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| 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 7: Operational Systems Development | | | | R-1 ITEM NOMENCLATURE PE 0207268F: Aircraft Engine Component Improvement Program (CIP) | | | | | | | |
| 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 | 146.359 | 156.963 | 147.396 | 0.000 | 147.396 | 144.306 | 143.676 | 145.769 | 147.813 | Continuing | Continuing |
| 671012: Aircraft Engine Component Improvement Program | 146.359 | 156.963 | 120.626 | 0.000 | 120.626 | 112.326 | 111.847 | 114.091 | 116.298 | Continuing | Continuing |
| 675365: Aircraft Engine Component Improvement Program (F135) | 0.000 | 0.000 | 26.770 | 0.000 | 26.770 | 31.980 | 31.829 | 31.678 | 31.515 | Continuing | Continuing |
| Note FY 2011 - Project 675365 is new in FY11 to provide enhanced funds tracking and accountability for Engine CIP support of F-35 propulsion systems. Engine CIP for all other AF aircraft propulsion programs is accomplished within Project 671012. | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification The Aircraft Engine Component Improvement Program (CIP) provides the only source of critical sustaining engineering support for in-service Air Force engines to maintain flight safety (highest priority), to correct service revealed deficiencies, to improve system operational readiness (OR) and reliability & maintainability (R&M), to reduce engine Life Cycle Cost (LCC), and to sustain engines throughout their service life. Historically, aircraft systems change missions, tactics, and environments (including new fuels) to meet changing threats throughout their lives. New technical problems can develop in the engines through actual use and Engine CIP provides the means to develop fixes for these field problems. Engine CIP funding is driven by field events and types/maturity of engines, not by the total engine quantity. The program starts with government acceptance of the first procurement-funded engine and continues over the engine's life, gradually decreasing to a minimum level (safety/depot repairs) sufficient to keep older inventory engines operational. Engine CIP, through "Lead the Fleet" operational use and accelerated mission testing, identifies and fixes engine-related problems ahead of operational impacts. Engine CIP addresses out-of-warranty usage/life and enables the Air Force to obtain additional warranties when manufacturers incorporate Engine CIP improvements into production engines. Engine CIP ensures continued improvements in engine R&M, which reduce out year support costs. Historically, R&M related Engine CIP efforts significantly reduce out year Operations and Maintenance (O&M) and spares costs. Without Engine CIP, out year support funding would have to be significantly increased. This program is in Budget Activity 7 - Operational System Development, because all efforts support support fielded systems. | | | | | | | | | | | |

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| 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 0207268F: Aircraft Engine Component Improvement Program (CIP) | | | |
| BA 7: Operational Systems Development | | | | | |
| B. Program Change Summary (\$ in Millions) | | | | | |
| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
| Previous President's Budget | 150.547 | 166.563 | 0.000 | 0.000 | 0.000 |
| Current President's Budget | 146.359 | 156.963 | 147.396 | 0.000 | 147.396 |
| Total Adjustments | -4.188 | -9.600 | 147.396 | 0.000 | 147.396 |
| • Congressional General Reductions | | -11.798 | | | |
| • Congressional Directed Reductions | | 0.000 | | | |
| • Congressional Rescissions | 0.000 | 0.000 | | | |
| • Congressional Adds | | 2.400 | | | |
| • Congressional Directed Transfers | | 0.000 | | | |
| • Reprogrammings | 0.000 | 0.000 | | | |
| • SBIR/STTR Transfer | 0.000 | 0.000 | | | |
| • Other Adjustments | -4.188 | -0.202 | 147.396 | 0.000 | 147.396 |
| Change Summary Explanation | | | | | |
| FY2010 represents Congressional reduction | | | | | |
| The FY 2010 President's Budget submittal did not reflect FY 2011 through FY 2015 funding. Therefore, explanation of changes between the two budget positions cannot be made in a relevant manner | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force | | | | | | | | DATE: February 2010 | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | | | | R-1 ITEM NOMENCLATURE PE 0207268F: <i>Aircraft Engine Component Improvement Program (CIP)</i> | | | | PROJECT 671012: <i>Aircraft Engine Component Improvement Program</i> | | | |
| 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 |
| 671012: <i>Aircraft Engine Component Improvement Program</i> | 146.359 | 156.963 | 120.626 | 0.000 | 120.626 | 112.326 | 111.847 | 114.091 | 116.298 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Aircraft Engine Component Improvement Program (CIP) provides the only source of critical sustaining engineering support for in-service Air Force engines to maintain flight safety (highest priority), to correct service revealed deficiencies, to improve system operational readiness (OR) and reliability & maintainability (R&M), to reduce engine Life Cycle Cost (LCC), and to sustain engines throughout their service life. Historically, aircraft systems change missions, tactics, and environments (including new fuels) to meet changing threats throughout their lives. New technical problems can develop in the engines through actual use and Engine CIP provides the means to develop fixes for these field problems. Engine CIP funding is driven by field events and types/maturity of engines, not by the total engine quantity. The program starts with government acceptance of the first procurement-funded engine and continues over the engine's life, gradually decreasing to a minimum level (safety/depot repairs) sufficient to keep older inventory engines operational. Engine CIP, through "Lead the Fleet" operational use and accelerated mission testing, identifies and fixes engine-related problems ahead of operational impacts. Engine CIP addresses out-of-warranty usage/life and enables the Air Force to obtain additional warranties when manufacturers incorporate Engine CIP improvements into production engines. Engine CIP ensures continued improvements in engine R&M, which reduce out year support costs. Historically, R&M related Engine CIP efforts significantly reduce out year Operations and Maintenance (O&M) and spares costs. Without Engine CIP, out year support funding would have to be significantly increased.

This program is in Budget Activity 7 - Operational System Development, because all efforts support fielded systems.

B. Accomplishments/Planned Program (\$ in Millions)

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Major Thrust: Aircraft Engine Component Improvement Program (CIP) provides critical sustaining engineering support for approximately 22,500 in-service Air Force engines to maintain flight safety | 146.359 | 156.963 | 120.626 | 0.000 | 120.626 |
| <i>FY 2009 Accomplishments:</i> FY09: Funding enables Engine CIP to execute 250+ tasks across 16+ engine types. Majority of the budget addresses engine issues associated with the B-1, B-2, F-15, F-16, and F-22 aircraft. Engine | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | | R-1 ITEM NOMENCLATURE PE 0207268F: Aircraft Engine Component Improvement Program (CIP) | | PROJECT 671012: Aircraft Engine Component Improvement Program | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | |
| | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
| CIP Work effort addressed Safety of Flight, Engine Component Redesign, Repair/Rework Procedures, Engine Maturation and Life Limit/Mission Analysis. In addition to Engine Maturation, ground and flight engine testing was used to validate redesigned parts and new repair procedures. Maintaining Engine flight safety (highest priority), to address obsolescence deficiencies, to improve system operational readiness (OR) and reliability & maintainability (R&M), to reduce engine Life Cycle Cost (LCC), and to sustain engines throughout their service life. | | | | | | |
| FY 2010 Plans: FY10: Funding enables Engine CIP to execute 250+ tasks across 16+ engine types. Majority of the budget addresses engine issues associated with the B-1, B-2, F-15, F-16, and F-22 aircraft. Engine CIP Work effort addresses Safety of Flight, Engine Component Redesign, Repair/Rework Procedures, Engine Maturation and Life Limit/Mission Analysis. In addition to Engine Maturation, ground and flight engine testing will be used to validate redesigned parts and new repair procedures. Maintaining Engine flight safety (highest priority), to address obsolescence deficiencies, to improve system operational readiness (OR) and reliability & maintainability (R&M), to reduce engine Life Cycle Cost (LCC), and to sustain engines throughout their service life. | | | | | | |
| FY 2011 Base Plans: FY11: Funding enables Engine CIP to execute 250+ tasks across 16+ engine types. Majority of the budget will likely address engine issues associated with the B-1, B-2, F-15, F-16, and F-22 aircraft. Engine CIP Work effort will address Safety of Flight, Engine Component Redesign, Repair/Rework Procedures, Engine Maturation and Life Limit/Mission Analysis. In addition to Engine Maturation, ground and flight engine testing will be used to validate redesigned parts and new repair procedures. Maintaining Engine flight safety (highest priority), to address obsolescence deficiencies, to improve system operational readiness (OR) and reliability & maintainability (R&M), to reduce engine Life Cycle Cost (LCC), and to sustain engines throughout their service life. | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force | | | | DATE: February 2010 | | | | | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | | R-1 ITEM NOMENCLATURE PE 0207268F: <i>Aircraft Engine Component Improvement Program (CIP)</i> | | PROJECT 671012: <i>Aircraft Engine Component Improvement Program</i> | | | | | | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | | | | | | |
| | | | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total | | | |
| <i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not Applicable. | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | 146.359 | 156.963 | 120.626 | 0.000 | 120.626 | | | |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
| Line Item | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total | FY 2012 | FY 2013 | FY 2014 | FY 2015 | Cost To Complete | Total Cost |
| • PE Not Provided (11906): <i>Activity Not Provided</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| D. Acquisition Strategy | | | | | | | | | | | |
| Contracts within this Program Element are awarded sole source to engine manufacturers. Engine CIP tasks are generally assigned to original engine manufacturers based on available funding and prioritization of candidate tasks. | | | | | | | | | | | |
| 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 2011 Air Force | | | | | | | | | | | DATE: February 2010 | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | | | | | R-1 ITEM NOMENCLATURE PE 0207268F: Aircraft Engine Component Improvement Program (CIP) | | | | | PROJECT 671012: Aircraft Engine Component Improvement Program | | | | |
| Product Development (\$ 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 | |
| GE-Evendale, OH | SS/CPAF | GE Evendale, OH | 35.934 | 43.334 | Jan 2010 | 33.819 | Jan 2011 | 0.000 | | 33.819 | Continuing | Continuing | 0.000 | |
| Pratt & Whitney | SS/CPAF | Pratt & Whitney Hartford, CT | 65.094 | 58.826 | Jan 2010 | 45.910 | Jan 2011 | 0.000 | | 45.910 | Continuing | Continuing | 0.000 | |
| GE-Lynn, MA | SS/CPFF | GE Lynn, MA | 17.164 | 15.302 | Jan 2010 | 11.943 | Jan 2011 | 0.000 | | 11.943 | Continuing | Continuing | 0.000 | |
| Rolls Royce/Allison | SS/CPFF | Rolls Royce Indianapolis, IN | 3.032 | 4.416 | Jan 2010 | 3.446 | Jan 2011 | 0.000 | | 3.446 | Continuing | Continuing | 0.000 | |
| Honeywell | SS/CPFF | Honeywell Phoenix, AZ | 1.890 | 1.051 | Jan 2010 | 0.820 | Jan 2011 | 0.000 | | 0.820 | Continuing | Continuing | 0.000 | |
| Williams International | SS/CPFF | Williams Walled Lake, MI | 0.050 | 0.000 | | 0.000 | | 0.000 | | 0.000 | Continuing | Continuing | 0.000 | |
| Subtotal | | | 123.164 | 122.929 | | 95.938 | | 0.000 | | 95.938 | | | 0.000 | |
| Remarks | | | | | | | | | | | | | | |
| 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 | |
| In House Support/ Misc | TBD/TBD | TBD TBD | 2.413 | 2.647 | Oct 2009 | 2.065 | Oct 2010 | 0.000 | | 2.065 | Continuing | Continuing | 0.000 | |
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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force | | | | | | | | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | | | | R-1 ITEM NOMENCLATURE PE 0207268F: Aircraft Engine Component Improvement Program (CIP) | | | | PROJECT 671012: Aircraft Engine Component Improvement Program | | | | | |
| 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 |
| Senior Scout (Congressional Add) | TBD/TBD | TBD TBD | 0.000 | 2.400 | Jan 2010 | 0.000 | | 0.000 | | 0.000 | 0.000 | 2.400 | 0.000 |
| Subtotal | | | 2.413 | 5.047 | | 2.065 | | 0.000 | | 2.065 | | | 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 |
| Arnold Engineering Development Center - Arnold AFB, TN | TBD/TBD | Arnold AFB TN | 18.308 | 16.734 | Oct 2009 | 13.060 | Oct 2010 | 0.000 | | 13.060 | Continuing | Continuing | 0.000 |
| Fuel | TBD/TBD | TBD TBD | 2.474 | 12.253 | Oct 2009 | 9.563 | Oct 2010 | 0.000 | | 9.563 | Continuing | Continuing | 0.000 |
| Subtotal | | | 20.782 | 28.987 | | 22.623 | | 0.000 | | 22.623 | | | 0.000 |
| Remarks | | | | | | | | | | | | | |
| Prior years have included fuel costs with the applicable contractors. Fuel to support Test & Evaluation is now broken out as a separate line item. | | | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force | | | | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | | | | R-1 ITEM NOMENCLATURE PE 0207268F: <i>Aircraft Engine Component Improvement Program (CIP)</i> | | | PROJECT 671012: <i>Aircraft Engine Component Improvement Program</i> | | |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 25%;"></div> <div style="width: 20%; text-align: center;"> Total Prior Years Cost </div> <div style="width: 10%; text-align: center;"> FY 2010 </div> <div style="width: 10%; text-align: center;"> FY 2011 Base </div> <div style="width: 10%; text-align: center;"> FY 2011 OCO </div> <div style="width: 10%; text-align: center;"> FY 2011 Total </div> <div style="width: 10%; text-align: center;"> Cost To Complete </div> <div style="width: 10%; text-align: center;"> Total Cost </div> <div style="width: 10%; text-align: center;"> Target Value of Contract </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 25%;">Project Cost Totals</div> <div style="width: 20%; text-align: center;">146.359</div> <div style="width: 10%; text-align: center;">156.963</div> <div style="width: 10%; text-align: center;">120.626</div> <div style="width: 10%; text-align: center;">0.000</div> <div style="width: 10%; text-align: center;">120.626</div> <div style="width: 10%;"></div> <div style="width: 10%; text-align: center;">0.000</div> </div> | | | | | | | | | |
| Remarks 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: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | R-1 ITEM NOMENCLATURE PE 0207268F: <i>Aircraft Engine Component Improvement Program (CIP)</i> | PROJECT 671012: <i>Aircraft Engine Component Improvement Program</i> |
| <p>Not applicable. Engine CIP is a continuing sustaining engineering support program that annually funds 250 plus separate tasks per year.</p> | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force | | | DATE: February 2010 | | | | | | | | | | | | | | | |
|---|---|--|----------------------------|------|-------|-------|--|-----|--|---------|------|---------|------|--|---|------|---|------|
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | R-1 ITEM NOMENCLATURE PE 0207268F: <i>Aircraft Engine Component Improvement Program (CIP)</i> | PROJECT 671012: <i>Aircraft Engine Component Improvement Program</i> | | | | | | | | | | | | | | | | |
| <p>Schedule Details</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width:50%; text-align: center;">Event</th> <th colspan="2" style="text-align: center;">Start</th> <th colspan="2" style="text-align: center;">End</th> </tr> <tr> <th style="text-align: center;">Quarter</th> <th style="text-align: center;">Year</th> <th style="text-align: center;">Quarter</th> <th style="text-align: center;">Year</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Not applicable. Engine CIP is a continuing sustaining engineering support program that funds 250 plus separate tasks per year.</td> <td style="text-align: center; padding: 5px;">1</td> <td style="text-align: center; padding: 5px;">2009</td> <td style="text-align: center; padding: 5px;">4</td> <td style="text-align: center; padding: 5px;">2011</td> </tr> </tbody> </table> | | | | | Event | Start | | End | | Quarter | Year | Quarter | Year | Not applicable. Engine CIP is a continuing sustaining engineering support program that funds 250 plus separate tasks per year. | 1 | 2009 | 4 | 2011 |
| Event | Start | | End | | | | | | | | | | | | | | | |
| | Quarter | Year | Quarter | Year | | | | | | | | | | | | | | |
| Not applicable. Engine CIP is a continuing sustaining engineering support program that funds 250 plus separate tasks per year. | 1 | 2009 | 4 | 2011 | | | | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force | | | | | | | | DATE: February 2010 | | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | | | | R-1 ITEM NOMENCLATURE PE 0207268F: Aircraft Engine Component Improvement Program (CIP) | | | | PROJECT 675365: Aircraft Engine Component Improvement Program (F135) | | | |
| 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 |
| 675365: Aircraft Engine Component Improvement Program (F135) | 0.000 | 0.000 | 26.770 | 0.000 | 26.770 | 31.980 | 31.829 | 31.678 | 31.515 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Note Project 675365 is new in FY11 to provide enhanced funds tracking and accountability for F-35 propulsion systems. | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification The F135 Aircraft Engine Component Improvement Program (CIP) supports F-35 propulsion systems. It provides the only source of critical sustaining engineering support for in-service (non-Contractor Logistics Support) Air Force propulsion systems. Engine CIP maintains flight safety (highest priority), to correct service revealed deficiencies, to improve system Operational Readiness (OR) and Reliability & Maintainability (R&M), to reduce propulsion system Life Cycle Cost (LCC), and sustain the propulsion systems throughout the service life. Historically, aircraft systems change missions, tactics, and environment (including new fuels) and meet changing threats throughout their lives. New technical problems can develop in the propulsion system through actual use and the Engine CIP provides the means to develop fixes for these field problems. Engine CIP funding is driven by field events and type/maturity of the propulsion systems, not by the total quantity. The program starts with government acceptance of the first procurement-funded engine and continues over the propulsion systems life, gradually decreasing to a minimum level (safety/depot repairs) sufficient to keep older inventory propulsion systems operational. Engine CIP, through "Lead the Fleet" operational use and accelerated mission testing, identifies and fixes propulsion-related problems ahead of operational impacts. Engine CIP addresses out-of-warranty usage/life and enables the Air Force to obtain additional warranties when manufacturers incorporate Engine CIP improvements into production propulsion systems. Engine CIP ensures continued improvements in propulsion systems R&M, which reduce out year support costs. Historically, R&M related Engine CIP efforts significantly reduce out year O&M and spares costs. Without Engine CIP, out year support funding would have to be significantly increased. This program is in Budget Activity 7 - Operational System Development, because all efforts support fielded F-35 propulsion systems. | | | | | | | | | | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | | R-1 ITEM NOMENCLATURE PE 0207268F: Aircraft Engine Component Improvement Program (CIP) | | PROJECT 675365: Aircraft Engine Component Improvement Program (F135) | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | |
| | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
| Major Thrust: provides sustaining engineering support for F-35 propulsion systems to maintain flight safety (highest priority), FY 2009 Accomplishments: In FY2009: Not Applicable FY 2010 Plans: In FY2010: Not Applicable FY 2011 Base Plans: In FY2011: Initial priority will be to procure representative test engines and begin engine maturation testing. Specifically, JSF CIP will advance engine maturity 2x hours ahead of the fleet to identify any major safety or reliability issues before they can affect the field. In addition to accelerated maturation testing, several reliability degraders will also be addressed, including sensors, seals, disk life, and other component deficiencies. Funding to correct service revealed deficiencies, to improve system operational readiness (OR) and reliability & maintainability (R&M), to reduce engine Life Cycle Cost (LCC), and to sustain engines throughout their service life. FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable. | | 0.000 | 0.000 | 26.770 | 0.000 | 26.770 |
| Accomplishments/Planned Programs Subtotals | | 0.000 | 0.000 | 26.770 | 0.000 | 26.770 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force | | | | | | | | DATE: February 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|----------------|----------------|-------------------------------|---|--------------------------------|----------------|---|----------------------------|----------------|-----------------------------------|-------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|----------------------------------|-------|-------|--------|-------|--------|-------|-------|-------|-------|-------|-------|
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | | | | R-1 ITEM NOMENCLATURE PE 0207268F: <i>Aircraft Engine Component Improvement Program (CIP)</i> | | | PROJECT 675365: <i>Aircraft Engine Component Improvement Program (F135)</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>C. Other Program Funding Summary (\$ in Millions)</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Line Item</u></th> <th style="text-align: right;"><u>FY 2009</u></th> <th style="text-align: right;"><u>FY 2010</u></th> <th style="text-align: right;"><u>FY 2011</u> <u>Base</u></th> <th style="text-align: right;"><u>FY 2011</u> <u>OCO</u></th> <th style="text-align: right;"><u>FY 2011</u> <u>Total</u></th> <th style="text-align: right;"><u>FY 2012</u></th> <th style="text-align: right;"><u>FY 2013</u></th> <th style="text-align: right;"><u>FY 2014</u></th> <th style="text-align: right;"><u>FY 2015</u></th> <th style="text-align: right;"><u>Cost To</u> <u>Complete</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>• PE 0205633N: <i>OTHER APPN</i></td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">27.500</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">27.500</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> </tbody> </table> <p>D. Acquisition Strategy Contracts within this Program Element are awarded sole source to engine manufacturers. F-35 Engine CIP tasks are generally assigned to original engine manufacturers based on available funding and prioritization of candidate tasks.</p> <p>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.</p> | | | | | | | | | | | <u>Line Item</u> | <u>FY 2009</u> | <u>FY 2010</u> | <u>FY 2011</u> <u>Base</u> | <u>FY 2011</u> <u>OCO</u> | <u>FY 2011</u> <u>Total</u> | <u>FY 2012</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> | • PE 0205633N: <i>OTHER APPN</i> | 0.000 | 0.000 | 27.500 | 0.000 | 27.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| <u>Line Item</u> | <u>FY 2009</u> | <u>FY 2010</u> | <u>FY 2011</u> <u>Base</u> | <u>FY 2011</u> <u>OCO</u> | <u>FY 2011</u> <u>Total</u> | <u>FY 2012</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> | | | | | | | | | | | | | | | | | | | | | | | |
| • PE 0205633N: <i>OTHER APPN</i> | 0.000 | 0.000 | 27.500 | 0.000 | 27.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force | | | | | | | | | | | DATE: February 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|------------------------|--------------------------------|------------------------|---|------------|--------------|------------|---|------------|---------------|----------------------------|------------|--------------------------|--|--|--|--|---------|--|--------------|--|-------------|--|---------------|--|--|--|--------------------|------------------------|--------------------------------|------------------------|------|------------|------|------------|------|------------|------|------------------|------------|--------------------------|------------------------|---------|------------------------------|-------|-------|--|--------|----------|-------|--|--------|------------|------------|-------|-----------------|--|--|-------|-------|--|--------|--|-------|--|--------|--|--|-------|
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | | | | R-1 ITEM NOMENCLATURE PE 0207268F: <i>Aircraft Engine Component Improvement Program (CIP)</i> | | | | PROJECT 675365: <i>Aircraft Engine Component Improvement Program (F135)</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product Development (\$ in Millions) <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th colspan="4"></th> <th colspan="2">FY 2010</th> <th colspan="2">FY 2011 Base</th> <th colspan="2">FY 2011 OCO</th> <th>FY 2011 Total</th> <th colspan="3"></th> </tr> <tr> <th>Cost Category Item</th> <th>Contract Method & Type</th> <th>Performing Activity & Location</th> <th>Total Prior Years Cost</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Cost To Complete</th> <th>Total Cost</th> <th>Target Value of Contract</th> </tr> <tr> <td>Pratt & Whitney</td> <td>SS/CPAF</td> <td>Pratt & Whitney Hartford, CT</td> <td align="right">0.000</td> <td align="right">0.000</td> <td></td> <td align="right">26.370</td> <td>Jan 2011</td> <td align="right">0.000</td> <td></td> <td align="right">26.370</td> <td>Continuing</td> <td>Continuing</td> <td align="right">0.000</td> </tr> <tr> <td align="right" colspan="3">Subtotal</td> <td align="right">0.000</td> <td align="right">0.000</td> <td></td> <td align="right">26.370</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">26.370</td> <td></td> <td></td> <td align="right">0.000</td> </tr> </table> | | | | | | | | | | | | | | | | | | 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 | Pratt & Whitney | SS/CPAF | Pratt & Whitney Hartford, CT | 0.000 | 0.000 | | 26.370 | Jan 2011 | 0.000 | | 26.370 | Continuing | Continuing | 0.000 | Subtotal | | | 0.000 | 0.000 | | 26.370 | | 0.000 | | 26.370 | | | 0.000 |
| | | | | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pratt & Whitney | SS/CPAF | Pratt & Whitney Hartford, CT | 0.000 | 0.000 | | 26.370 | Jan 2011 | 0.000 | | 26.370 | Continuing | Continuing | 0.000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subtotal | | | 0.000 | 0.000 | | 26.370 | | 0.000 | | 26.370 | | | 0.000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Remarks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Support (\$ in Millions) <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th colspan="4"></th> <th colspan="2">FY 2010</th> <th colspan="2">FY 2011 Base</th> <th colspan="2">FY 2011 OCO</th> <th>FY 2011 Total</th> <th colspan="3"></th> </tr> <tr> <th>Cost Category Item</th> <th>Contract Method & Type</th> <th>Performing Activity & Location</th> <th>Total Prior Years Cost</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Cost To Complete</th> <th>Total Cost</th> <th>Target Value of Contract</th> </tr> <tr> <td>In House Support/ Misc</td> <td>TBD/TBD</td> <td>TBD TBD</td> <td align="right">0.000</td> <td align="right">0.000</td> <td></td> <td align="right">0.400</td> <td>Oct 2010</td> <td align="right">0.000</td> <td></td> <td align="right">0.400</td> <td>Continuing</td> <td>Continuing</td> <td align="right">0.000</td> </tr> <tr> <td align="right" colspan="3">Subtotal</td> <td align="right">0.000</td> <td align="right">0.000</td> <td></td> <td align="right">0.400</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.400</td> <td></td> <td></td> <td align="right">0.000</td> </tr> </table> | | | | | | | | | | | | | | | | | | 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 | In House Support/ Misc | TBD/TBD | TBD TBD | 0.000 | 0.000 | | 0.400 | Oct 2010 | 0.000 | | 0.400 | Continuing | Continuing | 0.000 | Subtotal | | | 0.000 | 0.000 | | 0.400 | | 0.000 | | 0.400 | | | 0.000 |
| | | | | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| In House Support/ Misc | TBD/TBD | TBD TBD | 0.000 | 0.000 | | 0.400 | Oct 2010 | 0.000 | | 0.400 | Continuing | Continuing | 0.000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subtotal | | | 0.000 | 0.000 | | 0.400 | | 0.000 | | 0.400 | | | 0.000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Remarks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force | | | | | | | | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | | | | R-1 ITEM NOMENCLATURE PE 0207268F: <i>Aircraft Engine Component Improvement Program (CIP)</i> | | | | PROJECT 675365: <i>Aircraft Engine Component Improvement Program (F135)</i> | | | | | |
| | | | | | | | | | | | | | |
| 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 |
| No text provided | TBD/TBD | No text provided No text provided | 0.000 | 0.000 | | 0.000 | | 0.000 | | 0.000 | Continuing | Continuing | 0.000 |
| Subtotal | | | 0.000 | 0.000 | | 0.000 | | 0.000 | | 0.000 | | | 0.000 |
| Remarks | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Management Services (\$ 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 |
| No text provided | TBD/TBD | No text provided No text provided | 0.000 | 0.000 | | 0.000 | | 0.000 | | 0.000 | Continuing | Continuing | 0.000 |
| Subtotal | | | 0.000 | 0.000 | | 0.000 | | 0.000 | | 0.000 | | | 0.000 |
| Remarks | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | Total Prior Years Cost | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 0.000 | 0.000 | | 26.770 | | 0.000 | | 26.770 | | | 0.000 |
| Remarks | | | | | | | | | | | | | |
| 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: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i> | R-1 ITEM NOMENCLATURE PE 0207268F: <i>Aircraft Engine Component Improvement Program (CIP)</i> | PROJECT 675365: <i>Aircraft Engine Component Improvement Program (F135)</i> |
| <p>Not applicable. F-35 Engine CIP is a continuing sustaining engineering support program that funds between 10-30 tasks in FY2011 and increasing to 100 plus tasks annually beginning FY2012.</p> | | |

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|---|---|---|---------------------|------|
| Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force | | | DATE: February 2010 | |
| APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development | R-1 ITEM NOMENCLATURE PE 0207268F: Aircraft Engine Component Improvement Program (CIP) | PROJECT 675365: Aircraft Engine Component Improvement Program (F135) | | |
| Schedule Details | | | | |
| | Start | | End | |
| Event | Quarter | Year | Quarter | Year |
| F-35 Engine CIP is a continuing sustaining engineering support program that funds between 10-30 tasks in FY2011 and increasing to 100 plus tasks annually beginning FY2012. | 1 | 2011 | 4 | 2011 |

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