

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>
--	---

COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	0.000	6.740	4.852	5.421	0.000	5.421	5.488	5.591	5.710	5.838	Continuing	Continuing
672222: <i>Program Budget Enterprise Service (PBES)</i>	0.000	1.967	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.008
675177: <i>Cost Estimating Modeling (CEM)</i>	0.000	4.773	4.811	5.421	0.000	5.421	5.488	5.591	5.710	5.838	Continuing	Continuing

Program MDAP/MAIS Code: N87

A. Mission Description and Budget Item Justification

This program element develops upgrades to existing financial management systems. These upgrades are required to comply with auditability and transparency requirements as well as improve efficiencies in processing financial transactions. This program element also supports studies and analysis to improve future program planning and execution.

There are two programs within this program element: Program and Budget Enterprise Services (PBES) and Cost Estimating Modeling (CEM).

PBES is a software development effort that utilizes a Service Oriented Architecture (SOA) to deliver budgeting and programming capability for the Department of the Air Force. It replaces the following legacy systems, which support the budget formulation and force programming process: Automated Budget Interactive Data Environment System (ABIDES) (complete), Resource Allocation Programming Information Decision System (RAPIDS), Force Structure Data Management (FSDM), and Enhanced Tradespace Tool (ETT). The transition to Full Deployment (FD) is projected for 31 Mar 22 followed by a transition to the Capability Support (CS) Phase by 31 May 22.

CEM is a knowledge-based study effort to improve Department of the Air Force-wide cost estimating by analyzing cost data and recommending changes to estimating models, methods, and tools. Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY21 \$0M was expended for civilian pay expenses in this program element, and in FY22 \$0M is forecasted for civilian pay expenses in this program element.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.e

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force	Date: April 2022
--	-------------------------

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>
--	---

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. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	6.993	4.852	0.000	0.000	0.000
Current President's Budget	6.740	4.852	5.421	0.000	5.421
Total Adjustments	-0.253	0.000	5.421	0.000	5.421
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.253	0.000			
• Other Adjustments	0.000	0.000	5.421	0.000	5.421

Change Summary Explanation

The FY22 President's Budget submittal did not reflect FY23 through FY26 funding. Therefore, an explanation of the change between the two budget positions for FY23 cannot be made in a relevant manner.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force										Date: April 2022		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>				Project (Number/Name) 672222 / <i>Program Budget Enterprise Service (PBES)</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
672222: <i>Program Budget Enterprise Service (PBES)</i>	0.000	1.967	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.008
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

PBES is the single solution software development effort to deliver planning, programming, budgeting and execution (PPBE) capability for the United States Air Force. PBES replaces the Automated Budget Interactive Data Environment System (ABIDES) (complete), Resource Allocation Programming Information Decision System (RAPIDS), Force Structure Data Management (FSDM), and the Enhanced Tradespace Tool (ETT), supporting the budget formulation and force programming process. The system is compliant with the Standard Financial Information Structure (SFIS) and Standard Line of Accounting (SLOA) conventions, which support the enabling of data standardization across the Department of Defense (DoD). The transition to Full Deployment (FD) is projected for 31 Mar 22 followed by a transition to the Capability Support (CS) Phase by 31 May 22.

Utilizing Business Process Re-engineering (BPR), the Air Force designated PBES as the solution to deliver traceability of financial data in support of the PPBE process. Through the use of BPR, PBES addressed excessive overhead, outdated business practices and other time-consuming support activities. PBES is making the budget formulation process more efficient by incorporating business best practices, organizing programming and budgeting personnel, as well as utilizing current technology. PBES also eliminated checks and balances required of older technology, taking advantage of automated reconciliation services. In addition, the solution allows the use of Authoritative Data Sources (ADS) for data exposure, enabling more timely and accurate budget submissions to Office of the Secretary of Defense (OSD), Congress, and other internal and external customers.

A Commercial-off-the-Shelf (COTS) product was selected as the tool of choice which required minor configuration changes to meet the stated user requirements. This strategy required no code changes to the actual COTS product and supports the drive to lower support costs along with making future requirements changes easier in the out-years. Requirements were satisfied through an iterative process of sprint development cycles, where usable capability was produced and made available to operational users after every sprint. The Integrated Product Office construct along with application of agile principles allowed the program to properly plan system requirements, deliver early capability to the end users, achieve early return on investment of taxpayer dollars, provide for division of risk, reduce waste, effectively respond to change, and continuously improve our processes.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY21 \$0M was expended for civilian pay expenses in this program element, and in FY22 \$0M is forecasted for civilian pay expenses in this program element.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>	Project (Number/Name) 672222 / <i>Program Budget Enterprise Service (PBES)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
<p>Title: PBES</p> <p>Description: Software development effort providing modern and enhanced planning, programming, budgeting and execution capabilities to the USAF. Funding supports engineering, cybersecurity, technical development, implementation and automated testing.</p> <p>ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> - All designated PBES users trained for MAJCOM, Air Staff and Planners - Plan-to-Program requirements defined, scheduled and awarded - Successful program/independent testing of Sprints 20-24; SAFBUD & SAFPGM-5 patches; 3 critical patches - Successful Air Staff user acceptance testing - Successful Go-Live/operational deployment for Budget and Program users based on the initial Bounded User Requirements (BUR) <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Continue acquisition deployment actions in preparation for the Full Deployment and Capability Support Phase authority to proceed milestone decisions <p>FY 2023 Base Plans:</p> <p>N/A</p> <p>FY 2023 OCO Plans:</p> <p>N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement:</p> <p>Funding decreased because the DAF completed systems development and transitioned to O&M funding for remaining activities.</p>	1.967	0.041	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	1.967	0.041	0.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023 Base</u>	<u>FY 2023 OCO</u>	<u>FY 2023 Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPAF 03 834010: <i>General Information Technology</i>	0.694	0.000	0.000	-	0.000	-	-	-	-	0.000	0.694

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>	Project (Number/Name) 672222 / <i>Program Budget Enterprise Service (PBES)</i>

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

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
------------------	----------------	----------------	-------------------------------	------------------------------	--------------------------------	----------------	----------------	----------------	----------------	-----------------------------------	-------------------

Remarks

D. Acquisition Strategy

PBES is a Business Category (BCAT) III program following DOD 5000.75 BCAC policy. The PBES strategy, which was supported by all Stakeholders, employed an empowered joint Program Office, Functional Community, and Senior Stakeholder group to rapidly develop, test, and deploy the DAF's Planning, Programming, and Budgeting capability within three years. This strategy required mutual trust and risk acceptance by all parties to be successful. This strategy has been highly successful delivering PBES capabilities on schedule and substantially under budget.

The first step in this strategy utilized early risk reduction efforts (sometimes referred to as "prototyping") to prove that the capability and contractors existed to meet users' needs. This step was conducted using two 6-month contract vehicles which were both completed months early, delivering several hundred user requirements. The success of these efforts led to the strategy of selecting a COTS product called Oracle Hyperion and the hiring of a small-business system integrator (SI). The significance with both of these selections is that the COTS product and the SI have already been utilized by commercial companies and multiple DoD agencies, thus reducing the implementation risk for the Government.

Both contract awards for the SI and Oracle licenses were made in 1QFY2018, with substantial cost savings received by negotiating bulk license purchases for all DAF users. The development strategy employed agile development methods creating 8 week "Sprint" releases to deploy capability rapidly with substantial user feedback along the way. Twenty total Sprints were planned across three years in an attempt to match the on-going Air Force PPBE cycles. As Sprints were developed and tested, they were then deployed for operational use.

Various DAF organizations used PBES to support the FY2022 PB build. Per the FY2018 decision, DAF Planners transitioned to PBES in February 2021 to develop the FY2023 Financial Plan. The DAF will transition to Full Deployment after concluding the FY23 President's budget cycle, approx. 31 Mar 22. The DAF will transition to the Capability Support (CS) Phase approx. 31 May 22.

The success of this strategy can be attributed to mutual buy-in by all parties, risk acceptance that the solution will not be perfect from the start, and an understanding that not all requirements are exactly known up-front and that changes will be required continuously to be successful.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / Financial Management Information Systems Development	Project (Number/Name) 672222 / Program Budget Enterprise Service (PBES)
--	--	---

Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PBES Systems Integrator	C/FFP	AFLCMC : Maxwell-Gunter AFB, AL	0.000	0.539	Dec 2020	0.041	Dec 2021	0.000	Dec 2022	-		0.000	0.000	0.580	2.728
Subtotal			0.000	0.539		0.041		0.000		-		0.000	0.000	0.580	N/A

Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PBES DEV/TEST Hosting	MIPR	HEDC : Hill AFB, UT	0.000	1.428	Apr 2021	-		-		-		-	0.000	1.428	2.883
Subtotal			0.000	1.428		-		-		-		-	0.000	1.428	N/A

Remarks
Hill AFB Enterprise Data Center (HEDC)

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
	Project Cost Totals	0.000	1.967	0.041	0.000	-	0.000	0.000	2.008

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>	Project (Number/Name) 672222 / <i>Program Budget Enterprise Service (PBES)</i>

	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
Program Budget Enterprise Service																												
System Integrator Contract Award	■																											
Develop/Modify Air Staff Application	■																											
Develop/Modify Planning Application	■	■																										
Full Deployment Decision (fully deploy PBES & authorize Legacy sys shutdown)							■																					
Capability Support Authority to Proceed							■																					
Continuous Capability Delivery development							■	■	■	■	■	■																

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>	Project (Number/Name) 672222 / <i>Program Budget Enterprise Service (PBES)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Program Budget Enterprise Service</i>				
System Integrator Contract Award	1	2021	1	2021
Develop/Modify Air Staff Application	1	2021	1	2021
Develop/Modify Planning Application	1	2021	2	2021
Full Deployment Decision (fully deploy PBES & authorize Legacy sys shutdown)	2	2022	2	2022
Capability Support Authority to Proceed	3	2022	3	2022
Continuous Capability Delivery development	3	2022	4	2023

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force										Date: April 2022		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>				Project (Number/Name) 675177 / <i>Cost Estimating Modeling (CEM)</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
675177: <i>Cost Estimating Modeling (CEM)</i>	0.000	4.773	4.811	5.421	0.000	5.421	5.488	5.591	5.710	5.838	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Cost Estimating Modeling (CEM) program strengthens Department of the Air Force cost estimators' ability to more accurately assess cost requirements. Its products improve the quality, timeliness, and effectiveness of acquisition program cost estimates and ultimately posture the DAF to make better acquisition decisions for more than 200B in critical warfighter capability.

The CEM program performs studies to continuously develop updated cost data and estimating methods and tools, data process re-engineering tools, data structure development tools, and gap filling initiatives. The program focuses on both broad cross-cutting initiatives as well as weapon system type-specific. Products are then uploaded to the OSD Cost Assessment Data Enterprise (CADE) system for the defense cost estimation community to access.

Changing technologies, acquisition laws, policy directives, and initiatives drive the need to continuously revise cost estimating processes, methods, and tools. Specifically CEM initiatives are planned based on the following:

- Statute (e.g., Title 10, section 167; USC 3221, 3227, 4251, 4252, 4253, and 4328)
- Policy directives (e.g., DoDI 5000.02, DoDI 5000.73)
- FY16/17/18/21 NDAA reports (PL 114-92/114-328/115-91/116-283) including provisions relating to Major Defense Acquisition Programs (Section 804 of the FY16 NDAA authorized rapid prototyping and rapid fielding of defense systems)
- Annual life-cycle cost estimation requirements
- Weapon System Acquisition Reform Act (WSARA) (provisions related to improving cost estimating quality and affordability analysis)
- Secretary of the Air Force acquisition excellence plans (priorities to improve cost estimating capability and affordability analysis)
- Office of the Secretary of Defense policy (initiatives on enhanced trade-off analysis, affordability analysis, and cost reduction initiatives)

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY21 \$0M was expended for civilian pay expenses in this program element, and in FY22 \$0M is forecasted for civilian pay expenses in this program element.

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: CEM	4.773	4.811	5.421	-	5.421

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>	Project (Number/Name) 675177 / <i>Cost Estimating Modeling (CEM)</i>

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
<p>Description: Perform knowledge-based studies (KBS) — Develop/modernize cost data, data collection process improvements, collect and analyze data to develop new estimating methods (e.g. statistical tools, cost estimating relationships (CERs), schedule estimating relationships (SERs), technical estimating relationships (TERs)), and perform other gap filling studies for aircraft, UAVs, ballistic and tactical missiles, munitions, electronics and aircraft modifications, ground stations and automated information systems, space and launch systems, operating and support, and cross-cutting areas.</p> <p>ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> - Completed studies in all areas of Air Force weapon systems types. Among these include an aircraft systems engineering/program management dataset with benchmarks, a missile/munitions database/tool with a handbook, a satellite sizing cost model to include payload SERs, ground and airborne radio/terminal dataset, cross-service operating and support cost compatibility study, inflation/escalation impacts to ballistic missile program cost estimates, aircraft schedule dataset and estimating relationships, and a joint Air Force and National Reconnaissance Office resilient ground systems dataset and cost estimating relationships (CERs) as well as DevOps Factory cost analysis. - Worked with OSD CADE team to implement process improvements, and data design and structure requirements into the CADE system. - Studied the Air Force's use of digital engineering approaches and assessed the perceived and demonstrated benefits and risks over a weapons system's life cycle. - Integrated finalized products into CADE system repository for sharing with Air Force and DoD cost community. <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Develop and start execution of a detailed plan of action with milestones and resource summaries for studies across all of the Air Force weapon system commodity areas that will encompass the next contract period of performance. Plan includes efforts such as agile and software factory cost analysis, software maintenance data collection, cost growth analysis, integrated aircraft database/tool with embedded cost estimating relationships and benchmarks, missile database updates/enhancements and methods development, space programs portfolio technical dataset collection, satellite sizing methods updates and calibration, and others. - Continue to mine weapon system program contract modifications data and use this to develop a benchmark tool that estimates the cost of engineering change orders in acquisition program phases and across time. - Continue to collect historical program data to fill gaps against defined data collection requirements from previous year efforts and integrate historical data collected into CADE system for central access to all DoD. 					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>	Project (Number/Name) 675177 / <i>Cost Estimating Modeling (CEM)</i>

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
<ul style="list-style-type: none"> - Assemble and analyze data on the timing, drivers, and cost of initial development and required upgrades to Air Force aircraft mission computers to inform critical upcoming modernization planning decisions. - Conduct analysis of the impacts of digital engineering via detailed case studies, collection of original data, and contractor visits to estimate impacts on life cycle costs. - Continue to work with OSD CADE team to implement data design and structure requirements as well as visual analysis tool requirements into CADE system. - Conduct weekly reviews with technical/cost teams and quarterly contractor progress reviews with government cost community. <p>FY 2023 Base Plans:</p> <ul style="list-style-type: none"> - Will continue to collect historical program data to fill gaps against defined data collection requirements from previous year efforts and integrate historical data collected into CADE system for central access to all DoD - Will direct research to develop integrated datasets with embedded CERs and benchmarks, but with structures that let cost analysts easily and quickly re-normalize data for specialized relationships and benchmarks - Will initiate studies that are topical/timely or surface from prior research - Will continue to work with OSD CADE team to implement data design and structure requirements as well as visual analysis tool requirements into CADE system - Will conduct weekly reviews with technical/cost teams and quarterly contractor progress reviews with entire government cost community <p>FY 2022 to FY 2023 Increase/Decrease Statement: Funding increased to align with labor required for scheduled activities.</p>					
Accomplishments/Planned Programs Subtotals	4.773	4.811	5.421	-	5.421

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

N/A

Remarks

N/A

D. Acquisition Strategy

The CEM program performs studies to continuously develop updated cost data and estimating methods and tools, data process re-engineering tools, data structure development tools, and gap filling initiatives. Studies are organized by those that span all acquisition initiatives as well as by the following weapon system types:

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
3600 / 7	PE 0901538F / <i>Financial Management Information Systems Development</i>	675177 / <i>Cost Estimating Modeling (CEM)</i>

manned aircraft, UAVs, ballistic missiles, tactical missiles, munitions, electronics and aircraft modifications, ground stations and automated information systems, space and launch vehicles.

The DAF partnered with OSD to host and maintain products on the CADE system. The CADE and CEM partnership is the lead example for data initiatives designed as a response to a congressional-expressed desire for better acquisition outcomes. The partnership provides data/analysis/methods/tools and institutional knowledge at the analysts' fingertips versus the status quo inefficient, ad hoc approach.

CEM contracts are firm-fixed price, cost plus, or hybrid as a combination of fixed price and cost plus, and are awarded through full and open competition following Federal Acquisition Regulation (FAR) guidelines. The DAF provides contract management oversight and direction. Contracted knowledge-based studies progress will be reviewed on a quarterly basis and adjusted as appropriate.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>	Project (Number/Name) 675177 / <i>Cost Estimating Modeling (CEM)</i>
--	---	--

Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Datasets, Analysis, and Methods	C/CPFF	Tecolote Research : Goleta, CA	0.000	1.029	Jan 2021	-		-		-		-	0.000	1.029	-
Datasets, Analysis, and Methods Development	C/Various	Tecolote Research : Goleta, CA	0.000	2.229	Sep 2021	2.213	Sep 2022	2.279	Sep 2023	-		2.279	Continuing	Continuing	-
CADE Studies - OY4 Bridge	MIPR	OSD(CAPE) : Pentagon, VA	0.000	0.338	Feb 2021	-		-		-		-	0.000	0.338	-
CADE System Development/Cost Studies	MIPR	OSD(CAPE) : Pentagon, VA	0.000	0.896	Jun 2021	1.381	Feb 2022	1.423	Feb 2023	-		1.423	Continuing	Continuing	-
Other Knowledge-Based Studies	MIPR	Various : Various	0.000	0.150	Nov 2020	1.073	Jan 2022	1.556	Jan 2023	-		1.556	Continuing	Continuing	-
Subtotal			0.000	4.642		4.667		5.258		-		5.258	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Support Costs	Various	Not specified. : TBD	0.000	0.131	Dec 2020	0.144	Dec 2021	0.163	Dec 2022	-		0.163	0.000	0.438	-
Subtotal			0.000	0.131		0.144		0.163		-		0.163	0.000	0.438	N/A

			Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	4.773	4.811	5.421	-	5.421	Continuing	Continuing	N/A

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>	Project (Number/Name) 675177 / <i>Cost Estimating Modeling (CEM)</i>

FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

CEM	
Commodity Specific Knowledge-Based Studies (KBS)	
Populate Data Templates w/ Commodity Specific KBS findings (ongoing)	
Develop CERs/Estimating Tools/Models	
Data / CERs / Tools / Models Deliverables (Feb 2021)	■
Data / CERs / Tools / Models Deliverables (Sep 2021)	■
Data / CERs / Tools / Models Deliverables (Feb 2022)	■
Data / CERs / Tools / Models Deliverables (Sep 2022)	■
Data / CERs / Tools / Models Deliverables (Feb 2023)	■
Data / CERs / Tools / Models Deliverables (Sep 2023)	■
Data / CERs / Tools / Models Deliverables (Feb 2024)	■
Data / CERs / Tools / Models Deliverables (Sep 2024)	■
Data / CERs / Tools / Models Deliverables (Feb 2025)	■
Data / CERs / Tools / Models Deliverables (Sep 2025)	■

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>	Project (Number/Name) 675177 / <i>Cost Estimating Modeling (CEM)</i>
--	---	--

	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Data / CERs / Tools / Models Deliverables (Feb 2026)	█																											
Data / CERs / Tools / Models Deliverables (Sep 2026)	█																											
Data / CERs / Tools / Models Deliverables (Feb 2027)	█																											
Data / CERs / Tools / Models Deliverables (Sep 2027)	█																											

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / <i>Financial Management Information Systems Development</i>	Project (Number/Name) 675177 / <i>Cost Estimating Modeling (CEM)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CEM				
Commodity Specific Knowledge-Based Studies (KBS)	1	2021	4	2027
Populate Data Templates w/ Commodity Specific KBS findings (ongoing)	1	2021	4	2027
Develop CERs/Estimating Tools/Models	1	2021	4	2027
Data / CERs / Tools / Models Deliverables (Feb 2021)	2	2021	2	2021
Data / CERs / Tools / Models Deliverables (Sep 2021)	4	2021	4	2021
Data / CERs / Tools / Models Deliverables (Feb 2022)	2	2022	2	2022
Data / CERs / Tools / Models Deliverables (Sep 2022)	4	2022	4	2022
Data / CERs / Tools / Models Deliverables (Feb 2023)	2	2023	2	2023
Data / CERs / Tools / Models Deliverables (Sep 2023)	4	2023	4	2023
Data / CERs / Tools / Models Deliverables (Feb 2024)	2	2024	2	2024
Data / CERs / Tools / Models Deliverables (Sep 2024)	4	2024	4	2024
Data / CERs / Tools / Models Deliverables (Feb 2025)	2	2025	2	2025
Data / CERs / Tools / Models Deliverables (Sep 2025)	4	2025	4	2025
Data / CERs / Tools / Models Deliverables (Feb 2026)	2	2026	2	2026
Data / CERs / Tools / Models Deliverables (Sep 2026)	4	2026	4	2026
Data / CERs / Tools / Models Deliverables (Feb 2027)	2	2027	2	2027
Data / CERs / Tools / Models Deliverables (Sep 2027)	4	2027	4	2027