Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-592

T-AKE

As of September 30, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

T-AKE LEWIS and CLARK Class Dry Cargo/Ammunition Ship

DoD Component

Navy

Responsible Office

Responsible Office

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References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated September 20, 2001

Approved APB

Navy Acquisition Executive (NAE) Approved Acquisition Program Baseline (APB) dated September 12, 2009

Mission and Description

The LEWIS and CLARK Class Dry Cargo/Ammunition Ship (T-AKE) acquisition program will provide a two product (ammunition and combat stores - including dry stores, frozen and chilled products, spare parts and consumables) replacement for the aging single product combat stores (T-AFS) and ammunition (T-AE) shuttle ships. Working in concert with an oiler (T-AO), the team can perform a "substitute" station ship mission that will allow the retirement of the three product fast combat support ships (AOE 1 Class). In its shuttle role, T-AKE will provide logistics lift to station ships and other ships operating with naval sources from supply sources, such as friendly ports, and at sea from Modular Cargo Delivery System (MCDS) equipped merchant vessels.

The T-AKE will have the capability to effectively and efficiently provide naval forces with ordnance, stores, and spare parts through both connected replenishment (CONREP) and vertical replenishment (VERTREP). Organic helicopter operations to conduct VERTREP require T-AKE to support two military cargo logistics helicopters or two equivalent commercial variants and associated aviation personnel. Additionally, T-AKE will have the capability to transfer a limited quantity of fuel by means of CONREP or Astern Refueling.

The T-AKE end force structure will be such that it meets fleet peacetime requirements and satisfies the majority of wartime requirements. Wartime operations will require augmentation by additional shuttle ships (such as MCDS equipped ships currently in the Ready Reserve Force).

Executive Summary

This quarterly exception SAR is being submitted to provide notification that the LEWIS and CLARK Class Dry Cargo/Ammunition Ship (T-AKE) program has reached 90% expended. In accordance with Title 10 Section 2432 this will be the final SAR for this program.

On May 13, 2011, T-AKE 10 through T-AKE 14 were converted from Fixed-Price Incentive Fee (FPIF) to Firm Fixed Price (FFP). On July 7, 2011, the T-AKE program received the 2011 Secretary of the Navy Safety Excellence award for safety integration in acquisition.

T-AKE 12: Delivered September 28, 2011.
T-AKE 13: Delivery is expected to occur April 12, 2012. Ship is 83% complete.
T-AKE 14: Delivery is expected to occur October 10, 2012. Ship is 51% complete.

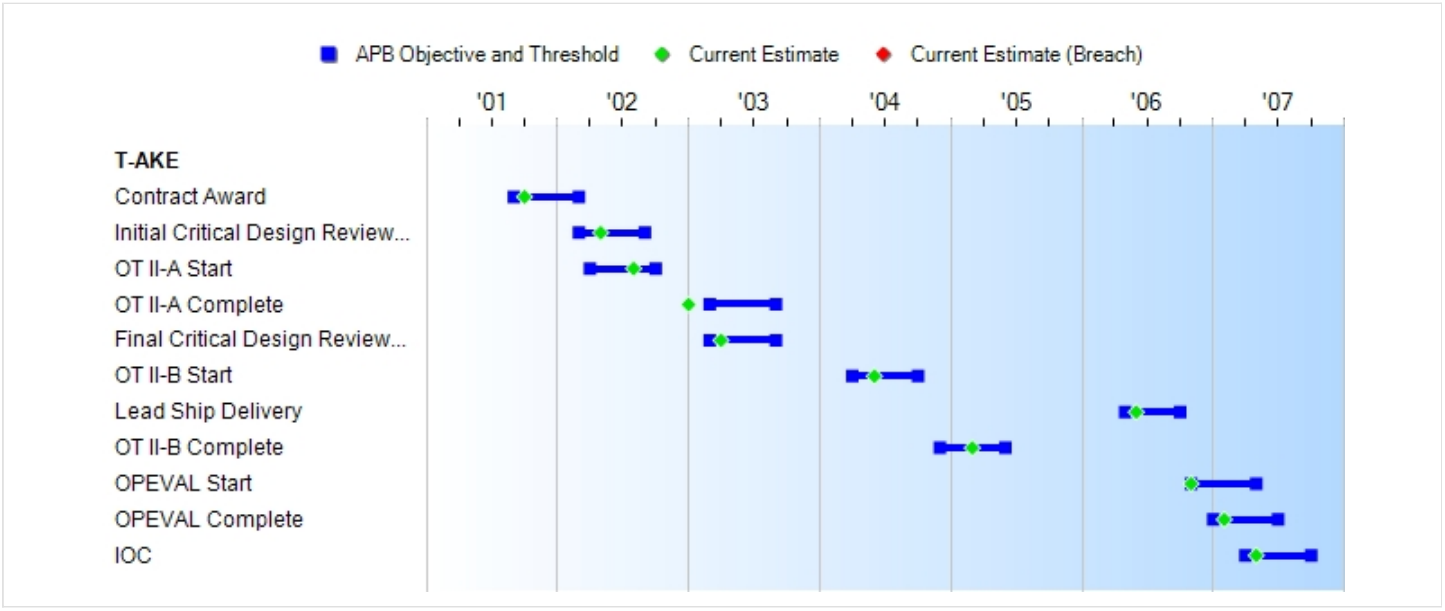
There are no software-related issues for this program at this time.

Threshold Breaches

APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule



Milestones	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate
Contract Award	SEP 2001	SEP 2001	MAR 2002	OCT 2001
Initial Critical Design Review & OIPT	MAR 2002	MAR 2002	SEP 2002	MAY 2002
OT II-A Start	APR 2002	APR 2002	OCT 2002	AUG 2002
OT II-A Complete	MAR 2003	MAR 2003	SEP 2003	JAN 2003
Final Critical Design Review & OIPT	MAR 2003	MAR 2003	SEP 2003	APR 2003
OT II-B Start	APR 2003	APR 2004	OCT 2004	JUN 2004
Lead Ship Delivery	JUL 2005	MAY 2006	OCT 2006	JUN 2006
OT II-B Complete	JUL 2005	DEC 2004	JUN 2005	MAR 2005
OPEVAL Start	APR 2006	NOV 2006	MAY 2007	NOV 2006
OPEVAL Complete	JUN 2006	JAN 2007	JUL 2007	FEB 2007
IOC	OCT 2006	APR 2007	OCT 2007	MAY 2007

Acronyms And Abbreviations

IOC - Initial Operational Capability
OIPT - Overarching Integrated Product Team
OPEVAL - Operational Evaluation
OT - Operational Test

Change Explanations

None

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Intership Cargo Handling Interoperability	Provide all REP sys and equip. req'd for seamless interface w/existing and planned US ships	Provide all REP sys and equip. req'd for seamless interface w/existing and planned US ships	Provide all REP sys and equip. req'd for seamless interface w/existing and planned US ships	Provides all REP sys and equip. req'd for seamless interface w/existing and planned US ships	Provides all REP sys and equip. req'd for seamless interface w/existing and planned US ships
C4I Interoperability	100% Top Level and Navy IERs	100% Top Level and Navy IERs	100% Top Level and Navy IERs designated as CRITICAL	100% Top Level and Navy IERs	100% Top Level and Navy IERs
Survivability	The ship will survive flooding caused by damage to the shell at any location. The final damaged heel angle will not exceed 15 deg and the margin lines will not be submerged.	The ship will survive flooding caused by damage to the shell at any location. The final damaged heel angle will not exceed 15 deg and the margin lines will not be submerged.	The ship will survive flooding caused by damage to the shell at any location except the transverse bulkheads bounding an aft machinery space. The final damaged heel angle will not exceed 25 deg.	The ship will survive flooding caused by damage to the shell at any location. The final damaged heel angle will not exceed 15 degrees and the margin lines will not be submerged.	The ship will survive flooding caused by damage to the shell at any location. The final damaged heel angle will not exceed 15 degrees and the margin lines will not be submerged.
Endurance	14000 NM (20 kts)	14000 NM (20 kts)	14000 NM (20 kts	Exceeds 14,000 NM (20 kts)	Exceeds 14,000 NM (20 kts)
Sustained Speed	> 20 kts NTE 80% MCR	> 20 kts NTE 80% MCR	20 kts NTE 80% MCR	20 kts NTE 80% MCR	20 kts NTE 80% MCR
Cargo Transfer Rate (Sea State 2)	> 274 MTPH palletized ordnance to CV (CONREP & VERTREP), > 220 MTPH palletized	> 274 MTPH palletized ordnance to CV (CONREP & VERTREP), > 220 MTPH palletized	=/> 149 MTPH palletized ordnance to CV (CONREP & VERTREP), =/> 138	216 MTPH to CV using 2 CONREP & 2 VERTREP stations. 221 MTPH to 216 MTPH	216 MTPH to CV using 2 CONREP & 2 VERTREP stations. 221 MTPH to 216 MTPH

	ordnance to CV & CG simultaneous-ly (CONREP)	ordnance to CV & CG simultaneous-ly (CONREP)	MTPH palletized ordnance to CV & CG simultaneous-ly (CONREP)	to CV using 2 CONREP & 2 VERTREP stations 221 MTPH to CV & CG simultaneously using 4 CONREP stations	to CV using 2 CONREP & 2 VERTREP stations 221 MTPH to CV & CG simultaneously using 4 CONREP stations
Supportability	MSC Stds (CGCERT & ABS)	MSC Stds (CG CERT & ABS)	MSC Stds (CG CERT & ABS)	MSC Stds (CG CERT & ABS)	MSC Stds (CG CERT & ABS)
Reliability (Ship Systems)	Highest commercial stds, ABS Rules, R1 (redundancy) notation for propulsion, steering & aux sys. Redundancy in excess of commercial reqmts for mission critical systems	Highest commercial stds, ABS Rules, R1 (redundancy) notation for propulsion, steering & aux sys. Redundancy in excess of commercial reqmts for mission critical systems	Highest commercial stds, ABS Rules, R1 (redundancy) notation for propulsion, steering & aux sys. Redundancy in excess of commercial reqmts for mission critical systems	Highest commercial stds, ABS Rules, R1 (redundancy) notation for propulsion, steering & aux sys. Redundancy in excess of commercial reqmts for mission critical systems	Highest commercial stds, ABS Rules, R1 (redundancy) notation for propulsion, steering & aux sys. Redundancy in excess of commercial reqmts for mission critical systems
Reliability (Cargo Transfer Systems)	Ao=0.98	Ao=0.98	Ao=0.80	Ao=.98	Ao=.98

Requirements Source:
Thresholds and objectives are abbreviated directly from the Table of Key Performance Parameters (KPPs) in the T-AKE Operational Requirements Document (ORD) no. 541-4-99, dated July 3, 2001.

Acronyms And Abbreviations

ABS - American Bureau of Shipping
aft - towards the stern (rear) of the ship
Ao - Operational Availability
aux - auxiliary
C4I - Command, Control, Communications, Computers and Intelligence
CERT - Certification
CONREP - Connected Replenishment
CV&CG - Aircraft Carrier & Cruiser
equip - equipment
IER - Information Exchange Requirements
kts - Knots
MCR - Maximum Continuous Rating
MSC - Military Sealift Command

MTPH - Metric Tons Per Hour
NM - Nautical mile
NTE - Not to exceed
R1 - ABS Redundancy notation "... indicating that a vessel is fitted with multiple machines but only one propeller and steering system..."
REP - Replenishment
req'd - required
Stds - Standards
sys - system(s)
US - United States
USCG - United States Coast Guard
VERTREP - Vertical Replenishment

Change Explanations

None

Memo

Mission critical systems include cargo refrigeration, cargo handling gear, auxiliary equipment for mobility, fire fighting, and exterior communications.

Track To Budget

RDT&E				
APPN 1319	BA 04	PE 0603564N	(Navy)	
	Project 0408	Research and Development, T-AKE	(Shared)	(Sunk)
APPN 1319	BA 05	PE 0604567N	(Navy)	
	Project 1803	Research and Development, T-AKE	(Shared)	(Sunk)

Procurement				
APPN 4557	BA 01	PE 0408042N	(Navy)	
	ICN 0120	T-AKE		(Sunk)
	ICN 5000	NDSF Post Delivery and Outfitting	(Shared)	

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY2000 $M			BY2000 $M	TY $M		
Appropriation	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	26.0	26.0	28.6	26.0	25.9	25.9	25.9
Procurement	4236.6	5394.0	5933.4	5301.7	4864.3	6868.0	6832.3
Flyaway	4236.6	--	--	5301.7	4864.3	--	6832.3
Recurring	4236.6	--	--	5204.5	4864.3	--	6728.7
Non Recurring	0.0	--	--	97.2	0.0	--	103.6
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	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
Total	4262.6	5420.0	N/A	5327.7	4890.2	6893.9	6858.2

A 95% confidence level is given to the current approved Acquisition Program Baseline dated September 12, 2009 for September 2011 SAR estimates. The rationale for selecting a 95% confidence level is based on actual cost returns on twelve delivered ships.

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E	0	0	0
Procurement	12	14	14
Total	12	14	14

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
SEP 2011 Exception SAR (TY $M)

Appropriation	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
RDT&E	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.9
Procurement	6783.1	31.2	18.0	0.0	0.0	0.0	0.0	0.0	6832.3
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
SEP 2011 Total	6809.0	31.2	18.0	0.0	0.0	0.0	0.0	0.0	6858.2
PB 2012 Total	6810.3	31.2	18.0	0.0	0.0	0.0	0.0	0.0	6859.5
Delta	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3

Quantity	Undistributed	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	14	0	0	0	0	0	0	0	14
SEP 2011 Total	0	14	0	0	0	0	0	0	0	14
PB 2012 Total	0	14	0	0	0	0	0	0	0	14
Delta	0	0	0	0	0	0	0	0	0	0

FY2012 President's Budget / December 2010 SAR (TY$ M)

Appropriation	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
RDT&E	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.9
Procurement	6784.4	31.2	18.0	0.0	0.0	0.0	0.0	0.0	6833.6
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 2012 Total	6810.3	31.2	18.0	0.0	0.0	0.0	0.0	0.0	6859.5
PB 2011 Total	6889.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6889.2
Delta	-78.9	31.2	18.0	0.0	0.0	0.0	0.0	0.0	-29.7

Quantity	Undistributed	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	14	0	0	0	0	0	0	0	14
PB 2012 Total	0	14	0	0	0	0	0	0	0	14
PB 2011 Total	0	14	0	0	0	0	0	0	0	14
Delta	0	0	0	0	0	0	0	0	0	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
1996	--	--	--	--	--	--	1.1
1997	--	--	--	--	--	--	3.6
1998	--	--	--	--	--	--	3.8
1999	--	--	--	--	--	--	5.9
2000	--	--	--	--	--	--	11.5
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**25.9**

Annual Funding BY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2000 $M	Non End Item Recurring Flyaway BY 2000 $M	Non Recurring Flyaway BY 2000 $M	Total Flyaway BY 2000 $M	Total Support BY 2000 $M	Total Program BY 2000 $M
1996	--	--	--	--	--	--	1.1
1997	--	--	--	--	--	--	3.7
1998	--	--	--	--	--	--	3.9
1999	--	--	--	--	--	--	5.9
2000	--	--	--	--	--	--	11.4
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**26.0**

Annual Funding TY$
4557 | Procurement | National Defense Sealift Fund, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2000	1	393.4	--	103.6	497.0	--	497.0
2001	1	357.8	--	--	357.8	--	357.8
2002	1	357.0	--	--	357.0	--	357.0
2003	1	386.3	--	--	386.3	--	386.3
2004	2	720.0	--	--	720.0	--	720.0
2005	2	767.8	--	--	767.8	--	767.8
2006	1	396.7	--	--	396.7	--	396.7
2007	1	531.3	--	--	531.3	--	531.3
2008	--	803.4	--	--	803.4	--	803.4
2009	2	998.7	--	--	998.7	--	998.7
2010	2	967.1	--	--	967.1	--	967.1
2011	--	31.2	--	--	31.2	--	31.2
2012	--	18.0	--	--	18.0	--	18.0
Subtotal	**14**	**6728.7**	**--**	**103.6**	**6832.3**	**--**	**6832.3**

Annual Funding BY$
4557 | Procurement | National Defense Sealift Fund, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2000 $M	Non End Item Recurring Flyaway BY 2000 $M	Non Recurring Flyaway BY 2000 $M	Total Flyaway BY 2000 $M	Total Support BY 2000 $M	Total Program BY 2000 $M
2000	1	369.0	--	97.2	466.2	--	466.2
2001	1	324.5	--	--	324.5	--	324.5
2002	1	321.9	--	--	321.9	--	321.9
2003	1	329.3	--	--	329.3	--	329.3
2004	2	592.3	--	--	592.3	--	592.3
2005	2	605.4	--	--	605.4	--	605.4
2006	1	302.5	--	--	302.5	--	302.5
2007	1	389.6	--	--	389.6	--	389.6
2008	--	573.6	--	--	573.6	--	573.6
2009	2	698.4	--	--	698.4	--	698.4
2010	2	664.9	--	--	664.9	--	664.9
2011	--	21.1	--	--	21.1	--	21.1
2012	--	12.0	--	--	12.0	--	12.0
Subtotal	**14**	**5204.5**	**--**	**97.2**	**5301.7**	**--**	**5301.7**

Cost Quantity Information
4557 | Procurement | National Defense Sealift Fund, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2000 $M
2000	1	357.1
2001	1	324.5
2002	1	322.6
2003	1	331.2
2004	2	631.8
2005	2	620.2
2006	1	305.0
2007	1	631.4
2008	--	--
2009	2	848.7
2010	2	832.0
2011	--	--
2012	--	--
Subtotal	**14**	**5204.5**

Low Rate Initial Production

There is no Low Rate Initial Production (LRIP) for the T-AKE Program.

Foreign Military Sales

None

Nuclear Cost

None

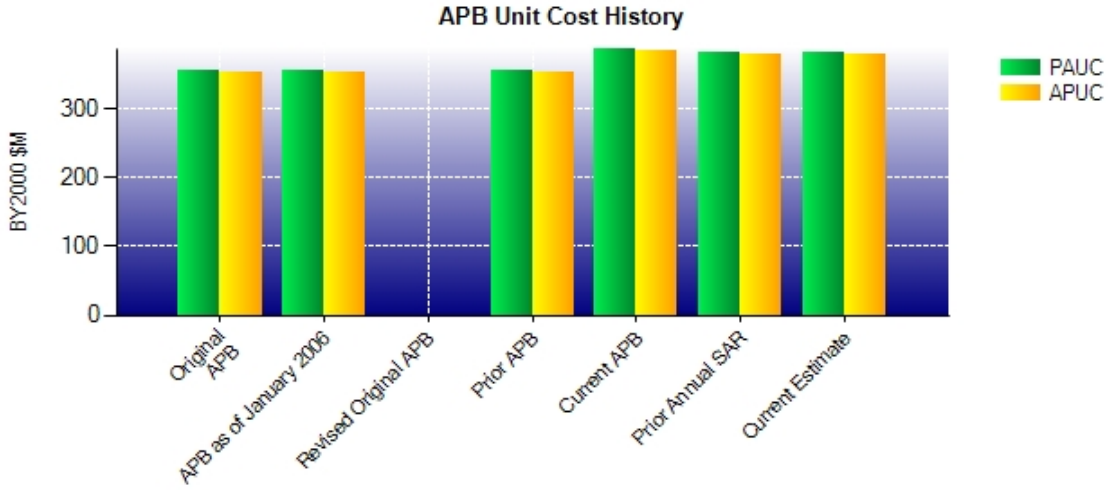
Unit Cost

Unit Cost Report

Unit Cost	BY2000 $M Current UCR Baseline (SEP 2009 APB)	BY2000 $M Current Estimate (SEP 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	5420.0	5327.7	
Quantity	14	14	
Unit Cost	387.143	380.550	-1.70
Average Procurement Unit Cost (APUC)			
Cost	5394.0	5301.7	
Quantity	14	14	
Unit Cost	385.286	378.693	-1.71

Unit Cost	BY2000 $M Original UCR Baseline (SEP 2001 APB)	BY2000 $M Current Estimate (SEP 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	4262.6	5327.7	
Quantity	12	14	
Unit Cost	355.217	380.550	+7.13
Average Procurement Unit Cost (APUC)			
Cost	4236.6	5301.7	
Quantity	12	14	
Unit Cost	353.050	378.693	+7.26

Unit Cost History



		BY2000 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	SEP 2001	355.217	353.050	407.517	405.358
APB as of January 2006	APR 2003	355.217	353.050	407.517	405.358
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	JAN 2006	355.217	353.050	407.517	405.358
Current APB	SEP 2009	387.143	385.286	492.421	490.571
Prior Annual SAR	DEC 2010	380.614	378.757	489.964	488.114
Current Estimate	SEP 2011	380.550	378.693	489.871	488.021

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)

Initial PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
407.517	28.707	13.397	3.750	0.000	36.500	0.000	0.000	82.354	489.871

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
405.358	28.707	13.706	3.750	0.000	36.500	0.000	0.000	82.663	488.021

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	N/A	N/A	N/A
Milestone C	N/A	N/A	N/A	N/A
IOC	N/A	N/A	OCT 2006	MAY 2007
Total Cost (TY $M)	N/A	N/A	4890.2	6858.2
Total Quantity	N/A	N/A	12	14
Prog. Acq. Unit Cost (PAUC)	N/A	N/A	407.517	489.871

Cost Variance

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	25.9	4864.3	--	4890.2
Previous Changes				
Economic	--	+401.9	--	+401.9
Quantity	--	+1002.6	--	+1002.6
Schedule	--	+52.5	--	+52.5
Engineering	--	--	--	--
Estimating	--	+512.3	--	+512.3
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	+1969.3	--	+1969.3
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	-1.3	--	-1.3
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	-1.3	--	-1.3
Total Changes	--	+1968.0	--	+1968.0
CE - Cost Variance	25.9	6832.3	--	6858.2
CE - Cost & Funding	25.9	6832.3	--	6858.2

Summary Base Year 2000 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	26.0	4236.6	--	4262.6
Previous Changes				
Economic	--	--	--	--
Quantity	--	+669.2	--	+669.2
Schedule	--	+13.3	--	+13.3
Engineering	--	--	--	--
Estimating	--	+383.5	--	+383.5
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	+1066.0	--	+1066.0
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	-0.9	--	-0.9
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	-0.9	--	-0.9
Total Changes	--	+1065.1	--	+1065.1
CE - Cost Variance	26.0	5301.7	--	5327.7
CE - Cost & Funding	26.0	5301.7	--	5327.7

Previous Estimate: December 2010

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Above Threshold Reprogramming (ATR) transferred FY 2008 funding from the National Defense Sealift Fund (NDSF) to the FY 2006 funding within the Shipbuilding and Conversion, Navy (SCN) appropriation. (Estimating)	-0.9	-1.3
Procurement Subtotal	-0.9	-1.3

Contracts

General Contract Memo

The major contract (N00024-02-C-2300) for the T-AKE program has been completed.

No contracts

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	12	12	14	85.71%
Total Program Quantities Delivered	12	12	14	85.71%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	6858.2	Years Appropriated	16
Expenditures To Date	6300.2	Percent Years Appropriated	94.12%
Percent Expended	91.86%	Appropriated to Date	6840.2
Total Funding Years	17	Percent Appropriated	99.74%

Expenditures as of October 14, 2011.

Operating and Support Cost

Assumptions And Ground Rules

In the LEWIS and CLARK Class Dry Cargo/Ammunition (T-AKE) Program Life Cycle Cost Estimate, Revision D, dated November 19, 2002, the assumptions for the Cost Element categories are as follows:

Unit-Level Manpower - The Program Office developed a spreadsheet based on "The Center for Naval Analysis (CNA) CRM 97-28.10/November 1999 Combat Logistics Force (CLF) Analysis of Alternatives: Cost Estimating Methodology (CNA CRM 97-28.10)" to calculate a composite of United States Navy (USN) and Military Sealift Command (MSC) monthly salary cost for officer and enlisted personnel. The costs generated accurately reflect the specific complement for T-AKE. These values were then input into a Navy Center for Cost Analysis (NCCA) Operating and Support Cost Analysis Model (OSCAM) and used to generate this cost.

Unit Operations - Unit-level consumption consists of Ship Petroleum Oil Lubricants (POL), Repair Parts/Supplies, Depot Level Repairables, and Purchased Equipment/Services that were calculated as follows:

1. Ship POL - The Program Office developed spreadsheets to calculate fuel consumption based on the actual propulsion plant characteristics and the ship's operating/speed profile. These values were then input into OSCAM.
2. Repair Parts/Supplies - The Program Office developed a spreadsheet which used Center for Naval Analysis CNA 97-28.10 Cost Estimating Relationships (CERs) for Supplies (USN) and Consumables (MSC) to calculate the composite USN and MSC value. This value was then input into OSCAM.
3. Depot Level Repairables - The Program Office used the average cost of material consumed for repair for the CLF ships being replaced. This value was then input into OSCAM.
4. Purchased Equipment/Services - The Program Office used the NCCA CER for Variable Alongside Support Services to represent this cost.This value was then input into OSCAM.

Maintenance - MSC conducts Voyage Repairs (VR). The OSCAM Intermediate Maintenance Ashore function was used in conjunction with the ship's notional operating schedule (one VR per ship per operating quarter between Depot Level Maintenance periods) to generate the cost of VRs. The Depot Level Maintenance profile used in OSCAM was developed based on MSC's notional Depot Maintenance schedule. The Program Office used average costs for the CLF ships being replaced and NCCA CERs to estimate the associated costs.

Sustaining Support - This element is comprised of the following cost items:

1. Centrally Provided Material (CPM) - The Program Office used a spreadsheet to calculate CPM. The value generated was based on a weighted average of the CLF ships being replaced. This value was then input into OSCAM.
2. Engineering Technical Services - The NCCA CER for Engineering Technical Services that encompasses services provided to a ship by Mobile Technical Units, In-Service Engineering Agents and Navy Sea Center (Atlantic and Pacific) was used. This value was input into OSCAM.
3. Receipt, Segregation, Storage, Issue - The Program Office used a spreadsheet using CNA 97-28.10 Cost Estimating Methodology to calculate publication costs, which were used to represent this cost category. This value was input into OSCAM.

Indirect Support - The Program Office developed a spreadsheet using CNA 97-28.10 Cost Estimating Methodology to calculate a composite USN and MSC monthly salary cost for officer and enlisted personnel. The resulting composite values included only indirect costs associated with USN officer and enlisted monthly pay. These values were then input into OSCAM.

There is no antecedent system for this program. The assumed service life for the T-AKE is 40 years; quantity is 14 ships.

Costs BY2000 $M		
Cost Element	**T-AKE Avg Annual Cost per T-AKE Ship**	**No Antecedent**
Unit-Level Manpower	13.58	--
Unit Operations	8.51	--
Maintenance	4.67	--
Sustaining Support	0.74	--
Continuing System Improvements	0.00	--
Indirect Support	0.20	--
Other	0.00	--
Total Unitized Cost (Base Year 2000 $)	27.70	--

Total O&S Costs $M	T-AKE	No Antecedent
Base Year	15512.0	--
Then Year	--	--

Operating and Support (O&S) Costs have been updated to reflect the increase in quantity and actual data provided by the Military Sealift Command. The O&S Cost Estimate dated November 19, 2002 has no Then-Year dollar component.