# Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-247


# Joint High Speed Vessel (JHSV)

As of FY 2011 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

## Table of Contents

## 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)

## Program Information

**Program Name**

Joint High Speed Vessel (JHSV) (JHSV)

**DoD Component**

Navy

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**Date Assigned:** June 1, 2007

## References

**SAR Baseline (Development Estimate)**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated February 11, 2009

**Approved APB**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated February 11, 2009

## Mission and Description

The Joint High Speed Vessel (JHSV) is a shallow draft, commercial-based ship capable of intra-theater personnel and cargo lift providing combatant commanders high-speed sealift mobility with inherent cargo handling capability and the agility to achieve positional advantage over operational distances. Bridging the gap between low-speed sealift and high-speed airlift, the JHSV will transport personnel, equipment, and supplies over operational distances with access to littoral offload points including austere, minor and degraded ports in support of the Global War on Terrorism (GWOT)/Theater Security Cooperation Program (TSCP); Intra-theater Operational/Littoral Maneuver and Sustainment; and Seabasing. The JHSV will enable the rapid projection, agile maneuver, and sustainment of modular, tailored forces in response to a wide range of military and civilian contingencies such as Non-Combatant Evacuation Operations, humanitarian assistance, and disaster relief.

## Executive Summary

This is the initial SAR submission for the Joint High Speed Vessel (JHSV) program.

The JHSV program is an Acqusition Category (ACAT) 1D program that has entered the Engineering and Manufacturing Development phase for Low Rate Initial Production (LRIP) of 10 ships to be procured for the Army and Navy. The Army will receive five of the LRIP end items and the Navy will receive five. Initially three contractors were awarded Preliminary Design contracts and completed their Phase I efforts. At the Milestone B Defense Acquisition Board (DAB) review in October 2008, the Acquisition Strategy was approved to reflect a total program quantity of 18 ships and to support down selection to a single contractor for Phase 2 Detail Design and Construction (DD&C) of the lead ship with options for the remaining nine LRIP follow ships. Of the 18 ships certified at Milestone B, the President's Budget for FY 2011 requests a total of 15 ships within the Future Years Defense Plan (FYDP), extending three of the ships beyond the FYDP.

In November 2008 the selection was made to award the JHSV contract to Austal USA of Mobile, Alabama. With award, Austal began to design and prepare for construction of the lead vessel. Major milestones since the award of the contract have included the JHSV program and Austal USA successfully completing the Integrated Baseline Review in May 2009. Long lead time material contract options were awarded to Austal in June 2009 for JHSV-2 and JHSV-3. The JHSV program and Austal conducted a rigorous Final Critical Design Review in September 2009 to close in on the final baseline for ship construction while assessing design maturity. Austal briefed readiness to start construction on the lead vessel at the Production Readiness Review in October 2009. Results of that review supported a favorable OSD-level program review in November 2009, and on December 18, 2009, the Under Secretary of Defense for Aquisition, Technology and Logistics (USD AT&L) issued an Aquisition Decision Memorandum (ADM) approving the Navy's request to begin construction of the lead vessel. On January 25, 2010, the USD AT&L issued a follow-on ADM approving the Navy's request to proceed with awarding construction contract options for ships 2 and 3.

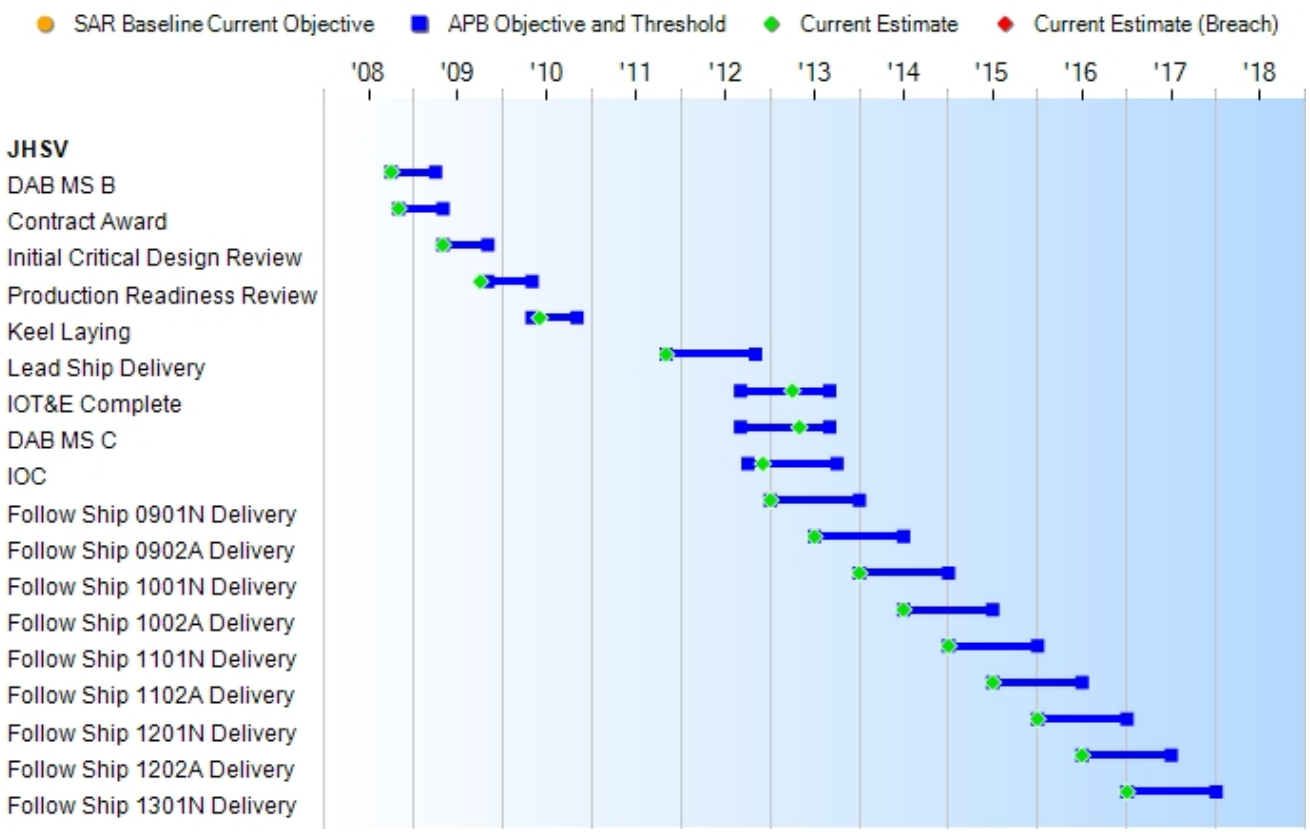
There are no significant software related issues with this program at this time.

## Threshold Breaches

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

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

## Schedule


SAR Baseline Current Objective
APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'08
'09
'10
'11
'12
'13
'14
'15
'16
'17
'18
JHSV
DAB MS B
Contract Award
Initial Critical Design Review
Production Readiness Review
Keel Laying
Lead Ship Delivery
IOT&E Complete
DAB MS C
IOC
Follow Ship 0901N Delivery
Follow Ship 0902A Delivery
Follow Ship 1001N Delivery
Follow Ship 1002A Delivery
Follow Ship 1101N Delivery
Follow Ship 1102A Delivery
Follow Ship 1201N Delivery
Follow Ship 1202A Delivery
Follow Ship 1301N Delivery

| Schedule Events | | | | |
|---|---|---|---|---|
| Events | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate |
| DAB MS B | Oct 2008 | Oct 2008 | Apr 2009 | Oct 2008 |
| Contract Award | Nov 2008 | Nov 2008 | May 2009 | Nov 2008 |
| Initial Critical Design Review | May 2009 | May 2009 | Nov 2009 | May 2009 |
| Production Readiness Review | Nov 2009 | Nov 2009 | May 2010 | Oct 2009 |
| Keel Laying | May 2010 | May 2010 | Nov 2010 | Jun 2010 |
| Lead Ship Delivery | Nov 2011 | Nov 2011 | Nov 2012 | Nov 2011 |
| IOT&E Complete | Sep 2012 | Sep 2012 | Sep 2013 | Apr 2013 |
| DAB MS C | Sep 2012 | Sep 2012 | Sep 2013 | May 2013 |
| IOC | Oct 2012 | Oct 2012 | Oct 2013 | Dec 2012 |
| Follow Ship 0901N Delivery | Jan 2013 | Jan 2013 | Jan 2014 | Jan 2013 |
| Follow Ship 0902A Delivery | Jul 2013 | Jul 2013 | Jul 2014 | Jul 2013 |
| Follow Ship 1001N Delivery | Jan 2014 | Jan 2014 | Jan 2015 | Jan 2014 |
| Follow Ship 1002A Delivery | Jul 2014 | Jul 2014 | Jul 2015 | Jul 2014 |
| Follow Ship 1101N Delivery | Jan 2015 | Jan 2015 | Jan 2016 | Jan 2015 |
| Follow Ship 1102A Delivery | Jul 2015 | Jul 2015 | Jul 2016 | Jul 2015 |
| Follow Ship 1201N Delivery | Jan 2016 | Jan 2016 | Jan 2017 | Jan 2016 |
| Follow Ship 1202A Delivery | Jul 2016 | Jul 2016 | Jul 2017 | Jul 2016 |
| Follow Ship 1301N Delivery | Jan 2017 | Jan 2017 | Jan 2018 | Jan 2017 |

## Change Explanations

None

## Notes

The current estimate for keel laying has changed from May 2010 to June 2010 due to refinement of the build schedule since start of construction has commenced on the lead vessel.

The current estimate for Initial Operational Test and Evaluation (IOT&E) completion has changed from September 2012 to April 2013 to allow the test team adequate time to complete documentation of testing and routing of results.

The current estimate for the MIlestone C Defense Acquisition Board (DAB) has changed from September 2012 to May 2013 due to the aforementioned adjustment of the IOT&E schedule. IOT&E is a pre-requisite for Milestone C.

The current estimate for achieving Initial Operational Capability (IOC) has changed from October 2012 to December 2012 due to re-sequencing of the event to occur after the lead vessel's "Post Shakedown Availability," a scheduled maintenance period at the conclusion of the ship's warranty.

## Acronyms and Abbreviations

DAB - Defense Acquisition Board
IOC - Initial Operational Capability
IOT&E - Initial Operational Test & Evaluation
MS - Milestone

## Performance

| Performance Characteristics | | | | |
|---|---|---|---|---|
| **SAR Baseline Development Estimate** | **Current APB Development Objective/Threshold** | | **Demonstrated Performance** | **Current Estimate** |
| **Transport Capability** | | | | |
| JHSV shall be capable of transporting 700 ST 1200 NM at an average speed of 35 kts in a significant wave height of 1.25 meters prior to needing refueling. | JHSV shall be capable of transporting 700 ST 1200 NM at an average speed of 35 kts in a significant wave height of 1.25 meters prior to needing refueling. | JHSV shall be capable of transporting 600 ST of troops, supplies, and equipment 1200 NM at an average speed of 35 kts in a significant wave height of 1.25 meters prior to needing refueling. | TBD | JHSV shall be capable of transporting 650 ST 1200 NM at an average speed of 35 kts in a significant wave height of 1.25 meters prior to needing refueling. |
| **Draft** | | | | |
| JHSV shall have a draft of less than or equal to 10 ft. | JHSV shall have a draft of less than or equal to 10 ft. | JHSV shall have a draft of less than or equal to 15 ft. | TBD | JHSV shall have a draft of less than or equal to 13 ft. |
| **Ramp (M1A2 Capable)** | | | | |
| JHSV shall have a ramp capable of interfacing with RRDFs, piers with curb heights of up to 15 in., quay walls and other austere on- and off-load points and on/off-loading a combat-loaded M1A2 with articulation from dead astern to 40 deg abaft the beam to either side. | JHSV shall have a ramp capable of interfacing with RRDFs, piers with curb heights of up to 15 in., quay walls and other austere on- and off-load points and on/off-loading a combat-loaded M1A2 with articulation from dead astern to 40 deg abaft the beam to either side. | JHSV shall have a ramp capable of interfacing with RRDFs, piers with curb heights of up to 15 in., quay walls and other austere on- and off-load points and on/off-loading a combat-loaded M1A2 with articulation from dead astern to 40 deg abaft the beam towards one side. | TBD | JHSV shall have a ramp capable of interfacing with RRDFs, piers with curb heights of up to 15 in., quay walls and other austere on- and off-load points and on/off-loading a combat-loaded M1A2 with articulation from dead astern to 40 deg abaft the beam to one side. |
| **Cargo movement between mission deck and flight deck; between pier and mission deck.** | | | | |
| JHSV shall have the capability to move 27,000 lbs of cargo in a single lift between the flight deck and the mission deck in a significant wave height of 1.25 meters. JHSV shall have the capability to move | JHSV shall have the capability to move 27,000 lbs of cargo in a single lift between the flight deck and the mission deck in a significant wave height of 1.25 meters. JHSV shall have the capability to | JHSV shall have the capability to move 27,000 lbs of cargo in a single lift between the flight deck and the mission deck in a significant wave | TBD | JHSV shall have the capability to move 27,000 lbs of cargo in a single lift between the flight deck and the mission deck in a significant wave height of 1.25 |

| | | | | |
|---|---|---|---|---|
| 40,000 lbs of cargo in a single lift between the mission deck and the pier in a significant wave height of 0.1 meters. | move 40,000 lbs of cargo in a single lift between the mission deck and the pier in a significant wave height of 0.1 meters. | height of 1.25 meters. JHSV shall have the capability to move 40,000 lbs of cargo in a single lift between the mission deck and the pier in a significant wave height of 0.1 meters. | | meters. JHSV shall have the capability to move 40,000 lbs of cargo in a single lift between the mission deck and the pier in a significant wave height of 0.1 meters. |
| **Net-Ready KPP** | | | | |
| 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, authentica-tion, confidential -ity, and nonrepudia-tion, and issuance of an ATO 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. | 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, authentica-tion, confidential-ity, and nonrepudia-tion, and issuance of an ATO 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. | 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 issuance of an IATO by the DAA, and 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentica-tion, confidential-ity, and nonrepudia-tion, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and | TBD | 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, and issuance of an ATO 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 |

| | | | | |
|---|---|---|---|---|
| | | mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views. | | and system integrated architecture views. |
| **Force Protection** | | | | |
| The JHSV shall possess a force protection system to sense, identify and lethally engage surface threats such as patrol boats and Boghammer type threats. The SST function shall provide the capability to sense, identify and track potential surface threats in nighttime, low light, and limited visibility conditions such as haze and light fog throughout 360 degrees. The SST function shall provide JHSV watch standers capability to sense potential surface threats at a range no less than the effective line-of-sight of the JHSV's navigation radars. The SST function shall provide simultaneous and continuous visual auto-tracking of no less than two operator selected surface threats at a range of no less than 750 meters during daytime, nighttime (low-light conditions) and during limited visibility conditions such as haze or light fog. JHSV shall possess sufficient small arms gun mounts to engage threat surface platforms throughout no less than 360 deg. The gun mounts shall be stabilized in at least 2 axis in sea | The JHSV shall possess a force protection system to sense, identify and lethally engage surface threats such as patrol boats and Boghammer type threats. The SST function shall provide the capability to sense, identify and track potential surface threats in nighttime, low light, and limited visibility conditions such as haze and light fog throughout 360 degrees. The SST function shall provide JHSV watch standers capability to sense potential surface threats at a range no less than the effective line-of-sight of the JHSV's navigation radars. The SST function shall provide simultaneous and continuous visual auto-tracking of no less than two operator selected surface threats at a range of no less than 750 meters during daytime, nighttime (low-light conditions) and during limited visibility conditions such as haze or light fog. JHSV shall possess sufficient small arms gun mounts to engage threat surface platforms throughout no less than 360 deg. The gun mounts shall be stabilized in at least 2 axis | JHSV shall be equipped with a crew-served weapons system. Additionally, JHSV shall provide the space, weight and power for obtaining the objective. | TBD | JHSV shall be equipped with a crew -served weapons system. Additionally, JHSV shall provide the space, weight and power for obtaining the objective. |

| | | | | |
|---|---|---|---|---|
| states with a significant wave heights of up to 6-8 ft. during wind conditions of 17-21 kts. The gun mount (s) shall have the capability to lethally engage patrol boats / Boghammer threats with a hit probability of no less than 70 % at 500 yds. Gun mounts shall be remotely linked to the SST and be capable of being slaved to the SST tracking function or being remotely operated by JHSV watchstander(s). Gun mounts shall be capable of hosting a variety of small arms to include: M2 .50 caliber machine guns and MK-19 grenade launchers. The surface force protection system shall be completely operable from the watch standing bridge. | in sea states with a significant wave heights of up to 6-8 ft. during wind conditions of 17-21 kts. The gun mount(s) shall have the capability to lethally engage patrol boats / Boghammer threats with a hit probability of no less than 70 % at 500 yds. Gun mounts shall be remotely linked to the SST and be capable of being slaved to the SST tracking function or being remotely operated by JHSV watchstander(s). Gun mounts shall be capable of hosting a variety of small arms to include: M2 .50 caliber machine guns and MK-19 grenade launchers. The surface force protection system shall be completely operable from the watch standing bridge. | | | |
| **Survivability** | | | | |
| JHSV will be built to commercial ABS standards and will not be shock hardened. | JHSV will be built to commercial ABS standards and will not be shock hardened. | JHSV will be built to commercial ABS standards and will not be shock hardened. | TBD | JHSV will be built to commercial ABS standards and will not be shock hardened. |
| **Mission Deck Weight Loading** | | | | |
| Mission deck capable of supporting a maximum vehicle size/weight to on/offload a combat ready M1A2 main battle tank (total weight); a fully loaded HEMTT-PLS with a 20 ft ISO container loaded (point loading). | Mission deck capable of supporting a maximum vehicle size/weight to on/offload a combat ready M1A2 main battle tank (total weight); a fully loaded HEMTT-PLS with a 20 ft ISO container loaded (point loading). | Mission deck capable of supporting a maximum vehicle size/weight to on/offload a combat ready M1A2 main battle tank (total weight); a fully loaded HEMTT-PLS with a 20 ft ISO container loaded (point loading). | TBD | Mission deck capable of supporting a maximum vehicle size/weight to on/offload a combat ready M1A2 main battle tank (total weight); a fully loaded Heavy Expanded Mobility Tactical Truck - Palletized Load System (HEMTT-PLS) with a 20 ft ISO container loaded (point loading). |

## Requirements Reference

Capability Development Document (CDD) dated January 29, 2007

## Change Explanations

None

## Notes

The current estimate for Transport Capability has changed from 700 short tons to 650 short tons due to refinement of the weight estimate resulting from the critical design review with the shipbuilder.

The current estimate for Draft has changed from 10 feet to 13 feet due to refinement of the weight esitmate and ship design characteristics resulting from the critical design review with the shipbuilder.

The current estimate for Ramp has changed from slewing to both sides to only slewing to one side due to the shipbuilder's design to threshold capability.

The current estimate for Force Protection has changed from the objective-level capability to the threshold-level capability due to the Combatant Commanders' inputs and service-level resource allocation considerations.

## Acronyms and Abbreviations

ABS - American Bureau of Shipping
ATO - Approval to Operate
DAA - Designated Approval Authority
deg - Degrees
DISR - DOD Information Technology Standards and Profile Registry
ft - Feet/Foot
GIG - Global Information Grid
HEMTT-PLS - Heavy Expanded Mobility Tactical Truck- Palletized Load System
IA - Information Assurance
IATO - Interim Approval to Operate
in - Inches
ISO - International Standard for Organizations
IT - Information Technology
KIP - Key Interface Profile
KPP - Key Performance Parameter
kts - Knots
lbs - Pounds
NCOW-RM - Net Centric Operations Warfare Reference Model
NM - Nautical Mile
RRDF - Roll-on/Roll-off Discharge Facillities
SST - Search, Sense and Tracking
ST - Short Tons
TBD - To Be Determined
TV - Technical Standards View
yd - Yards
yds - Yards

## Track to Budget

**RDT&E**

| Appn | | BA | PE | |
|---|---|---|---|---|
| Navy | 1319 | 07 | 0208058N | |
| | **Project** | | **Name** | |
| | 3131 | | Intratheater Connectors (Concept Studies) | |
| | 3134 | | Intratheater Connectors (Contract Design) | |
| Army | 2040 | 07 | 0208058A | |
| | **Project** | | **Name** | |
| | JH1 | | Joint High Speed Vessel (JHSV) | |
| Navy | 1319 | 04 | 0603564N | |
| | **Project** | | **Name** | |
| | 3131 | | Intratheater Connectors | (Sunk) |
| Navy | 1319 | 05 | 0604567N | |
| | **Project** | | **Name** | |
| | 3134 | | Intratheater Connectors | (Sunk) |

**Procurement**

| Appn | | BA | PE |
|---|---|---|---|
| Navy | 1611 | 03 | 0208058N |
| | **Line Item** | | **Name** |
| | 3043 | | JOINT HIGH SPEED VESSEL (JHSV) |
| Army | 2035 | 03 | 0208058A |
| | **Line Item** | | **Name** |
| | M11203 | | JOINT HIGH SPEED VESSEL (JHSV) |

## Cost and Funding

## Cost Summary

| Total Acquisition Cost | | | | | | | |
|---|---|---|---|---|---|---|---|
| Appropriation | BY 2008 $M | | | BY 2008 $M | TY $M | | |
| | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate | SAR Baseline Development Estimate | Current APB Development Objective | Current Estimate |
| RDT&E | 122.2 | 122.2 | 134.4 | 121.4 | 124.8 | 124.8 | 123.0 |
| Procurement | 3337.8 | 3337.8 | 3671.6 | 3422.2 | 3767.5 | 3767.5 | 3812.5 |
| Flyaway | -- | -- | -- | 3161.8 | -- | -- | 3508.6 |
| Recurring | -- | -- | -- | 3122.6 | -- | -- | 3468.5 |
| Non Recurring | -- | -- | -- | 39.2 | -- | -- | 40.1 |
| Support | -- | -- | -- | 260.4 | -- | -- | 303.9 |
| Other Support | -- | -- | -- | 144.1 | -- | -- | 169.0 |
| Initial Spares | -- | -- | -- | 116.3 | -- | -- | 134.9 |
| 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 | 3460.0 | 3460.0 | N/A | 3543.6 | 3892.3 | 3892.3 | 3935.5 |

| Total Quantity | | | |
|---|---|---|---|
| Quantity | SAR Baseline Development Estimate | Current APB Development | Current Estimate |
| RDT&E | 0 | 0 | 0 |
| Procurement | 18 | 18 | 18 |
| Total | 18 | 18 | 18 |

## Cost and Funding

## Funding Summary

| Appropriation Summary | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| FY 2011 President's Budget / December 2009 SAR (TY$ M) | | | | | | | | | |
| Appropriation | Prior | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | To Complete | Total |
| RDT&E | 91.7 | 11.5 | 6.6 | 3.2 | 3.3 | 3.3 | 3.4 | 0.0 | 123.0 |
| Procurement | 576.1 | 380.4 | 386.9 | 446.0 | 410.5 | 427.5 | 436.7 | 748.4 | 3812.5 |
| 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 2011 Total | 667.8 | 391.9 | 393.5 | 449.2 | 413.8 | 430.8 | 440.1 | 748.4 | 3935.5 |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| Quantity Summary | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| FY 2011 President's Budget / December 2009 SAR (TY$ M) | | | | | | | | | | |
| Quantity | Undistributed | Prior | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | To Complete | Total |
| Development | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Production | 0 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 18 |
| PB 2011 Total | 0 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 18 |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

## Cost and Funding

## Annual Funding By Appropriation

| Annual Funding<br>1319 \| RDT&E \| Research, Development, Test, and Evaluation, Navy | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Quantity | TY $M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2006 | -- | -- | -- | -- | -- | -- | 6.5 |
| 2007 | -- | -- | -- | -- | -- | -- | 14.1 |
| 2008 | -- | -- | -- | -- | -- | -- | 18.4 |
| 2009 | -- | -- | -- | -- | -- | -- | 11.5 |
| 2010 | -- | -- | -- | -- | -- | -- | 8.4 |
| 2011 | -- | -- | -- | -- | -- | -- | 3.6 |
| Subtotal | -- | -- | -- | -- | -- | -- | 62.5 |

| Annual Funding<br>1319 \| RDT&E \| Research, Development, Test, and Evaluation, Navy | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Quantity | BY 2008 $M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2006 | -- | -- | -- | -- | -- | -- | 6.7 |
| 2007 | -- | -- | -- | -- | -- | -- | 14.2 |
| 2008 | -- | -- | -- | -- | -- | -- | 18.2 |
| 2009 | -- | -- | -- | -- | -- | -- | 11.2 |
| 2010 | -- | -- | -- | -- | -- | -- | 8.1 |
| 2011 | -- | -- | -- | -- | -- | -- | 3.4 |
| Subtotal | -- | -- | -- | -- | -- | -- | 61.8 |

| Annual Funding<br>2040 \| RDT&E \| Research, Development, Test, and Evaluation, Army | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Quantity | TY $M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2005 | -- | -- | -- | -- | -- | -- | 10.0 |
| 2006 | -- | -- | -- | -- | -- | -- | 3.1 |
| 2007 | -- | -- | -- | -- | -- | -- | 20.2 |
| 2008 | -- | -- | -- | -- | -- | -- | 5.0 |
| 2009 | -- | -- | -- | -- | -- | -- | 2.9 |
| 2010 | -- | -- | -- | -- | -- | -- | 3.1 |
| 2011 | -- | -- | -- | -- | -- | -- | 3.0 |
| 2012 | -- | -- | -- | -- | -- | -- | 3.2 |
| 2013 | -- | -- | -- | -- | -- | -- | 3.3 |
| 2014 | -- | -- | -- | -- | -- | -- | 3.3 |
| 2015 | -- | -- | -- | -- | -- | -- | 3.4 |
| Subtotal | -- | -- | -- | -- | -- | -- | 60.5 |

| Annual Funding<br>2040 \| RDT&E \| Research, Development, Test, and Evaluation, Army | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Quantity | BY 2008 $M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2005 | -- | -- | -- | -- | -- | -- | 10.6 |
| 2006 | -- | -- | -- | -- | -- | -- | 3.2 |
| 2007 | -- | -- | -- | -- | -- | -- | 20.3 |
| 2008 | -- | -- | -- | -- | -- | -- | 4.9 |
| 2009 | -- | -- | -- | -- | -- | -- | 2.8 |
| 2010 | -- | -- | -- | -- | -- | -- | 3.0 |
| 2011 | -- | -- | -- | -- | -- | -- | 2.8 |
| 2012 | -- | -- | -- | -- | -- | -- | 3.0 |
| 2013 | -- | -- | -- | -- | -- | -- | 3.0 |
| 2014 | -- | -- | -- | -- | -- | -- | 3.0 |
| 2015 | -- | -- | -- | -- | -- | -- | 3.0 |
| Subtotal | -- | -- | -- | -- | -- | -- | 59.6 |

| Annual Funding<br>1611 \| Procurement \| Shipbuilding and Conversion, Navy | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Quantity | TY $M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2009 | 1 | 181.3 | -- | -- | 181.3 | -- | 181.3 |
| 2010 | 1 | 177.4 | -- | -- | 177.4 | -- | 177.4 |
| 2011 | 1 | 180.7 | -- | -- | 180.7 | 3.4 | 184.1 |
| 2012 | 1 | 206.9 | -- | -- | 206.9 | 15.3 | 222.2 |
| 2013 | 2 | 377.8 | -- | -- | 377.8 | 14.7 | 392.5 |
| 2014 | 2 | 390.1 | -- | -- | 390.1 | 18.8 | 408.9 |
| 2015 | 2 | 399.3 | -- | -- | 399.3 | 18.3 | 417.6 |
| 2016 | 3 | 605.2 | -- | -- | 605.2 | 18.1 | 623.3 |
| 2017 | -- | -- | -- | -- | -- | 31.8 | 31.8 |
| 2018 | -- | -- | -- | -- | -- | 33.2 | 33.2 |
| 2019 | -- | -- | -- | -- | -- | 33.9 | 33.9 |
| 2020 | -- | -- | -- | -- | -- | 26.2 | 26.2 |
| Subtotal | 13 | 2518.7 | -- | -- | 2518.7 | 213.7 | 2732.4 |

| Annual Funding<br>1611 \| Procurement \| Shipbuilding and Conversion, Navy | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Quantity | BY 2008 $M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2009 | 1 | 171.0 | -- | -- | 171.0 | -- | 171.0 |
| 2010 | 1 | 165.0 | -- | -- | 165.0 | -- | 165.0 |
| 2011 | 1 | 165.4 | -- | -- | 165.4 | 3.1 | 168.5 |
| 2012 | 1 | 186.3 | -- | -- | 186.3 | 13.7 | 200.0 |
| 2013 | 2 | 334.4 | -- | -- | 334.4 | 13.1 | 347.5 |
| 2014 | 2 | 339.6 | -- | -- | 339.6 | 16.3 | 355.9 |
| 2015 | 2 | 341.8 | -- | -- | 341.8 | 15.6 | 357.4 |
| 2016 | 3 | 509.3 | -- | -- | 509.3 | 15.3 | 524.6 |
| 2017 | -- | -- | -- | -- | -- | 26.3 | 26.3 |
| 2018 | -- | -- | -- | -- | -- | 27.0 | 27.0 |
| 2019 | -- | -- | -- | -- | -- | 27.1 | 27.1 |
| 2020 | -- | -- | -- | -- | -- | 20.6 | 20.6 |
| Subtotal | 13 | 2212.8 | -- | -- | 2212.8 | 178.1 | 2390.9 |

| Annual Funding<br>2035 \| Procurement \| Other Procurement, Army | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Quantity | TY $M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2008 | 1 | 196.4 | -- | 30.1 | 226.5 | -- | 226.5 |
| 2009 | 1 | 168.3 | -- | -- | 168.3 | -- | 168.3 |
| 2010 | 1 | 193.0 | -- | 10.0 | 203.0 | -- | 203.0 |
| 2011 | 1 | 185.8 | -- | -- | 185.8 | 17.0 | 202.8 |
| 2012 | 1 | 206.3 | -- | -- | 206.3 | 17.5 | 223.8 |
| 2013 | -- | -- | -- | -- | -- | 18.0 | 18.0 |
| 2014 | -- | -- | -- | -- | -- | 18.6 | 18.6 |
| 2015 | -- | -- | -- | -- | -- | 19.1 | 19.1 |
| Subtotal | 5 | 949.8 | -- | 40.1 | 989.9 | 90.2 | 1080.1 |

| Annual Funding<br>2035 \| Procurement \| Other Procurement, Army | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fiscal Year | Quantity | BY 2008 $M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2008 | 1 | 193.4 | -- | 29.6 | 223.0 | -- | 223.0 |
| 2009 | 1 | 163.8 | -- | -- | 163.8 | -- | 163.8 |
| 2010 | 1 | 185.3 | -- | 9.6 | 194.9 | -- | 194.9 |
| 2011 | 1 | 175.6 | -- | -- | 175.6 | 16.0 | 191.6 |
| 2012 | 1 | 191.7 | -- | -- | 191.7 | 16.3 | 208.0 |
| 2013 | -- | -- | -- | -- | -- | 16.4 | 16.4 |
| 2014 | -- | -- | -- | -- | -- | 16.7 | 16.7 |
| 2015 | -- | -- | -- | -- | -- | 16.9 | 16.9 |
| Subtotal | 5 | 909.8 | -- | 39.2 | 949.0 | 82.3 | 1031.3 |

## Low Rate Initial Production

| Item | Initial LRIP Decision | Current Total LRIP |
|---|---|---|
| **Approval Date** | 11/12/2008 | 11/12/2008 |
| **Approved Quantity** | 10 | 10 |
| **Reference** | JHSV ADM from Milestone B | JHSV ADM from Milestone B |
| **Start Year** | 2008 | 2008 |
| **End Year** | 2013 | 2013 |

The Low Rate Initial Production quantity exceeds 10% of total initial planned production quantity of 18 to provide sufficient quantities to the initial contractor to assure adequate competition and a low unit cost.

## Foreign Military Sales

None

## Nuclear Costs

None

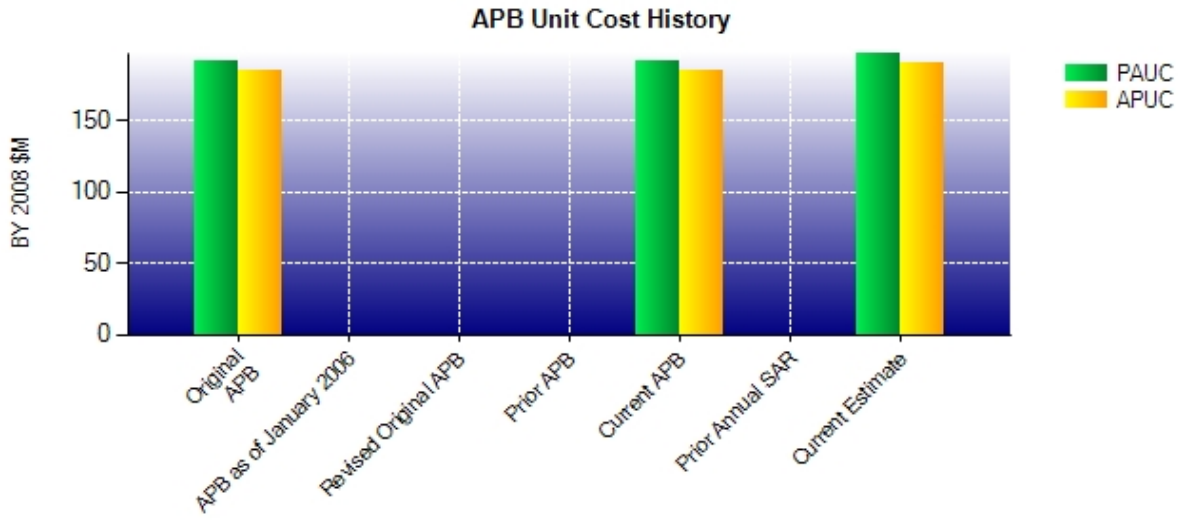
# Unit Cost

## Unit Cost Report

| Item | BY 2008 $M Current UCR Baseline (Feb 2009 APB) | BY 2008 $M Current Estimate (Dec 2009 SAR) | % Change |
|---|---|---|---|
| Program Acquisition Unit Cost | | | |
| Cost | 3460.0 | 3543.6 | |
| Quantity | 18 | 18 | |
| Item | 192.222 | 196.867 | +2.42 |
| Average Procurement Unit Cost | | | |
| Cost | 3337.8 | 3422.2 | |
| Quantity | 18 | 18 | |
| Unit Cost | 185.433 | 190.122 | +2.53 |

| Item | BY 2008 $M Original UCR Baseline (Feb 2009 APB) | BY 2008 $M Current Estimate (Dec 2009 SAR) | % Change |
|---|---|---|---|
| Program Acquisition Unit Cost | | | |
| Cost | 3460.0 | 3543.6 | |
| Quantity | 18 | 18 | |
| Unit Cost | 192.222 | 196.867 | +2.42 |
| Average Procurement Unit Cost | | | |
| Cost | 3337.8 | 3422.2 | |
| Quantity | 18 | 18 | |
| Unit Cost | 185.433 | 190.122 | +2.53 |

## Unit Cost History




| Item | Date | BY 2008 $M | | TY $M | |
|---|---|---|---|---|---|
| | | PAUC | APUC | PAUC | APUC |
| Original APB | Feb 2009 | 192.222 | 185.433 | 216.239 | 209.306 |
| 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 | N/A | N/A | N/A | N/A | N/A |
| Current APB | Feb 2009 | 192.222 | 185.433 | 216.239 | 209.306 |
| Prior Annual SAR | N/A | N/A | N/A | N/A | N/A |
| Current Estimate | Dec 2009 | 196.867 | 190.122 | 218.639 | 211.806 |

### SAR Unit Cost History

| Current SAR Baseline to Current Estimate (TY $M) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Initial PAUC Development Estimate | Changes | | | | | | | | PAUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 216.239 | -4.850 | 0.000 | 1.783 | 0.000 | 4.995 | 0.000 | 0.472 | 2.400 | 218.639 |

| Current SAR Baseline to Current Estimate (TY $M) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Initial APUC Development Estimate | Changes | | | | | | | | APUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 209.306 | -4.794 | 0.000 | 1.783 | 0.000 | 5.039 | 0.000 | 0.472 | 2.500 | 211.806 |

| 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 | Oct 2008 | N/A | Oct 2008 |
| Milestone C | N/A | Sep 2012 | N/A | May 2013 |
| IOC | N/A | Oct 2012 | N/A | Dec 2012 |
| Total Cost (TY $M) | N/A | 3892.3 | N/A | 3935.5 |
| Total Quantity | N/A | 18 | N/A | 18 |
| PAUC | N/A | 216.239 | N/A | 218.639 |

## Cost Variance

| Summary TY $M | | | | |
|---|---|---|---|---|
| **Item** | **RDT&E** | **Procurement** | **MILCON** | **Total** |
| SAR Baseline (Development Estimate) | 124.8 | 3767.5 | -- | 3892.3 |
| Previous Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | -- | -- | -- | -- |
| Other | -- | -- | -- | -- |
| Support | -- | -- | -- | -- |
| Subtotal | -- | -- | -- | -- |
| Current Changes | | | | |
| Economic | -1.0 | -86.3 | -- | -87.3 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +32.1 | -- | +32.1 |
| Engineering | -- | -- | -- | -- |
| Estimating | -0.8 | +90.7 | -- | +89.9 |
| Other | -- | -- | -- | -- |
| Support | -- | +8.5 | -- | +8.5 |
| Subtotal | -1.8 | +45.0 | -- | +43.2 |
| Total Changes | -1.8 | +45.0 | -- | +43.2 |
| Current Estimate | 123.0 | 3812.5 | -- | 3935.5 |

| Summary BY 2008 $M | | | | |
|---|---|---|---|---|
| **Item** | **RDT&E** | **Procurement** | **MILCON** | **Total** |
| SAR Baseline (Development Estimate) | 122.2 | 3337.8 | -- | 3460.0 |
| Previous Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | -- | -- | -- | -- |
| Other | -- | -- | -- | -- |
| Support | -- | -- | -- | -- |
| Subtotal | -- | -- | -- | -- |
| Current Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | -0.8 | +82.6 | -- | +81.8 |
| Other | -- | -- | -- | -- |
| Support | -- | +1.8 | -- | +1.8 |
| Subtotal | -0.8 | +84.4 | -- | +83.6 |
| Total Changes | -0.8 | +84.4 | -- | +83.6 |
| Current Estimate | 121.4 | 3422.2 | -- | 3543.6 |

Initial SAR - Above variances (if any) reflect changes since the SAR Baseline/APB.
SAR Baseline Reference: Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated February 11, 2009

| RDT&E | $M | |
|---|---|---|
| Current Change Explanations | Base Year | Then Year |
| Revised escalation indices. (Economic) | N/A | -1.0 |
| Adjustment for current and prior escalation. (Estimating) | +0.5 | +0.5 |
| Revised estimate of the develoment program. (Estimating) | -0.9 | -0.9 |
| Revised estimate of the Army's development program. (Estimating) | -0.4 | -0.4 |
| RDT&E Subtotal | -0.8 | -1.8 |

| Procurement | $M | |
|---|---|---|
| Current Change Explanations | Base Year | Then Year |
| Revised escalation indices. (Economic) | N/A | -86.3 |
| Stretch-out of procurement buy profile to reflect the delay of 3 ships from FY 2011, FY 2012 and FY 2015 to FY 2016 (Navy). (Schedule) | 0.0 | +32.1 |
| Adjustment for current and prior escalation. (Estimating) | +20.0 | +20.7 |
| Increased estimate to reflect revisions in outyear inflation indices (Navy). (Estimating) | +45.8 | +52.3 |
| Increased estimate to reflect revisions in outyear inflation indices (Army). (Estimating) | +16.8 | +17.7 |
| Adjustment for current and prior escalation. (Support) | +0.1 | +0.1 |
| Change in Other Support (Navy). (Support) | -1.3 | +1.8 |
| Change in Initial Spares (Navy). (Support) | -0.8 | +2.2 |
| Increase in Other Support (Army). (Support) | +1.9 | +2.2 |
| Increase in Initial Spares (Army). (Support) | +1.9 | +2.2 |
| Procurement Subtotal | +84.4 | +45.0 |

# Contracts

## Contract Identification

**Appropriation:** Procurement
**Contract Name:** Joint High Speed Vessel (JHSV)
**Contractor:** Austal USA
**Contractor Location:** Mobile, AL 36610
**Contract Number:** N00024-08-C-2217/27
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF)
**Award Date:** November 13, 2008
**Definitization Date:** November 13, 2008

| Contract Price | | | | | | | |
|---|---|---|---|---|---|---|---|
| Initial Contract Price ($M) | | | Current Contract Price ($M) | | | Estimated Price At Completion ($M) | |
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 185.4 | 216.4 | 1 | 491.2 | 568.6 | 3 | 491.3 | 491.3 |

| Contract Variance | | |
|---|---|---|
| Item | Cost Variance | Schedule Variance |
| Cumulative Variances To Date (2/25/2010) | -3.7 | -2.9 |
| Previous Cumulative Variances | -- | -- |
| Net Change | -3.7 | -2.9 |

## Cost and Schedule Variance Explanations

## General Contract Variance Explanation

Contract performance reporting to date is limited to the first ship (JHSV-1).

The net unfavorable change in the cost variance ($3.7M) reflects unanticipated integration engineering efforts needed to avoid further preproduction detail design schedule delays and to rework drawings to obtain American Bureau of Shipping (ABS) approval.

The net unfavorable change in the schedule variance ($2.9M) reflects delayed engineering drawing completions and unanticipated rework needed to obtain ABS approval.

## Notes

The Initial Contract Price increased from $185.4M to $491.2M due to the quantity increase from one ship to three ships.

## Deliveries and Expenditures

| Deliveries | | | | |
|---|---|---|---|---|
| **Delivered to Date** | **Planned to Date** | **Actual to Date** | **Total Quantity** | **Percent Delivered** |
| Development | 0 | 0 | 0 | -- |
| Production | 0 | 0 | 18 | 0.00% |
| Total Program Quantity Delivered | 0 | 0 | 18 | 0.00% |

| **Expended and Appropriated (TY $M)** | | | |
|---|---|---|---|
| Total Acquisition Cost | 3935.5 | Years Appropriated | 6 |
| Expended to Date | 133.0 | Percent Years Appropriated | 37.50% |
| Percent Expended | 3.38% | Appropriated to Date | 1059.7 |
| Total Funding Years | 16 | Percent Appropriated | 26.93% |

# Operating and Support Cost

## Assumptions and Ground Rules

There is no antecedent system to the JHSV. The program represents a new materiel solution for DoD in intra-theater sealift, leveraging international commerical best practices in high speed ferry technology.

These O&S costs are based on the JHSV Program Life Cycle Cost Estimate (PLCCE) of October 1, 2008, prepared in support of Milestone B. The OSD CAPE concurred with the Service Cost Position in a Memorandum for the Under Secretary of Defense for Acquisition, Technology and Logistics (USD AT&L) dated November 6, 2008.

Estimates were calculated and analyzed using the Operating and Support Cost Analysis Model (OSCAM) Naval Suite, sponsored by the Naval Center for Cost Analysis (NCCA). Data was obtained from a variety of sources, including the Visibility and Management of Operating and Support Costs (VAMOSC) historical database, also sponsored by NCCA.

Below are a number of the critical assumptions, as detailed in the JHSV Cost Analysis Requirements Description (CARD) dated January 2008, and in the JHSV PLCCE:

- 18 ships total (5 Army, 13 Navy)
- Primary construction material/hull form: Aluminum/Catamaran
- Design standard: American Bureau of Shipping, High Speed Naval Craft (HSNC)
- Estimated service life: 20 years
- Nominal operational tempo (annually): 3000 hrs steaming underway; 1000 hrs steaming not underway
- Marine Diesel Fuel Cost (per barrel): $171
- Maintenance Concept: Two-level (Organizational and Depot-level)

Cost Estimate Reference:
None

Sustainment Strategy:
None

Antecedent Information:
None

Unitized O&S Costs BY2008 $M

| Cost Element | JHSV Average Unit Cost Per Hull | No Antecedent System (Antecedent) |
|---|---|---|
| Mission Pay & Allowance | 4.000 | -- |
| Unit Level Consumption | 17.700 | -- |
| Intermediate Maintenance | 0.000 | -- |
| Depot Maintenance | 4.600 | -- |
| Contractor Support | 0.000 | -- |
| Sustaining Support | 0.200 | -- |
| Indirect | 0.000 | -- |
| Other | 0.200 | -- |
| Total | 26.700 | -- |

Unitized Cost Comments:
None

| Item | Total O&S Cost $M | | | |
|---|---|---|---|---|
| | JHSV | | | No Antecedent System (Antecedent) |
| | Current Development APB Objective/Threshold | | Current Estimate | |
| **Base Year** | 9621.9 | 10584.1 | 9621.9 | N/A |
| **Then Year** | 11343.7 | N/A | 11343.7 | N/A |

Total O&S Cost Comment
None

## Disposal Estimate Details

**Date of Estimate:**

**Source of Estimate:**

**Disposal/Demilitarization Total Cost (BY 2008 $M):**