							3.8					
2017							4.9					
2018							6.0					
2019							4.8					
2020							5.1					
2021							13.5					
Subtotal	56						296.5					

	Annual Funding 2040   RDT&E   Research, Development, Test, and Evaluation, Army										
			BY 2010 \$M								
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program				
2007							8.4				
2008							108.6				
2009							91.0				
2010							18.0				
2011							16.2				
2012							8.8				
2013							2.5				
2014							1.0				
2015							2.8				
2016							3.4				
2017							4.3				
2018							5.1				
2019							4.0				
2020							4.2				
2021							10.9				
Subtotal	56						289.2				

The RDT&E cost breach in FY 2015 is due to an increase in FY 2017 to FY 2021 funding to provide additional capability to develop small, phased array satellite communication on-the-move capability for armored platforms.

	Annual Funding 2035   Procurement   Other Procurement, Army									
			TY \$M							
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program			
2009	56	135.8			135.8	0.1	135.9			
2010	248	333.1		71.9	405.0	62.2	467.2			
2011	96	185.1		74.4	259.5	80.7	340.2			
2012	532	543.1		44.5	587.6	105.9	693.5			
2013	66	209.8		30.1	239.9	176.4	416.3			
2014	124	197.1		39.4	236.5	90.4	326.9			
2015	245	274.2		17.0	291.2	96.7	387.9			
2016	170	281.5		20.0	301.5	154.6	456.1			
2017	12	115.2		10.5	125.7	186.1	311.8			
2018	139	386.6		10.7	397.3	228.1	625.4			
2019	114	363.3		10.9	374.2	238.7	612.9			
2020	250	470.5		11.2	481.7	231.1	712.8			
2021	241	442.0		11.4	453.4	225.9	679.3			
2022	223	453.9		11.6	465.5	232.3	697.8			
2023	222	420.7		11.9	432.6	240.3	672.9			
2024	220	427.3		12.1	439.4	246.2	685.6			
2025	192	412.4		12.3	424.7	273.8	698.5			
2026	176	378.8		12.6	391.4	288.7	680.1			
2027	199	397.9		12.8	410.7	329.1	739.8			
2028	149	325.5		13.1	338.6	316.3	654.9			
2029				13.3	13.3	355.7	369.0			
Subtotal	3674	6753.8		451.7	7205.5	4159.3	11364.8			

	Annual Funding 2035   Procurement   Other Procurement, Army										
				VI							
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program				
2009	56	134.9			134.9	0.1	135.0				
2010	248	325.0		70.1	395.1	60.7	455.8				
2011	96	177.4		71.3	248.7	77.4	326.1				
2012	532	512.8		42.0	554.8	100.0	654.8				
2013	66	194.2		27.9	222.1	163.2	385.3				
2014	124	179.4		35.9	215.3	82.3	297.6				
2015	245	246.2		15.3	261.5	86.8	348.3				
2016	170	249.5		17.7	267.2	137.0	404.2				
2017	12	100.2		9.1	109.3	161.9	271.2				
2018	139	329.7		9.1	338.8	194.6	533.4				
2019	114	303.8		9.1	312.9	199.6	512.5				
2020	250	385.7		9.2	394.9	189.4	584.3				
2021	241	355.2		9.2	364.4	181.5	545.9				
2022	223	357.6		9.1	366.7	183.1	549.8				
2023	222	325.0		9.2	334.2	185.6	519.8				
2024	220	323.6		9.2	332.8	186.4	519.2				
2025	192	306.2		9.1	315.3	203.3	518.6				
2026	176	275.7		9.2	284.9	210.2	495.1				
2027	199	284.0		9.1	293.1	234.8	527.9				
2028	149	227.7		9.2	236.9	221.3	458.2				
2029				9.1	9.1	244.0	253.1				
Subtotal	3674	5593.8		399.1	5992.9	3303.2	9296.1				

#### Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	6/5/2007	9/27/2013
<b>Approved Quantity</b>	408	1030
Reference	Restructure ADM	WIN-T Inc 2 Additional LRIP ADM
Start Year	2009	2009
End Year	2010	2015

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the following:

The WIN-T Inc 2 LRIP program is consistent with DAE direction contained in the WIN-T ADM dated June 5, 2007 and corresponding OSD Cost Analysis Improvement Group estimate. The ADM states "The Army will fund to the Chairman of the Cost Analysis Improvement Group's (CAIG) estimate for Increments 1 and 2; procure Increment 1 equipment to complete fielding to about 199 Army units; and procure Increment 2 equipment for about 37 Army units, based on affordability through FY 2013." The current WIN-T Inc 2 program only procured 25 Army units through FY 2013.

The original LRIP quantity was reported to Congress in the initial September 2007 SAR and again in the December 2007 SAR. This initial LRIP plan consisted of a two-year LRIP phase with quantities totaling 408 communications nodes, or approximately 22%, of the total Army Procurement Objective (APO) of 1,837. These LRIP units were to be procured over two years, with the first year providing units to support Production Qualification Test and Initial Operational Test (IOT) and the second year supporting production ramp up and fielding.

The LRIP start year changed from 2009 to 2010 as a result of program schedule changes. The Milestone C meeting was held on February 3, 2010 after which the program entered into LRIP. The initial LRIP quantities and costs were funded with FY 2009 dollars.

The September 26, 2012 ADM approved an additional LRIP Lot 3 of 538 communications nodes to bring the total LRIP quantities to 938 communications nodes. The WIN-T Inc 2 LRIP plan consisted of a three-year LRIP phase with quantities totaling 932 communications nodes, or approximately 44%, of the total APO of 2,100. The PM received approval to exceed the 10% limit. The first year of LRIP provided units to support IOT and the second and third years permitted an orderly increase in the production rate for the system sufficient to lead to FRP upon the successful completion of operational testing.

The September 27, 2013 ADM approved an additional LRIP Lot 4 (excluding 119 Soldier Network Extension CIs) and Lot 5a training base articles. The duration of the LRIP phase was six years, FY 2009 through FY 2015. During this time Lots 1-5a were procured. The total LRIP quantity was 1,030 communications nodes, approximately 28% of the total 3,674 production communications nodes required.

The June 3, 2015 ADM authorized the Army to enter into FRP. Lots 5b and 6, procured in June 2015, were the first FRP lots procured.

# **Foreign Military Sales**

None

# **Nuclear Costs**

None

# **Unit Cost**

# **Unit Cost Report**

	BY 2010 \$M	BY 2010 \$M	
Item	Current UCR Baseline (Jun 2015 APB)	Current Estimate (Dec 2015 SAR)	% Change
Program Acquisition Unit Cost			
Cost	9389.3	9585.3	
Quantity	3730	3730	
Unit Cost	2.517	2.570	+2.11
Average Procurement Unit Cost			
Cost	9128.5	9296.1	
Quantity	3674	3674	
Unit Cost	2.485	2.530	+1.81
	BY 2010 \$M	BY 2010 \$M	
Item	Original UCR Baseline (Oct 2007 APB)	Current Estimate (Dec 2015 SAR)	% Change
Program Acquisition Unit Cost		'	
Cost	3617.2	9585.3	
Quantity	1893	3730	
Unit Cost	1.911	2.570	+34.48 <sup>1</sup>
Average Procurement Unit Cost			
Cost	3384.5	9296.1	
Quantity	1837	3674	
Unit Cost	1.842	2.530	+37.351
	ТҮ	/ \$M	
Item	Current UCR Baseline (Jun 2015 APB)	Current Estimate (Dec 2015 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	11351.9	11661.3	
Unit Cost	3.043	3.126	+2.73
Average Procurement Unit Cost (APUC)			
Cost	11089.6	11364.8	
Unit Cost	3.018	3.093	+2.49

	TY	TY \$M					
ltem	Original UCR Baseline (Oct 2007 APB)	Current Estimate (Dec 2015 SAR)	TY % Change				
Program Acquisition Unit Cost (PAUC)	·						
Cost	3907.0	11661.3					
Unit Cost	2.064	3.126	+51.45				
Average Procurement Unit Cost (APUC)							
Cost	3672.0	11364.8					
Unit Cost	1.999	3.093	+54.73				

<sup>1</sup> Nunn-McCurdy Breach

Unit Cost Breach Data								
Changes From Previous SAR	\$M/Qty.	Percent						
PAUC (BY \$M)	-0.032	-1.23						
APUC (BY \$M)	-0.039	-1.52						
PAUC Quantity	91	0.00						
PAUC (TY \$M)	-0.022	-0.70						
APUC (TY \$M)	-0.031	-0.99						

Initial SAR Information - Sep 2007	BY2007 \$M	TY \$M
Program Acquisition Cost	1.8	2.1

## **Unit Cost PAUC Changes**

The PAUC decreased from the December 2014 SAR to the December 2015 SAR due to increased quantity of Nodes procured and revised Configuration Item (CI) unit costs. The PAUC increased from the June 2015 APB due to an additional year of procurement.

#### **Unit Cost APUC Changes**

The APUC decreased from the December 2014 SAR to the December 2015 SAR due to increased quantity of Nodes procured and revised CI unit costs. The APUC increased from the June 2015 APB due to an additional year of procurement.

### **Impact of Performance or Schedule Changes**

Schedule negatively impacts the PAUC and APUC through the addition of years to the program. WIN-T Inc 2 incurs additional fixed costs associated with program management, hardware refresh, and software licenses spread over fewer nodes being procured under the Army's modernization strategy.

### **Program Management or Control**

The PM is aggressively controlling unit cost growth on the program as demonstrated by the decrease in PAUC and APUC

since the December 2014 SAR. As a result, since the Original APB, the cost of the individual CIs have, on the average, shown overall cost reductions. The PM is seeking to negotiate lower prices on CIs and incentives to reduce costs over the life of the program.

#### **Cost Control Actions**

The PM employs the best practices contained within the Better Buying Power to control future costs. In particular, WIN-T Inc 2 plans to use incentive type contracts on the follow-on production contract, gain efficiencies in the hardware refresh cycle and explore ways to promote competition for subsystem components. These initiatives have the potential to yield significant savings throughout the life cycle. Additionally, through Alpha contracting negotiations for the follow-on production contract the program office is establishing more accountability requirements for the prime contractor to incentivize productivity. The program office and Communications-Electronics Command will implement a plan for incremental transition of Lots 1-6 to Post-Production Software Support. This transition is scheduled for FY 2020 and will provide relief to the PAUC and APUC.

## **Nunn-McCurdy Comments**

A Program Deviation Report and a revised APB were signed by the Army Acquisition Executive on January 23, 2015. The DAE was informed of the program deviation on February 9, 2015. The revised APB was signed by the DAE on February 12, 2015. Congressional notification was completed on February 25, 2015.

WIN-T Inc 2 December 2015 SAR

# **Unit Cost History**



ltom	Doto	BY 201	0 \$M	TY \$M		
Item	Date	PAUC	APUC	PAUC	APUC	
Original APB	Oct 2007	1.911	1.842	2.064	1.999	
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	Feb 2015	2.576	2.544	3.149	3.125	
Current APB	Jun 2015	2.517	2.485	3.043	3.018	
Prior Annual SAR	Dec 2014	2.602	2.569	3.148	3.124	
Current Estimate	Dec 2015	2.570	2.530	3.126	3.093	

## **SAR Unit Cost History**

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial PAUC				Chang	jes				PAUC
Development Estimate									Production Estimate
2.064	-0.055	-0.063	0.016	0.000	0.093	0.000	0.200	0.191	2.255

Current SAR Baseline to Current Estimate (TY \$M)									
PAUC Broduction				Chan	ges				PAUC Current
Production Estimate Econ Qty Sch Eng Est Oth Spt Total									Estimate
2.255	-0.026	0.199	0.084	-0.141	-0.083	0.000	0.838	0.871	3.126

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial APUC				Chang	ges				APUC
Estimate	Development Estimate Econ Qty Sch Eng Est Oth Spt Total								Production Estimate
1.999	-0.055	-0.055	0.017	0.000	0.079	0.000	0.205	0.191	2.190

Current SAR Baseline to Current Estimate (TY \$M)									
APUC	Changes APUC								
Production Estimate	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	Current Estimate
2.190	-0.027	0.228	0.086	-0.143	-0.092	0.000	0.851	0.903	3.093

SAR Baseline History						
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate		
Milestone A	N/A	N/A	N/A	N/A		
Milestone B	N/A	Jun 2007	N/A	Jun 2007		
Milestone C	N/A	Apr 2009	N/A	Mar 2010		
IOC	N/A	Aug 2011	N/A	Aug 2013		
Total Cost (TY \$M)	N/A	3907.0	N/A	11661.3		
Total Quantity	N/A	1893	N/A	3730		
PAUC	N/A	2.064	N/A	3.126		

# **Cost Variance**

Summary TY \$M							
Item	RDT&E	Procurement	MILCON	Total			
SAR Baseline (Production	266.5	4730.4		4996.9			
Estimate)							
Previous Changes							
Economic	+1.2	-27.6		-26.4			
Quantity		+3937.1		+3937.1			
Schedule		+232.5		+232.5			
Engineering		-526.8		-526.8			
Estimating	-5.4	+26.6		+21.2			
Other							
Support		+2821.7		+2821.7			
Subtotal	-4.2	+6463.5		+6459.3			
Current Changes							
Economic		-71.3		-71.3			
Quantity		+219.8		+219.8			
Schedule		+82.2		+82.2			
Engineering							
Estimating	+34.2	-363.7		-329.5			
Other							
Support		+303.9		+303.9			
Subtotal	+34.2	+170.9		+205.1			
Total Changes	+30.0	+6634.4		+6664.4			
CE - Cost Variance	296.5	11364.8		11661.3			
CE - Cost & Funding	296.5	11364.8		11661.3			

Summary BY 2010 \$M							
Item	RDT&E	Procurement	MILCON	Total			
SAR Baseline (Production Estimate)	264.7	4421.3		4686.0			
Previous Changes							
Economic							
Quantity		+3113.8		+3113.8			
Schedule		+3.5		+3.5			
Engineering		-445.7		-445.7			
Estimating	-3.9	+15.8		+11.9			
Other							
Support		+2097.8		+2097.8			
Subtotal	-3.9	+4785.2		+4781.3			
Current Changes							
Economic							
Quantity		+153.8		+153.8			
Schedule							
Engineering							
Estimating	+28.4	-275.2		-246.8			
Other							
Support		+211.0		+211.0			
Subtotal	+28.4	+89.6		+118.0			
Total Changes	+24.5	+4874.8		+4899.3			
CE - Cost Variance	289.2	9296.1		9585.3			
CE - Cost & Funding	289.2	9296.1		9585.3			

Previous Estimate: December 2014

RDT&E	\$1	Л
Current Change Explanations	Base Year	Then Year
Decrease due to prior year fact of life Congressional adjustments. (Estimating)	-0.1	-0.1
Increase due to the addition of the Distributed Embedded Satellite Communication On-The- Move Standard Terminal Architecture capability for the WIN-T Inc 2 Armor Brigade Combat Teams. (Estimating)	+28.5	+34.3
RDT&E Subtotal	+28.4	+34.2

Procurement	\$N	Л
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-71.3
Quantity variance resulting from an increase of 91 Nodes from 3,583 to 3,674 due to the new Army Structure Memorandum FY 2018 to FY 2022 dated October 2015. (Quantity)	+153.8	+219.8
Stretch-out of procurement buy profile by one year from FY 2028 to FY 2029 due to the funding reductions from FY 2015 to FY 2021. (Schedule)	0.0	+82.2
Decrease due to a revised estimate for Configuration Items unit costs based on an analysis of vendor actuals. (Estimating)	-281.7	-370.8
Adjustment for current and prior escalation. (Estimating)	+6.5	+7.1
Adjustment for current and prior escalation. (Support)	+2.2	+2.7
Increase in Other Support is due to a change in Fielding, New Equipment Training, and Software Maintenance costs resulting from increase of 91 nodes from 3,583 to 3,674 and an additional year of procurement. (Support) (QR)	+51.9	+97.0
Increase in Initial Spares quantity resulting from increase of 91 Nodes from 3,583 to 3,674, an additional year of procurement, and revised spares kit configurations and pricing. (Support) (QR)	+156.9	+204.2
Procurement Subtotal	+89.6	+170.9

(QR) Quantity Related

WIN-T Inc 2 December 2015 SAR

#### Contracts

#### **Contract Identification**

**Appropriation:** Procurement

Contract Name: WIN-T Increment 2 Production

**Contractor:** General Dynamics C4 Systems, Inc.

Contractor Location: 400 John Quincy Adams Rd

Taunton, MA 02780

Contract Number: W15P7T-10-D-C007

**Contract Type:** Firm Fixed Price (FFP), Fixed Price Incentive(Firm Target) (FPIF)

Award Date: March 24, 2010

Definitization Date: December 30, 2010

Contract Price							
Initial Co	ntract Price (	(\$M)	Current C	Contract Price	(\$M)	Estimated Pr	ice At Completion (\$M)
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
299.7	299.7	160	2123.0	2123.0	1367	2123.0	2123.0

### **Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the procurement of Lots 1B through 5a which equate to an additional 870 nodes LRIP and Lots 5b and 6 which equate to 337 nodes FRP. Additionally, production support efforts were added to the contract price.

#### **Cost and Schedule Variance Explanations**

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

#### **General Contract Variance Explanation**

Cost and schedule variances are not reported for this contract because no active task order or related task order exceeds the threshold requirement for EVM reporting.

# **Deliveries and Expenditures**

Deliveries					
Delivered to Date Planned to Date Actual to Date Total Quantity Percent Delivered					
Development	56	56	56	100.00%	
Production	883	883	3674	24.03%	
Total Program Quantity Delivered	939	939	3730	25.17%	

Expended and Appropriated (TY \$M)						
Total Acquisition Cost	11661.3	Years Appropriated	10			
Expended to Date	2968.3	Percent Years Appropriated	43.48%			
Percent Expended	25.45%	Appropriated to Date	3486.2			
Total Funding Years	23	Percent Appropriated	29.90%			

The above data is current as of February 09, 2016.

## **Operating and Support Cost**

#### **Cost Estimate Details**

Date of Estimate: January 14, 2016

Source of Estimate: POE
Quantity to Sustain: 3674
Unit of Measure: Node

Service Life per Unit: 20.00 Years

Fiscal Years in Service: FY 2012 - FY 2049

- 1. A Node is defined as Tactical Communications Node, Point of Presence, and Soldier Network Extension Configuration Item.
- 2. Quantity of 3,674 Nodes to sustain does not include 56 Nodes procured in RDT&E.
- 3. Costs are estimated in accordance with Department of the Army Cost Analysis Manual, Deputy Assistant Secretary of the Army, U.S. Army Cost and Economic Analysis Center, May 2002.
- 4. O&S cost factors taken from the Army Operating and Support Management Information System.
- 5. Military Personnel costs are taken from the Army Military Cost System (AMCOS).
- 6. Mission Pay and Allowance estimates based on the WIN-T manpower estimates included in the WIN-T Inc 2 CARD dated November 21, 2014.
- 7. Estimated costs are based on the operating tempo approved by the Army's Training and Doctrine Command as well as individual Configuration Item component reliability.

#### **Sustainment Strategy**

Costs are based on the two-level maintenance concept. WIN-T Inc 2 employs the Army's two-level maintenance concept focusing on organic field level operations and a combination of contractor and Government services for sustainment / depot-level operations. All maintenance planning will comply with applicable section 2460, title 10, U.S.C. Core Depot statutes.

#### **Antecedent Information**

No Antecedent. WIN-T Inc 2 provides a different (on-the-move) capability from WIN-T Inc 1 (at-the-halt) communications and is not descended from the WIN-T Inc 1 system. Both programs are being fielded simultaneously to separate users, one is not replacing the other.

Annual O&S Costs BY2010 \$K					
Cost Element	WIN-T Inc 2 Average Annual Cost Per Node	N/A (Antecedent) N/A			
Unit-Level Manpower	78.742	0.000			
Unit Operations	2.288	0.000			
Maintenance	29.189	0.000			
Sustaining Support	18.579	0.000			
Continuing System Improvements	14.249	0.000			
Indirect Support	0.000	0.000			
Other	0.000	0.000			
Total	143.047				

		Total O&S	Cost \$M	
Item	WIN-T I			
No.	Current Production APB Objective/Threshold		Current Estimate	N/A (Antecedent)
Base Year	10613.4	11674.7	10511.1	N/A
Then Year	15198.3	N/A	15152.0	N/A

## **Equation to Translate Annual Cost to Total Cost**

Multiplying the total average annual unitized cost by 20 years and by 3,674 communications nodes will achieve the total costs.

\$143.047K \* 20 \* 3,674 = \$10,511,093K - \$10,511.1M

	O&S Cost Variance						
Category	BY 2010 \$M	Change Explanations					
Prior SAR Total O&S Estimates - Dec 2014 SAR	11196.8						
Programmatic/Planning Factors	59.5	Increase in cost due to 91 additional Nodes from 3,583 to 3,674 due to alignment with the new Army Structure Memorandum FY 2018 - FY 2022 and an additional year of support caused by the FY 2015 - FY 2021 funding decrements.					
Cost Estimating Methodology	0.0						
Cost Data Update	-453.1	Reduction due to revised spares configuration, pricing, and Mean Time Between Failures; and revised software subscription costs.					
Labor Rate	-292.1	Reduction due to revised Military Personnel costs from the AMCOS database.					
Energy Rate	0.0						
Technical Input	0.0						
Other	0.0						
Total Changes	-685.7						
Current Estimate	10511.1						

### **Disposal Estimate Details**

Date of Estimate: January 14, 2016

Source of Estimate: POE

Disposal/Demilitarization Total Cost (BY 2010 \$M): Total costs for disposal of all Node are 32.7

Disposal costs increased by \$13.9M from \$18.8M to \$32.7M due to revised lithium ion battery disposal costs.