

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: May 2009	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604727N, JOINT STANDOFF WEAPON SYSTEMS			
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010					
Total PE Cost	28.804	22.435	10.022					
2068 JSOW	24.162	22.435	10.022					
9999 Congressional Add	4.642							
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>The Joint Standoff Weapon (JSOW) is an air-to-ground weapon designed to attack a variety of targets during day, night and adverse weather conditions. JSOW will enhance aircraft survivability as compared to current interdiction weapon systems by providing the capability for launch aircraft to standoff outside the range of most target area surface-to-air threat systems. The JSOW launch-and-leave capability will allow several target kills per aircraft sortie. The JSOW program first developed a baseline weapon for use against fixed area targets. JSOW is a Navy-led joint Navy/Air Force program.</p> <p>The JSOW Baseline (AGM-154A) variant includes a kinematically efficient airframe, an integrated Inertial/Global Positioning System (INS/GPS) navigation capability, and a BLU-97/B or BLU-111 payload. This weapon was designed up front for pre-planned product improvements. Procurement of JSOW-A in the FYDP is deferred pending a fix to the Unexploded Ordnance (UXO) issue or a change in the inventory levels. The JSOW BLU-108 (AGM-154B) variant incorporates the Sensor Fuze Weapon submunition (BLU-108) into the baseline vehicle. Planned production of the JSOW/BLU-108 is deferred pending a change in the threat. The JSOW Unitary (AGM-154C) variant has a terminal seeker, Autonomous Target Acquisition (ATA) capability, and a Broach lethal package to enable the attack of blast/fragmentation and penetration type targets. The JSOW Unitary provides increased accuracy and lethality and the capability for aimpoint selection. Operational Testing of the JSOW-C was successfully completed in December 2004. Approval for Milestone-III/Full Rate Production was granted on 20 December 2004. JSOW-C Initial Operational Capability (IOC) was achieved in February 2005.</p> <p>FY 2008 included funding to complete Follow-on Test & Evaluation of AGM-154C Block II. FY 2008-2010 Includes funding to integrate new functionality into the Joint Mission Planning Systems (JMPS) and Common Unique Planning Component (CUPC). FY 2008-2010 also includes funding for development, integration, qualification and follow-on developmental/operational test and evaluation of a Network Enabled Weapon moving target capability into the JSOW Unitary weapon (AGM-154C-1). The moving target capability will be inserted as an engineering change proposal beginning with FY 2009 procured JSOW-C weapons. The new AGM-154C-1 capability will enable the weapon to attack sea moving targets via real-time pre-and post-launch targeting updates.</p> <p>JSOW utilizes a "common truck" for both AGM-154A and AGM-154C variants. Through adherence to international standards for weapons interfaces, weight, and dimension considerations, JSOW is compatible with Air Force and NATO aircraft.</p> <p>9999 Congressional Add. Conduct a user demonstration to evaluate the feasibility of the JSOW Extended Range (ER) concept. A secondary goal of the demonstration program is to serve as risk reduction and proof of concept for potential future Navy initiatives in Next Generation Standoff Outside Theater Defense (SOTD) weapons.</p>								

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B. PROGRAM CHANGE SUMMARY:

Funding:	FY08	FY09	FY10
Previous President's Budget:	29.112	22.510	0.466
Current BES	28.804	22.435	10.022
Total Adjustments	-0.308	-0.075	9.556
Summary of Adjustments			
Congressional Rescissions			
Congressional Adjustments		-0.014	
SBIR/STTR/FTT Assessments	-0.308		
Program Adjustments			9.556
Rate/Misc Adjustments		-0.061	
Subtotal	-0.308	-0.075	9.556

Schedule:

- 1) JSOW-C-1 DT-IIIC was changed from 1Q FY 2008 through 3Q FY 2008 to 1Q FY 2008 through 4Q FY 2008 to allow additional contractor captive carry flights to be conducted to reduce the risk during DT-IIID testing.
- 2) JSOW-C-1 DT-IIID was changed from 4Q FY 2008 through 1Q FY 2009 to 1Q FY 2009 through 2Q FY 2010 to allow additional time to produce weapon data link hardware and develop software algorithms.
- 3) JSOW-C OT-IIIA was changed from 4Q FY 2007 through 2Q FY 2008 to 1Q FY 2008 through 2Q FY 2009 to allow time complete an engineering investigation into anomalous behavior witnessed on the OT-3 test event and to resolve test execution/classification issues associated with conducting a survivability test.
- 4) An OT-IIIA Interim Report was added in 4Q FY 2008 to summarize JSOW-C Block II OT-IIIA testing completed to date and to support early fleet delivery of JSOW-C Block II weapons.
- 5) JSOW-C-1 IT&E was changed from 2Q FY 2009 through 3Q FY 2009 to 2Q FY 2010 through 3Q FY 2010 due to the extension of the JSOW-C-1 DT-IIID testing.
- 6) JSOW-C-1 OT-IIIB was changed from 4Q FY2009 through 2Q FY2010 to 4Q FY 2010 due to the extension of the JSOW-C-1 DT-IIID testing.
- 7) AGM-154-C-1 Design/Integ/Qual was changed from 1Q FY 2007 through 1Q FY 2009 to 1Q FY 2007 through 4Q FY 2009 to allow additional time for integration and qualification efforts of delayed hardware.

Technical:

- 1) FY 2010 reflects the addition of \$9.556M to integrate and qualify a replacement crypto component in the JSOW Telemetry Instrumentation Kit due to the introduction of a new National Security Agency developed crypto component and to fund cost growth due to the delay in the weapon datalink development.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: May 2009	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604727N, JOINT STANDOFF WEAPON SYSTEMS			PROJECT NUMBER AND NAME 2068, JSOW			
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010				
2068 JSOW		24.162	22.435	10.022				
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Standoff Weapon (JSOW) is an air-to-ground weapon designed to attack a variety of targets during day, night and adverse weather conditions. JSOW will enhance aircraft survivability as compared to current interdiction weapon systems by providing the capability for launch aircraft to standoff outside the range of most target area surface-to-air threat systems. The JSOW launch-and-leave capability will allow several target kills per aircraft sortie. The JSOW program first developed a baseline weapon for use against fixed area targets. JSOW is a Navy-led joint Navy/Air Force program.

The JSOW Baseline (AGM-154A) variant includes a kinematically efficient airframe, an integrated Inertial/Global Positioning System (INS/GPS) navigation capability, and a BLU-97/B or BLU-111 payload. This weapon was designed up front for pre-planned product improvements. Procurement of JSOW-A in the FYDP is deferred pending a fix to the Unexploded Ordnance (UXO) issue or a change in the inventory levels. The JSOW BLU-108 (AGM-154B) variant incorporates the Sensor Fuze Weapon submunition (BLU-108) into the baseline vehicle. Planned production of the JSOW/BLU-108 is deferred pending a change in the threat. The JSOW Unitary (AGM-154C) variant has a terminal seeker, Autonomous Target Acquisition (ATA) capability, and a Broach lethal package to enable the attack of blast/fragmentation and penetration type targets. The JSOW Unitary provides increased accuracy and lethality and the capability for aimpoint selection. Operational Testing of the JSOW-C was successfully completed in December 2004. Approval for Milestone-III/Full Rate Production was granted on 20 December 2004. JSOW-C Initial Operational Capability (IOC) was achieved in February 2005.

FY 2008 included funding to complete Follow-on Test & Evaluation of AGM-154C Block II. FY 2008-2010 includes funding to integrate new functionality into the Joint Mission Planning Systems (JMPS) and Common Unique Planning Component (CUPC). FY 2008-2010 also includes funding for development, integration, qualification and follow-on developmental/operational test and evaluation of a Network Enabled Weapon moving target capability into the JSOW Unitary weapon (AGM-154C-1). The moving target capability will be inserted as an engineering change proposal beginning with FY 2009 procured JSOW-C weapons. The new AGM-154C-1 capability will enable the weapon to attack sea moving targets via real-time pre-and post-launch targeting updates.

JSOW utilizes a "common truck" for both AGM-154A and AGM-154C variants. Through adherence to international standards for weapons interfaces, weight, and dimension considerations, JSOW is compatible with Air Force and NATO aircraft.

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B. Accomplishments/Planned Program

Network Enabled Weapon	FY 08	FY 09	FY 10	
Accomplishments/Effort/Subtotal Cost	23.821	21.747	3.305	
RDT&E Articles Quantity				

Develop and integrate the Network Enabled Weapon moving target capability into JSOW-C, termed AGM-154C-1. The FY2008-2009 efforts will involve seeker software updates to enable receipt of revised target coordinates after missile launch, the integration of a weapon datalink, and the update of the F/A-18 Operational Flight Program (OFP) to incorporate the AGM-154C-1 changes. The FY2008-2010 budget includes funding to complete weapon qualification and follow-on developmental test/operational test efforts.

JSOW Common Unique Planning Component (CUPC)	FY 08	FY 09	FY 10	
Accomplishments/Effort/Subtotal Cost	0.341	0.688	0.061	
RDT&E Articles Quantity				

Plan new functions into the JSOW Common Unique Planning Component (CUPC) and develop new software releases of CUPC. The FY2008-2009 effort will address new mission planning functionality related to the incorporation of the Network Enabled Weapon moving target capability into the JSOW-C-1 weapons. The FY2008-2010 efforts will also address follow-on mission planning updates to incorporate new imagery architectures and formats.

JSOW TIK Crypto Component	FY 08	FY 09	FY 10	
Accomplishments/Effort/Subtotal Cost			6.656	
RDT&E Articles Quantity				

Integrate and qualify a replacement crypto component into the JSOW Telemetry Instrumentation Kit (TIK). FY 2010 efforts will involve the development, integration and range safety certification of a new National Security Agency developed crypto component to replace the KGV-68B.

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604727N, JOINT STANDOFF WEAPON SYSTEMS	PROJECT NUMBER AND NAME 2068, JSOW												
<p>C. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2010</th> </tr> </thead> <tbody> <tr> <td>USN WP,N BLI 223000 JSOW*</td> <td style="text-align: right;">130.436</td> <td style="text-align: right;">142.622</td> <td style="text-align: right;">145.336</td> </tr> <tr> <td>Qty's</td> <td style="text-align: right;">370</td> <td style="text-align: right;">496</td> <td style="text-align: right;">430</td> </tr> </tbody> </table> <p>* Does not include Spares</p> <p>D. ACQUISITION STRATEGY:</p> <p>The contracting strategy for JSOW is planned to be sole source for the life of the program. Cost type contracts are utilized for the Engineering and Manufacturing Development and follow-on modification program (i.e., Block II (AGM-154C), AGM-154C-1 efforts. Component breakout is used, when possible, to promote full and open competition.</p> <p>Fixed price type contracts are utilized for production.</p>			Line Item No. & Name	FY 2008	FY 2009	FY 2010	USN WP,N BLI 223000 JSOW*	130.436	142.622	145.336	Qty's	370	496	430
Line Item No. & Name	FY 2008	FY 2009	FY 2010											
USN WP,N BLI 223000 JSOW*	130.436	142.622	145.336											
Qty's	370	496	430											

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Exhibit R-3 Cost Analysis							DATE: May 2009				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			0604727N, JOINT STANDOFF WEAPON SYSTEMS			2068, JSOW					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
Product Development											
Primary Hardware Development - NEW	SS-CPFF	RAYTHEON SYSTEMS, TUCSON, AZ	38.873	17.668	Dec 2008	3.005	Dec 2009				
Primary Hardware Development - TIK Crypto	SS-CPFF	RAYTHEON SYSTEMS, TUCSON, AZ				6.311	Dec 2009				
Systems Engineering	MIPR	NATIONAL SECURITY AGENCY MD	0.167								
Systems Engineering	WX	NAVAL RESEARCH LAB MD	0.450								
Systems Engineering	WX	NAWCWD, CHINA LAKE CA	108.309	0.322	Nov 2008						
All Management costs from program implementation through FY09 not reflected above.			601.040								
Subtotal Product Development			748.839	17.990		9.316					
Development Support											
Software Development - JMPS	SS-CPFF	RAYTHEON SYSTEMS, TUCSON, AZ	4.877	0.688	Nov 2008	0.061	Dec 2009				
Software Development - NEW	SS-CPFF	BOEING, ST LOUIS, MO	8.007	0.697	Nov 2008						
Subtotal Support			12.884	1.385		0.061					
Remarks:											
Test and Evaluation											
Dev Test and Evaluation	WX	NAWCWD, CHINA LAKE CA	27.837	0.550	Nov 2008	0.247	Nov 2009				
Oper Test and Evaluation	WX	OPER T & E FOR CD, NORFOLK VA	10.481	2.490	Nov 2008	0.398	Nov 2009				
Subtotal Test and Evaluation			38.318	3.040		0.645					
Remarks:											
Management											
Travel	Various	NAVAIR, Patuxent River, MD	7.243	0.020	Nov 2008						
All Management costs from program implementation through FY09 not reflected above.			18.261								
Subtotal Management			25.504	0.020		0.000					
Remarks:											
Total Cost			825.545	22.435		10.022					

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Exhibit R-2, RD TEN Budget Item Justification

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EXHIBIT R4, Schedule Profile										DATE: May 2009		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT NUMBER AND NAME 0604727N Joint Standoff Weapon System				PROJECT NUMBER AND NAME 2068 Joint Standoff Weapon (JSOW)				
Fiscal Year	2008				2009				2010			
	1	2	3	4	1	2	3	4	1	2	3	4
JSOW												
Production Milestones												
LRIP/FRP AGM-154C/C-1	▲ FRP-4				▲ FRP-5				▲ FRP-6			
Deliveries/AGM-154C	FRP-2				FRP-3				FRP-4			
Deliveries/AGM-154C-1									FRP-5			
SAASM / Block II												
T & E Milestones	OT-III A											
Operational Test					▲ Interim Report							
Network Enabled Weapon Moving Target Capability (Block III)												
Engineering Milestones												
Design/Integration/Qual	Block III/AGM-154C-1 Design/Integ/Qual											
Development Test/Operational Test	DT-III C				DT-III D				IT&E	OT-I		

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Exhibit R-4a, Schedule Detail				DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604727N Joint Standoff Weapon System			PROJECT NUMBER AND NAME 2068 Joint Standoff Weapon (JSOW)		
Schedule Profile	FY 2008	FY 2009	FY 2010				
Full Rate Production (FRP)/AGM-154C	1Q	2Q	1Q				
FRP-2 Deliveries-AGM-154C	1Q-3Q						
FRP-3 Deliveries-AGM-154C	3Q-4Q	1Q-3Q					
FRP-4 Deliveries-AGM-154C		4Q	1Q-2Q				
FRP-5 Deliveries-AGM-154C-1			2Q-4Q				
FRP-6 Deliveries-AGM-154C-1							
FRP-7 Deliveries-AGM-154C-1							
FRP-8 Deliveries-AGM-154C-1							
FRP-9 Deliveries-AGM-154C-1							
FRP-10 Deliveries-AGM-154C-1							
SAASM							
Operational Test (OT-IIIA)	1Q-4Q	1Q-2Q					
Interim Report	4Q						
Network Enabled Weapon / Moving Target / AGM-154C-1							
Design/Integration/Qual	1Q-4Q	1Q-4Q					
Development Test (DT-IIIC)	1Q-4Q						
Development Test (DT-IIID)		1Q-4Q	1Q-2Q				
Integrated Test (IT&E)			2Q-3Q				
Operational Test (OT-IIIB)			4Q				

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COST (\$ in Millions)	FY 2008	FY 2009	FY 2010					
Congressional Add	4.642							
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Add.

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B. Accomplishments/Planned Program		
Extended Range Demonstration, 9C21A	FY 08	
Accomplishments/Effort/Subtotal Cost	4.642	
RDT&E Articles Quantity		
<p>The FY08 funds will enable the integration of a turbo jet engine into a JSOW Block II AGM-154C weapon and allow for the completion of ground, captive carry and free flight testing.</p>		

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