

**UNCLASSIFIED**

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0305176F: Combat Survivor Evader Locator							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	12.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
654522: CSAR EMD	12.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.341
A. Mission Description and Budget Item Justification											
<p>The Combat Survivor Evader Locator (CSEL) joint program, with the Air Force as lead service, will provide enhanced Combat Search and Rescue (CSAR) communications and location capabilities by replacing antiquated PRC-90 and -112 survival radios with a new end-to-end system. The CSEL system will be used by all the services and, potentially, non-DoD government agencies. Components of the system include a hand-held radio (HHR), radio support equipment, four UHF Base Stations (UBS), and workstations installed in rescue coordination centers. CSEL features a new hand-held radio that incorporates secure two-way over-the-horizon messaging, line-of-sight voice, near-real time geopositioning, verification of evader identity and condition, and low probability of intercept/low probability of detection communications. The system is being developed in an evolutionary fashion per the Operational Requirements Document (ORD) approved in February 2000. In FY06, Congress reprogrammed funds for the development of Block 2 improvements, including Terminal Area Communication and Terminal Area Guidance (TAC/TAG). FY08 funds were programmed to complete Block 1B and TAC/TAG development efforts. FY 2009 reflects a \$12.5 million reprogramming from OPAF, approved by Congress in March 2009, for development of the Portable Combat Search and Rescue Interrogator Unit (PCIU), as part of the continuing development of Block 2 upgrades. PCIU will allow rescue forces to send text messages to TAC-enabled CSEL radios and the older HOOK-2 radios. Block 2 also includes development of the CSEL Interrogator Module (CIM) , which will allow rescue aircraft to communicate with TAC-enabled CSEL radios.</p>											
<p>This program is in Budget Activity 5, System Development and Demonstration, because it funds the development of Block upgrades.</p>											

**UNCLASSIFIED**

R-1 Line Item #93

Page 1 of 12

**UNCLASSIFIED**

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force				DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
3600: Research, Development, Test & Evaluation, Air Force		PE 0305176F: Combat Survivor Evader Locator			
BA 5: Development & Demonstration (SDD)					
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	12.500	0.000	0.000	0.000	0.000
Total Adjustments	12.500	0.000	0.000	0.000	0.000
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	12.500	0.000	0.000	0.000	0.000
Change Summary Explanation					
FY 2009 reflects \$12.5 million of OPAF reprogramming, approved by Congress in March 2009, to develop PCIU, and includes continued Block upgrade development.					

**UNCLASSIFIED**

R-1 Line Item #93

Page 2 of 12

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Air Force								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0305176F: <i>Combat Survivor Evader Locator</i>				<b>PROJECT</b> 654522: <i>CSAR EMD</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
654522: <i>CSAR EMD</i>	12.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.341
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
<b>Note</b> FY2009 reflects \$12.5 million reprogramming from OPAF approved by Congress in March 2009.											
<b>A. Mission Description and Budget Item Justification</b> The Combat Survivor Evader Locator (CSEL) joint program, with the Air Force as lead service, will provide enhanced Combat Search and Rescue (CSAR) communications and location capabilities by replacing antiquated PRC-90 and -112 survival radios with a new end-to-end system. The CSEL system will be used by all the services and, potentially, non-DoD government agencies. Components of the system include a hand-held radio (HHR), radio support equipment, four UHF Base Stations (UBS), and workstations installed in rescue coordination centers. CSEL features a new hand-held radio that incorporates secure two-way over-the-horizon messaging, line-of-sight voice, near-real time geopositioning, verification of evader identity and condition, and low probability of intercept/low probability of detection communications. The system is being developed in an evolutionary fashion per the Operational Requirements Document (ORD) approved in February 2000. In FY06, Congress reprogrammed funds for the development of Block 2 improvements, including Terminal Area Communication and Terminal Area Guidance (TAC/TAG). FY08 funds were programmed to complete Block 1B and TAC/TAG development efforts. FY 2009 reflects a \$12.5 million reprogramming from OPAF, approved by Congress in March 2009, for development of the Portable Combat Search and Rescue Interrogator Unit (PCIU), as part of the continuing development of Block 2 upgrades. PCIU will allow rescue forces to send text messages to TAC-enabled CSEL radios and the older HOOK-2 radios. Block 2 also includes development of the CSEL Interrogator Module (CIM) , which will allow rescue aircraft to communicate with TAC-enabled CSEL radios.											
This program is in Budget Activity 5, System Development and Demonstration, because it funds the development of Block upgrades.											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
MAJOR THRUST - CSEL Engineering and Manufacturing Development						12.500	0.000	0.000	0.000	0.000	

**UNCLASSIFIED**

R-1 Line Item #93

Page 3 of 12

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Air Force							<b>DATE:</b> February 2010				
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
<i>FY 2009 Accomplishments:</i> In FY 2009: Initiated development of the Portable Combat Search and Rescue Interrogator Unit (PCIU), a device to provide rescue forces secure text messaging communication with currently-fielded radios and CSEL radios. PCIU is part of the CSEL Block 2 development program.											
<i>FY 2010 Plans:</i> In FY 2010: N/A											
<i>FY 2011 Base Plans:</i> In FY 2011: N/A											
<i>FY 2011 OCO Plans:</i> In FY 2011 OCO: N/A											
Accomplishments/Planned Programs Subtotals						12.500	0.000	0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• PE 0305176F: <i>Other Procurement, Air Force - WSC 837170 (Budget Activity 3)</i>	7.313	34.923	34.925	0.000	34.925	37.596	6.036	0.000	0.000	0.000	0.000
<b>D. Acquisition Strategy</b>											
The Full Rate Production (FRP) contract is a Sole Source award to Boeing; however, all previous major contracts within this Program Element were awarded after full and open competition.											

**UNCLASSIFIED**

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<p><b>E. Performance Metrics</b></p> <p>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.</p>		

UNCLASSIFIED

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Air Force</b>											<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0305176F: <i>Combat Survivor Evader</i> <i>Locator</i>				<b>PROJECT</b> 654522: <i>CSAR EMD</i>					
<b>Product Development (\$ in Millions)</b>													
				<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Boeing	SS/CPFF	Huntington Beach CA	113.617	0.000		0.000		0.000		0.000	0.000	113.617	0.000
SMC (COBRA)	Various	TBD TBD	4.000	0.000		0.000		0.000		0.000	0.000	4.000	0.000
<b>Subtotal</b>			117.617	0.000		0.000		0.000		0.000	0.000	117.617	0.000
<b>Remarks</b>													
<b>Support (\$ in Millions)</b>													
				<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
SPAWAR	MIPR	San Diego CA	3.289	0.000		0.000		0.000		0.000	0.000	3.289	0.000
PRC/ARINC/BD Systems	C/CPAF	TBD TBD	3.304	0.000		0.000		0.000		0.000	0.000	3.304	0.000
FFRDC (MITRE/ Aerospace)	FFRDC	TBD TBD	8.898	0.000		0.000		0.000		0.000	0.000	8.898	0.000
A&AS (Quantech)	TM	Bedford MA	0.067	0.000		0.000		0.000		0.000	0.000	0.067	0.000
MANTECH	C/CPAF	Alliant Tech Systems Hopkins	0.600	0.000		0.000		0.000		0.000	0.000	0.600	0.000

**UNCLASSIFIED**

R-1 Line Item #93

Page 6 of 12

# UNCLASSIFIED

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Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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	
		MN												
SMC	TBD/CPAF	Los Angeles CA	0.777	0.000		0.000		0.000		0.000	0.000	0.777	0.000	
JPRA	MIPR	Ft. Belvoir VA	0.200	0.000		0.000		0.000		0.000	0.000	0.200	0.000	
Miscellaneous	Various	Various Various	0.801	0.000		0.000		0.000		0.000	0.000	0.801	0.000	
<b>Subtotal</b>			17.936	0.000		0.000		0.000		0.000	0.000	17.936	0.000	
Remarks														
Test and Evaluation (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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	
AFOTEC	MIPR	Kirtland AFB NM	0.357	0.000		0.000		0.000		0.000	0.000	0.357	0.000	
746TS	MIPR	Kitrland AFB NM	1.308	0.000		0.000		0.000		0.000	0.000	1.308	0.000	
18FTS	TBD/TBD	TBD TBD	1.700	0.000		0.000		0.000		0.000	0.000	1.700	0.000	
SMC Test Support	TBD/CPAF	Los Angeles AFB	0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000	

# UNCLASSIFIED

R-1 Line Item #93

Page 7 of 12

**UNCLASSIFIED**

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3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)					PE 0305176F: Combat Survivor Evader Locator				654522: CSAR EMD					
Test and Evaluation (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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	
		CA												
Joint Spectrum Center	TBD/CPAF	IIT Research Institute Chicago IL	0.514	0.000		0.000		0.000		0.000	0.000	0.514	0.000	
ESC (TBMCS SPO)	TBD/CPAF	Lockheed Martin Colorado Springs CO	0.500	0.000		0.000		0.000		0.000	0.000	0.500	0.000	
46 TS	PO	TBD TBD	0.500	0.000		0.000		0.000		0.000	0.000	0.500	0.000	
EPG	MIPR	Ft. Huachuca AZ	3.017	0.000		0.000		0.000		0.000	0.000	3.017	0.000	
JITC	MIPR	Multiple No text provided	1.107	0.000		0.000		0.000		0.000	0.000	1.107	0.000	
DISA	MIPR	TBD TBD	0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000	
CECOM	MIPR	TBD TBD	0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000	
SPAWAR	MIPR	San Diego CA	0.077	0.000		0.000		0.000		0.000	0.000	0.077	0.000	
Army Research Labs	MIPR	White Sands NM	0.030	0.000		0.000		0.000		0.000	0.000	0.030	0.000	
GCCS-A (Integration Support)	MIPR	TBD TBD	0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000	
GCCS-M	MIPR	SPAWAR San Diego	0.200	0.000		0.000		0.000		0.000	0.000	0.200	0.000	

**UNCLASSIFIED**

R-1 Line Item #93

Page 8 of 12



# UNCLASSIFIED

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<b>Test and Evaluation (\$ in Millions)</b>													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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
		CA											
PRMS	MIPR	TBD TBD	0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000
<b>Subtotal</b>			9.310	0.000		0.000		0.000		0.000	0.000	9.310	0.000
<b>Remarks</b>													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			144.863	0.000		0.000		0.000		0.000	0.000	144.863	0.000
<b>Remarks</b>													
Total Prior Years Cost may include only FY 2009 data.													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

**APPROPRIATION/BUDGET ACTIVITY**

3600: Research, Development, Test & Evaluation, Air Force  
BA 5: Development & Demonstration (SDD)

**R-1 ITEM NOMENCLATURE**

PE 0305176F: Combat Survivor Evader  
Locator

**PROJECT**

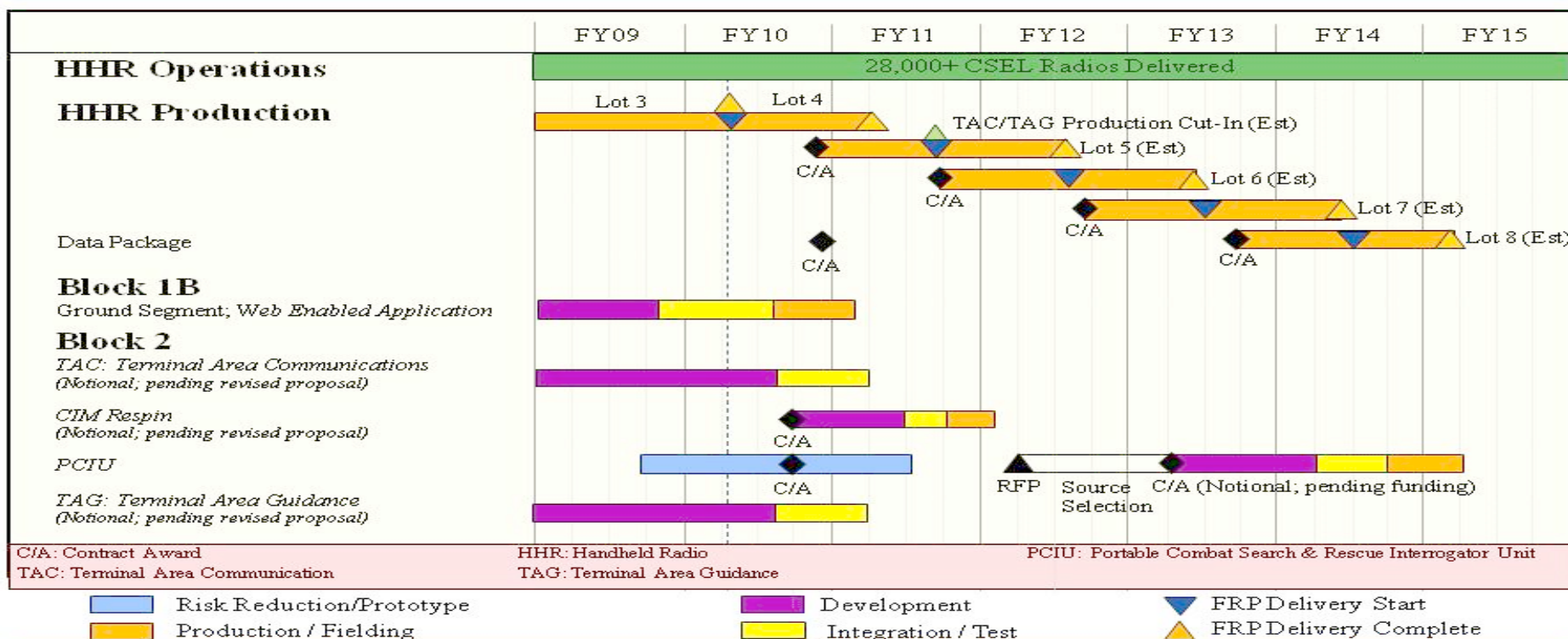
654522: CSAR EMD

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U.S. AIR FORCE

# CSEL Schedule



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Integrity - Service - Excellence

1

UNCLASSIFIED

R-1 Line Item #93

Page 10 of 12

# UNCLASSIFIED

<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2011 Air Force			<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305176F: <i>Combat Survivor Evader</i> <i>Locator</i>	<b>PROJECT</b> 654522: <i>CSAR EMD</i>	

## Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Lot 5 Contract Award	4	2010	4	2010
Lot 5 Delivery Start	3	2011	3	2011
Lot 6 Contract Award	3	2011	3	2011
Block 1B development	1	2009	4	2009
Block 1B Integration and Test Phase 1	4	2009	4	2009
Block 1B Integration and Test Phase 2	1	2010	3	2010
Block 1B Event 5 Combined Test	3	2010	3	2010
Block 1B fielding decision	3	2010	3	2010
Block 1B Upgrade complete	1	2011	1	2011
TAC Development Phase 1	1	2009	4	2009
TAC Development Phase 2	1	2010	3	2010
TAC Integration and Test Phase 1	3	2010	4	2010
TAC Integration and Test Phase 2	1	2011	1	2011
CIM Respin Development contract award	3	2010	3	2010
CIM Respin Development Phase 1	4	2010	4	2010
CIM Respin Development Phase 2	1	2011	2	2011
CIM Respin Integration and Test	3	2011	3	2011
CIM Respin Production/Fielding	4	2011	4	2011

# UNCLASSIFIED

# UNCLASSIFIED

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	Start		End	
Event	Quarter	Year	Quarter	Year
TAG Development Phase 1	1	2009	4	2009
TAG Development Phase 2	1	2010	3	2010
TAG Integration and Test Phase 1	3	2010	4	2010
TAG Integration and Test Phase 2	1	2011	1	2011
PCIU Prototype Contract Award	3	2010	3	2010
PCIU Risk Reduction/Prototype Phase 1	4	2009	4	2009
PCIU Risk Reduction/Prototype Phase 2	1	2010	4	2010
PCIU Risk Reduction/Prototype Phase 3	1	2011	2	2011

# UNCLASSIFIED