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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Air Force	<b>DATE:</b> February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				PE 0207224F: <i>COMBAT RESCUE AND RECOVERY</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	-	0.944	2.292	-	2.292	2.091	3.633	4.528	-	Continuing	Continuing
671325: <i>HH-60G</i>	-	0.944	-	-	-	-	-	-	-	Continuing	Continuing
676016: <i>Avionics Development and Integration</i>	-	-	2.292	-	2.292	2.091	3.633	4.528	-	Continuing	Continuing

**Note**

In FY12, Project Number 676016, Avionics Development and Integration, efforts were transferred from PE 0605229F, Project Number 657001, Avionics Development and Integration in order to effectively execute the HH-60G portion of the effort.

**A. Mission Description and Budget Item Justification**

671325 - The Mode 5 modification program is an OSD-mandated upgrade to the HH-60G's Identification, Friend or Foe (IFF) system--the primary means of aircraft identification during Air Defense operations. In order to fully implement Mode 5, the HH-60G aircraft require a Global Positioning System update. Costs are only estimates at this time and are subject to contract negotiation and award. This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have already been fielded.

676016 - The Air Force Rotary Wing Avionics Development and Integration effort in an OSD-directed program to develop a fully integrated avionics upgrade that includes predictive terrain awareness and traffic collision avoidance. This program focuses on developing and integrating technologies that will increase the situational awareness of helicopter crews in a degraded visibility environment. This Joint effort was initiated by the Defense Safety Oversight Council. Other partners include USSOCOM and OSD's Defense Research & Engineering Office. This coordinated effort between the Air Force Research Laboratory and Naval Air Systems Command combines multiple technologies and efforts to maximize efficiencies. This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have already been fielded.

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207224F: <i>COMBAT RESCUE AND RECOVERY</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2010</u></b>	<b><u>FY 2011</u></b>	<b><u>FY 2012 Base</u></b>	<b><u>FY 2012 OCO</u></b>	<b><u>FY 2012 Total</u></b>
Previous President's Budget	-	0.944	-	-	-
Current President's Budget	-	0.944	2.292	-	2.292
Total Adjustments	-	-	2.292	-	2.292
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	2.292	-	2.292

**Change Summary Explanation**

In FY12, 676016, Avionics Development and Integration, efforts were transferred from PE 0605229F, 657001, Avionics Development and Integration in order to effectively execute the HH-60G portion of the effort.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Air Force								<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0207224F: <i>COMBAT RESCUE AND RECOVERY</i>				<b>PROJECT</b> 671325: <i>HH-60G</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
671325: <i>HH-60G</i>	-	0.944	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

**A. Mission Description and Budget Item Justification**

The Mode 5 modification program is an OSD-mandated upgrade to the HH-60G's Identification, Friend or Foe (IFF) system--the primary means of aircraft identification during Air Defense operations. In order to fully implement Mode 5, the HH-60G aircraft require a Global Positioning System (GPS) update. RDT&E funding will be used to design, integrate, and test a Mode 5/GPS capability.

This program has associated APAF funding in PE 0207224, HH-60G Modifications.

This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<b>Title:</b> Mode 5/GPS <b>Description:</b> Develop, integrate, and test a Mode 5/GPS capability to meet up-to-date IFF requirements. <b>FY 2010 Accomplishments:</b> <b>FY 2011 Plans:</b> Develop, integrate, and test a Mode 5/GPS capability to meet up-to-date IFF requirements. <b>FY 2012 Base Plans:</b> <b>FY 2012 OCO Plans:</b>	-	0.944	-	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	-	0.944	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Air Force			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207224F: <i>COMBAT RESCUE AND RECOVERY</i>	<b>PROJECT</b> 671325: <i>HH-60G</i>	

## C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• PE 0207224F: <i>Combat Rescue and Recovery APAF BA 05</i>	0.000	1.780	7.915	0.000	7.915	7.246	5.719	2.067	6.093	Continuing	Continuing

## D. Acquisition Strategy

The HH-60 will upgrade its Mode 5/GPS in concert with current modifications as aircraft become available. Details may be found in PE 0207224, Aircraft Modifications, HH-60G.

## E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0207224F: COMBAT RESCUE AND RECOVERY				PROJECT 671325: HH-60G						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
NRE	TBD	TBD:TBD,	-	0.400	Feb 2011	-		-		-	0.000	0.400	0.000	
Software Development	TBD	TBD:TBD,	-	0.300	Feb 2011	-		-		-	0.000	0.300	0.000	
Subtotal			-	0.700		-		-		-	0.000	0.700	0.000	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Gov Test and Evaluation (Mode 5)	TBD	TBD:TBD	-	0.244	Jun 2012	-		-		-	0.000	0.244	0.000	
Subtotal			-	0.244		-		-		-	0.000	0.244	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			-	0.944		-		-		-	0.000	0.944	0.000	
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207224F: <i>COMBAT RESCUE AND RECOVERY</i>	PROJECT 671325: <i>HH-60G</i>

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Air Force			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207224F: <i>COMBAT RESCUE AND RECOVERY</i>	<b>PROJECT</b> 671325: <i>HH-60G</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Preliminary Design Review (PDR)	1	2011	1	2011
Software Development	2	2011	4	2011
Critical Design Review	4	2011	4	2011
Test and Evaluation	3	2011	4	2012
Kit Proof	2	2013	2	2013
Installation	3	2013	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0207224F: COMBAT RESCUE AND RECOVERY				PROJECT 676016: Avionics Development and Integration			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
676016: Avionics Development and Integration	-	-	2.292	-	2.292	2.091	3.633	4.528	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
The Air Force Rotary Wing Avionics Development and Integration effort in an OSD-directed program to develop a fully integrated avionics upgrade that includes predictive terrain awareness and traffic collision avoidance. This program focuses on developing and integrating technologies that will increase the situational awareness of helicopter crews in a degraded visibility environment. This Joint effort was initiated by the Defense Safety Oversight Council. Other partners include USSOCOM and OSD's Defense Research & Engineering Office. This coordinated effort between the Air Force Research Laboratory and Naval Air Systems Command combines multiple technologies and efforts to maximize efficiencies.											
This funding was re-aligned from PE 0605229, Project Number 657001, Avionics Development and Integration, to more effectively execute the HH-60G portion of the Air Forces Rotary Wing Avionics Development and Integration effort.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Avionics Development and Integration							-	-	2.292	-	2.292
Description: This program focuses on developing and integrating technologies that will increase the situational awareness of helicopter crews in a degraded visibility environment.											
FY 2010 Accomplishments:											
FY 2011 Plans:											
FY 2012 Base Plans:											
Provide hot bench testing for intitial integration efforts, engineering support, and program management.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							-	-	2.292	-	2.292

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Air Force			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207224F: <i>COMBAT RESCUE AND RECOVERY</i>	<b>PROJECT</b> 676016: <i>Avionics Development and Integration</i>	

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**D. Acquisition Strategy**

The Air Force is in the process of integrating the technology into an air worthy payload. This payload will be integrated with existing forward looking infrared turrets to minimize additional equipment and weight on the aircraft. Once the payload is tested, the Air Force will establish an acquisition plan.

**E. Performance Metrics**

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0207224F: COMBAT RESCUE AND RECOVERY				PROJECT 676016: Avionics Development and Integration					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Hot Bench Testing	TBD	Not specified.:	-	-		2.192		-		2.192	0.000	2.192	0.000
Subtotal			-	-		2.192		-		2.192	0.000	2.192	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	TBD	Not specified.:	-	-		0.100		-		0.100	0.000	0.100	0.000
Subtotal			-	-		0.100		-		0.100	0.000	0.100	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		2.292		-		2.292	0.000	2.292	0.000
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207224F: <i>COMBAT RESCUE AND RECOVERY</i>	PROJECT 676016: <i>Avionics Development and Integration</i>

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Air Force			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0207224F: <i>COMBAT RESCUE AND RECOVERY</i>	<b>PROJECT</b> 676016: <i>Avionics Development and Integration</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Program Management, Engineering and Hot Bench Integration for Payload Design	1	2012	1	2013
Commercial Flight Test and Evaluation	1	2013	4	2013
Documentation and Reports	4	2013	3	2014
Initial HH-60G Flight Test	3	2014	4	2014
Documentation and Reporting	4	2014	1	2015
Purchase Production Representative Test Articles for flight test	1	2015	4	2016

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