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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605606A: <i>AIRCRAFT CERTIFICATION</i>
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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	3.745	5.055	5.630	-	5.630	8.403	6.081	6.097	6.179	Continuing	Continuing
092: <i>AIRCRAFT CERTIFICATION</i>	3.745	5.055	5.630	-	5.630	8.403	6.081	6.097	6.179	Continuing	Continuing

**Note**

Funds realigned to higher priority requirements.

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

The Airworthiness Certification program ensures flight safety and safe operation of Army aircraft and aviation systems by means of technical design approval and qualification of systems to appropriate airworthiness standards. It provides independent airworthiness qualification of all assigned developmental and in-production Army aircraft, both manned and unmanned, as required by AR 70-62, and is essential for ensuring the safe operation of Army aircraft. This program, when fully funded, performs all engineering functions (design, analysis, testing, demonstrations, and system specification compliance) essential for certifying the airworthiness of assigned Army aircraft, to include performing safety-of-flight investigations/assessments, evaluating system risks, developing Airworthiness Impact Statements, developing Airworthiness Flight Releases, and evaluating Safety of Flight Messages and Aviation Safety Action Messages for new and upgraded aircraft systems. This program also provides management/execution of the Army's Aeronautical Design Standards (ADS) program; management/execution of airworthiness approval for new systems and materiel changes for all assigned Army aircraft systems; airworthiness engineering support to the Program Executive Office for Aviation (PEO Avn) and the Technology Applications Program Office (TAPO, the Army's Special Operations Aircraft program office) in developing requirements for major development/modification and for any future systems/subsystems; and management of the test and evaluation process in support of the airworthiness qualification process. The Airworthiness Certification program also performs general research and development in support of aircraft qualification and overarching airworthiness projects that involve multiple aircraft models. Current ongoing programs requiring airworthiness qualification are PEO Aviation and TAPO Future Force systems including Longbow Apache Block II and III; Chinook F-model; Blackhawk M-model and M-model upgrade; Special Operations MH-47G and MH-60M; Armed Aerial Scout (AAS); Light Utility Helicopter; Extended Range/Multi Purpose (ER/MP) Grey Beard unmanned aircraft system (UAS); Enhanced Multi-sensor Airborne Reconnaissance and Sensor System (EMARSS); and Shadow-C UAS. Additionally the Airworthiness Certification program supports application of other critical aviation subsystems onto Army aircraft, including Aircraft Survivability Equipment (e.g. Advanced Threat Infrared Countermeasures (ATIRCM), Common Missile Warning System (CMWS)), Aviation Mission Equipment (e.g. advanced multiband radios like the Joint Tactical Radio System (JTRS), digital data links), Common Sensor (electro-optical multi-spectrum visual sensor), and Blue Force Tracker. The D092 funding profile for the FY11 President's Budget Submission marginally funds the airworthiness certification program and hence the effort will be limited to resourcing civil derivative aircraft technical qualifications through the Federal Aviation Administration's Military Certification Office; development of airworthiness procedures, specifications, critical standards, and other design and qualification documents; participation in airworthiness related tri-service activities (e.g. National Airworthiness Council, Joint Aviation Commanders Group) and international airworthiness related activities mandated by treaty (e.g. Flight Into Non-segregated Airspace (FINAS)); and limited early airworthiness involvement in Technology Transition projects (e.g. Joint Heavy Lift (JHL) aircraft, Joint Multi Role (JMR) helicopter, and other Office of the Secretary of Defense initiatives).

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605606A: <i>AIRCRAFT CERTIFICATION</i>
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<b>B. Program Change Summary (\$ 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>
Previous President's Budget	3.746	5.055	5.731	-	5.731
Current President's Budget	3.745	5.055	5.630	-	5.630
Total Adjustments	-0.001	-	-0.101	-	-0.101
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.001	-			
• Adjustments to Budget Years	-	-	-0.101	-	-0.101

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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
092: <i>AIRCRAFT CERTIFICATION</i>	3.745	5.055	5.630	-	5.630	8.403	6.081	6.097	6.179	Continuing	Continuing
Quantity of RDT&E Articles											

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

The Airworthiness Certification program ensures flight safety and safe operation of Army aircraft and aviation systems by means of technical design approval and qualification of systems to appropriate airworthiness standards. It provides independent airworthiness qualification of all assigned developmental and in-production Army aircraft, both manned and unmanned, as required by AR 70-62, and is essential for ensuring the safe operation of Army aircraft. This program, when fully funded, performs all engineering functions (design, analysis, testing, demonstrations, and system specification compliance) essential for certifying the airworthiness of assigned Army aircraft, to include performing safety-of-flight investigations/assessments, evaluating system risks, developing Airworthiness Impact Statements, developing Airworthiness Flight Releases, and evaluating Safety of Flight Messages and Aviation Safety Action Messages for new and upgraded aircraft systems. This program also provides management/execution of the Army's Aeronautical Design Standards (ADS) program; management/execution of airworthiness approval for new systems and materiel changes for all assigned Army aircraft systems; airworthiness engineering support to the Program Executive Office for Aviation (PEO Avn) and the Technology Applications Program Office (TAPO, the Army's Special Operations Aircraft program office) in developing requirements for major development/modification and for any future systems/subsystems; and management of the test and evaluation process in support of the airworthiness qualification process. The Airworthiness Certification program also performs general research and development in support of aircraft qualification and overarching airworthiness projects that involve multiple aircraft models. Current ongoing programs requiring airworthiness qualification are PEO Aviation and TAPO Future Force systems including Longbow Apache Block II and III; Chinook F-model; Blackhawk M-model and M-model upgrade; Special Operations MH-47G and MH-60M; Armed Aerial Scout (AAS); Light Utility Helicopter; Extended Range/Multi Purpose (ER/MP) Grey Beard unmanned aircraft system (UAS); Enhanced Multi-sensor Airborne Reconnaissance and Sensor System (EMARSS); and Shadow-C UAS. Additionally the Airworthiness Certification program supports application of other critical aviation subsystems onto Army aircraft, including Aircraft Survivability Equipment (e.g. Advanced Threat Infrared Countermeasures (ATIRCM), Common Missile Warning System (CMWS)), Aviation Mission Equipment (e.g. advanced multiband radios like the Joint Tactical Radio System (JTRS), digital data links), Common Sensor (electro-optical multi-spectrum visual sensor), and Blue Force Tracker. The D092 funding profile for the FY11 President's Budget Submission marginally funds the airworthiness certification program and hence the effort will be limited to resourcing civil derivative aircraft technical qualifications through the Federal Aviation Administration's Military Certification Office; development of airworthiness procedures, specifications, critical standards, and other design and qualification documents; participation in airworthiness related tri-service activities (e.g. National Airworthiness Council, Joint Aviation Commanders Group) and international airworthiness related activities mandated by treaty (e.g. Flight Into Non-segregated Airspace (FINAS)); and limited early airworthiness involvement in Technology Transition projects (e.g. Joint Heavy Lift (JHL) aircraft, Joint Multi Role (JMR) helicopter, and other Office of the Secretary of Defense initiatives).

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Certification Assessments and Studies Force Modernization Aircraft	0.001	0.001	0.050
<b>Articles:</b>	0	0	
<b>Description:</b> Perform assessments and studies in support of Force Modernization Aircraft Systems			

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p><b><i>FY 2010 Accomplishments:</i></b> Conducted technical and airworthiness qualification assessments and studies to demonstrate airworthiness and system performance for Army force modernization aircraft systems or multi-system programs (e.g. AH-64 Block III, UH-60M, UH-60M Upgrade, MH-47G, MH-60M, AAS, etc).</p> <p><b><i>FY 2011 Plans:</i></b> Conduct technical and airworthiness qualification assessments and studies to demonstrate airworthiness and system performance for Army force modernization aircraft systems or multi-system programs (e.g. AH-64 Block III, UH-60M, UH-60M Upgrade, MH-47G, MH-60M, AAS, etc).</p> <p><b><i>FY 2012 Plans:</i></b> Will conduct technical and airworthiness qualification assessments and studies to demonstrate airworthiness and system performance for Army force modernization aircraft systems or multi-system programs (e.g. AH-64 Block III, UH-60M, UH-60M Upgrade, MH-47G, MH-60M, AAS, etc).</p>				
<p><b><i>Title:</i></b> Certification Requirements and Studies for Future Aircraft</p> <p align="right"><b><i>Articles:</i></b></p> <p><b><i>Description:</i></b> Perform studies to support airworthiness certification requirements for Future Aircraft Systems</p> <p><b><i>FY 2010 Accomplishments:</i></b> Conducted studies of Airworthiness Certification requirements for future aircraft systems and other technology transition programs (e.g. Joint Heavy Lift, Joint Multi-Roll Aircraft, Versatile Affordable Advanced Turbine Engine Program)</p> <p><b><i>FY 2011 Plans:</i></b> Conduct studies of Airworthiness Certification requirements for future aircraft systems and other technology transition programs (e.g. Joint Heavy Lift, Joint Multi-Roll Aircraft, Versatile Affordable Advanced Turbine Engine Program)</p> <p><b><i>FY 2012 Plans:</i></b> Will conduct studies of Airworthiness Certification requirements for future aircraft systems and other technology transition programs (e.g. Joint Heavy Lift, Joint Multi-Roll Aircraft, Versatile Affordable Advanced Turbine Engine Program)</p>		0.280 0	0.735 0	0.773
<p><b><i>Title:</i></b> Design Standards</p> <p align="right"><b><i>Articles:</i></b></p> <p><b><i>Description:</i></b> Support the development, implementation and maintenance to support Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching Airworthiness qualification documentation</p>		2.582 0	2.656 0	2.931

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
				<b>FY 2010</b>
				<b>FY 2011</b>
				<b>FY 2012</b>
<b><i>FY 2010 Accomplishments:</i></b> Developed, implemented, and maintained Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching Airworthiness qualification documentation.				
<b><i>FY 2011 Plans:</i></b> Develop, implement, and maintain Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching airworthiness qualification documentation.				
<b><i>FY 2012 Plans:</i></b> Will develop, implement, and maintain Army Aeronautical Design Standards, airworthiness procedures and tools, and overarching airworthiness qualification documentation.				
<b><i>Title:</i></b> Certification Assessments of Technology Upgrades				<b><i>Articles:</i></b>
				0.001 0
				0.001 0
				0.050
<b><i>Description:</i></b> Perform certification assessments of technology upgrades.				
<b><i>FY 2010 Accomplishments:</i></b> Conducted technical and airworthiness certification assessments of technology upgrades to Army force modernization aircraft systems or programs (e.g. Advanced Threat Infrared Countermeasures integration, Common Missile Warning System integration, Common Sensor integration)				
<b><i>FY 2011 Plans:</i></b> Conduct technical and airworthiness certification assessments of technology upgrades to Army force modernization aircraft systems or programs (e.g. Advanced Threat Infrared Countermeasures integration, Common Missile Warning System integration, Common Sensor integration)				
<b><i>FY 2012 Plans:</i></b> Will conduct technical and airworthiness certification assessments of technology upgrades to Army force modernization aircraft systems or programs (e.g. Advanced Threat Infrared Countermeasures integration, Common Missile Warning System integration, Common Sensor integration)				
<b><i>Title:</i></b> Commercial Derivative Aircraft				<b><i>Articles:</i></b>
				0.505 0
				0.548 0
				0.548
<b><i>Description:</i></b> Technical and airworthiness qualification for Commercial Derivative Aircraft				
<b><i>FY 2010 Accomplishments:</i></b>				

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>Provided technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration</p> <p><b>FY 2011 Plans:</b> Provide technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration</p> <p><b>FY 2012 Plans:</b> Will provide technical and airworthiness qualification for Commercial Derivative Aircraft through the Federal Aviation Administration</p>				
<p><b>Title:</b> Technology Advancement</p> <p><b>Description:</b> Support efforts to establish and maintain aircraft safety for a fleet of aircraft.</p> <p><b>FY 2010 Accomplishments:</b> Led and participated in national and international airworthiness certification committees, conferences and working groups responsible for establishing and maintaining aircraft safety for a fleet of aircraft (e.g. National Airworthiness Council, Joint Aviation Commanders Group, Joint Council on Aging Aircraft, Joint Propulsion Coordinating Committee, North Atlantic Treaty Organization (NATO) working groups, Global Air Traffic Management working groups).</p> <p><b>FY 2011 Plans:</b> Lead and participate in national and international airworthiness certification committees, conferences and working groups responsible for establishing and maintaining aircraft safety for a fleet of aircraft (e.g. National Airworthiness Council, Joint Aviation Commanders Group, Joint Council on Aging Aircraft, Joint Propulsion Coordinating Committee, North Atlantic Treaty Organization (NATO) working groups, Global Air Traffic Management working groups).</p> <p><b>FY 2012 Plans:</b> Will lead and participate in national and international airworthiness certification committees, conferences and working groups responsible for establishing and maintaining aircraft safety for a fleet of aircraft (e.g. National Airworthiness Council, Joint Aviation Commanders Group, Joint Council on Aging Aircraft, Joint Propulsion Coordinating Committee, North Atlantic Treaty Organization (NATO) working groups, Global Air Traffic Management working groups).</p>		<p>0.376</p> <p><b>Articles:</b> 0</p>	<p>1.114</p> <p>0</p>	<p>1.278</p>
<b>Accomplishments/Planned Programs Subtotals</b>		3.745	5.055	5.630

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

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.