Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	4.922	4.279	5.634	0.000	5.634	5.776	5.895	6.011	5.975	Continuing	Continuing
675177: *Cost Estimating Modeling (CEM)*	0.000	4.922	4.279	5.634	0.000	5.634	5.776	5.895	6.011	5.975	Continuing	Continuing

Program MDAP/MAIS Code: N87

A. Mission Description and Budget Item Justification

This program element develops upgrades to existing financial management systems and development of cost estimating datasets, methods, and tools and knowledge-based studies. These upgrades are required to improve efficiencies in financial management and cost analysis. This program element also supports studies and analysis to improve future program planning and execution.

Cost Estimating Modeling (CEM) provides and enhances Air Force-wide cost estimating capabilities by developing current cost estimating datasets and methods and tools, data architectures/structures, and other cost estimating method/tool gap-filling initiatives. In collaboration with the OSD Cost Assessment Data Enterprise (CADE) project (the Department of Defense's (DoD) unified information system and initiative to collect, organize, store, and use contractor and acquisition data more efficiently), CEM products improve the quality, timeliness, and effectiveness of acquisition program cost estimates in support of Department of Air Force (DAF) and DoD acquisition decisions, programming and execution decisions, and Congressional mandates. The partnership between CEM and CADE is a leading example of a data initiative designed as a response to a Congressional-expressed desire for better outcomes in acquisition. CEM research ensures DAF datasets, analysis, estimating tools, and institutional knowledge availability at cost analyst's fingertips rather than an inefficient, ad hoc, and decentralized development.

CEM ensures the DAF continuously improves cost estimating capabilities for broad cross-cutting areas, as well as specific to each weapon system type. This project performs knowledge-based studies to include organizing complete datasets, analyzing historical data, and studying changing technologies/programmatic information to develop new estimating methods (e.g., statistical tools, cost estimating relationships) across hundreds of product work breakdown structure elements and functional cost elements. CEM delivers valuable datasets, methods, and analytical tools in support of higher quality/credible estimates required by statute and regulation allowing for more realistic cost-conscious decisions on over $200B of critical warfighter capability.

Changing technologies, acquisition laws, policy directives, and initiatives drive the continuous requirement for revised cost estimating processes, methods, and tools. Critical policy requirements for which CEM research facilitates implementation and compliance are:
- Statute (e.g., Title 10, section 167; USC 3221, 3227, 4251, 4252, 4253, and 4328)
- Policy directives (DoDI 5000.73, DoDI 5000.74, DoDI 5000.75, DoDI 5000.80, DoDI 5000.85, DoDI 5000.87)
- FY2016/17/18/21 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)

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*

- 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, and 0606398F. In FY2023 $0.0M was expended for civilian pay expenses in this program element, and in FY2024 $0.0M 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.

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 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	5.121	4.279	5.624	0.000	5.624
Current President's Budget	4.922	4.279	5.634	0.000	5.634
Total Adjustments	-0.199	0.000	0.010	0.000	0.010
• 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	-0.199	0.000			
• Other Adjustments	0.000	0.000	0.010	0.000	0.010

Change Summary Explanation

No significant change to FY25 funding request.

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force											Date: March 2024	
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0901538F / *Financial Management Information Systems Development*				Project (Number/Name) 675177 / *Cost Estimating Modeling (CEM)*			
COST ($ in Millions)	**Prior Years**	**FY 2023**	**FY 2024**	**FY 2025 Base**	**FY 2025 OCO**	**FY 2025 Total**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**Cost To Complete**	**Total Cost**
675177: *Cost Estimating Modeling (CEM)*	0.000	4.922	4.279	5.634	0.000	5.634	5.776	5.895	6.011	5.975	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Cost Estimating Modeling (CEM) provides and enhances Air Force-wide cost estimating capabilities by developing current cost estimating datasets and methods and tools, data architectures/structures, and other cost estimating method/tool gap-filling initiatives. In collaboration with the OSD Cost Assessment Data Enterprise (CADE) project (the Department of Defense's (DoD) unified information system and initiative to collect, organize, store, and use contractor and acquisition data more efficiently), CEM products improve the quality, timeliness, and effectiveness of acquisition program cost estimates in support of Department of Air Force (DAF) and DoD acquisition decisions, programming and execution decisions, and Congressional mandates. The partnership between CEM and CADE is a leading example of a data initiative designed as a response to a Congressional-expressed desire for better outcomes in acquisition. CEM research ensures DAF datasets, analysis, estimating tools, and institutional knowledge availability at analyst's fingertips rather than an inefficient, ad hoc, and decentralized approach.

CEM ensures the DAF continuously improves cost estimating capabilities for broad cross-cutting areas, as well as specific to each weapon system type. This project performs knowledge-based studies to include organizing complete datasets, analyzing historical data, and studying changing technologies/programmatic information to develop new estimating methods (e.g., statistical tools, cost estimating relationships) across hundreds of product work breakdown structure elements and functional cost elements. CEM delivers valuable datasets, methods, and analytical tools in support of higher quality/credible estimates required by statute and regulation allowing for more realistic cost-conscious decisions on over $200.0B of critical warfighter capability.

Changing technologies, acquisition laws, policy directives, and initiatives drive the continuous requirement for revised cost estimating processes, methods, and tools. Critical policy requirements for which CEM research facilitates implementation and compliance are:
- Statute (e.g., Title 10, section 167; USC 3221, 3227, 4251, 4252, 4253, and 4328)
- Policy directives (DoDI 5000.73, DoDI 5000.74, DoDI 5000.75, DoDI 5000.80, DoDI 5000.85, DoDI 5000.87)
- FY2016/17/18/21 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,

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

and 0606398F. In FY2023 $0.0M was expended for civilian pay expenses in this program element, and in FY2024 $0.0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: CEM	4.922	4.279	5.634	0.000	5.634
Description: Perform knowledge-based studies (KBS) — Develop/modernize cost datasets/databases, data collection process improvements, analysis to develop new estimating methods/tools (e.g., statistical and modeling 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 systems, launch vehicles, and crosscutting areas. ACCOMPLISHMENTS: - Updated the plan and resource summaries to complete cost research across all Air Force weapon system commodities aligned to the SAF/FMC cost research plan. - Updated the aircraft systems engineering/ program management dataset. Analyzed data to develop cost estimating benchmark methods. - Updated the missile/munitions relational database/tool with detailed cost reports; updated the handbook summarizing these cost tools. - Compiled a cost dataset to build and sustain a software factory program including its operational infrastructure. - Developed payload and bus satellite sizing relationships accounting for recent technological trends, including commercial satellite data. - Collected cost, schedule, and technical data on resilient end-to-end ground systems and developed models to estimate the cost of these by cost elements such as software, hardware, and systems engineering/program management. - Laid out the effort to develop curated datasets and databases mapped into a standard structure for use by the cost community in the Cost Analysis Data Operating Model effort, part of the SAF/FM Strategic Plan. - Worked with OSD CADE team to implement process improvements, and data design and structure requirements into the CADE system. - Assembled and analyzed data on the timing, drivers, and cost of upgrades to mission computers found in Air Force and Navy aircraft to inform future modernization planning and decision-making efforts. - Integrated finalized products into CADE system repository for sharing with the Air Force and DoD cost community.					

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
FY 2024 Plans: - Continue to develop and share curated datasets and databases mapped into a standard structure for use by the cost analysis community in support of designing and implementing the Cost Analysis Data Operating Model objectives in the FM Strategic Plan. - Scrape contract modifications data and use this to develop a benchmark tool that estimates the cost of engineering change orders in the development and production phases of acquisition programs. Ingest this data into a cloud-based solution and develop data visualizations using business intelligence tools. - Update the dataset of contracts capturing cost growth as a function of time and identify potential drivers of cost growth phasing. Develop this into a model to predict a phasing profile accounting uniquely for contract cost growth. - 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. - Continue to work with OSD CADE team to implement data design and structure requirements and visual analysis tool requirements into CADE system. - Conduct weekly reviews with technical/cost teams and quarterly contractor progress reviews with government cost community.					
FY 2025 Base Plans: - Will continue efforts in support of the Cost Analysis Data Operating Model by prioritizing capability gaps for future development and evaluating current CEM tools that would benefit by migration to an enterprise solution. - 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.					
FY 2025 OCO Plans: N/A					
FY 2024 to FY 2025 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Funding increased to align with scheduled activities.					
Accomplishments/Planned Programs Subtotals	4.922	4.279	5.634	0.000	5.634

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 datasets/databases and estimating methods and tools, data architectures/structures, and gap filling initiatives. Knowledge-based studies are organized by those that span all acquisition initiatives as well as by the following weapon system types: manned aircraft, UAVs, ballistic missiles, tactical missiles, munitions, electronics and aircraft modifications, ground stations and automated information systems, and space systems and launch vehicles.

The DAF's CEM collaboration with the OSD CADE information system and the design objectives for the DAF Cost Analysis Data Operating model provide enhanced and current data/analysis/methods/tools and institutional knowledge at the analyst's fingertips versus an inefficient, ad hoc, and decentralized 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CEM - CADE System Development/Cost Studies	MIPR	OSD(CAPE) : Pentagon, VA	0.000	2.411	Feb 2023	2.070	Feb 2024	2.544	Feb 2025	-		2.544	Continuing	Continuing	-
CEM - Other Knowledge-Based Studies	MIPR	Various : Various	0.000	0.600	Jan 2023	0.207	Nov 2023	0.744	Jan 2025	-		0.744	Continuing	Continuing	-
Cost Estimating Modeling (CEM) Development	C/Various	Tecolote Research : Goleta, CA	0.000	1.911	Sep 2023	2.002	Sep 2024	2.346	Sep 2025	-		2.346	Continuing	Continuing	-
		Subtotal	0.000	4.922		4.279		5.634		-		5.634	Continuing	Continuing	N/A

	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	4.922		4.279		5.634		-		5.634	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

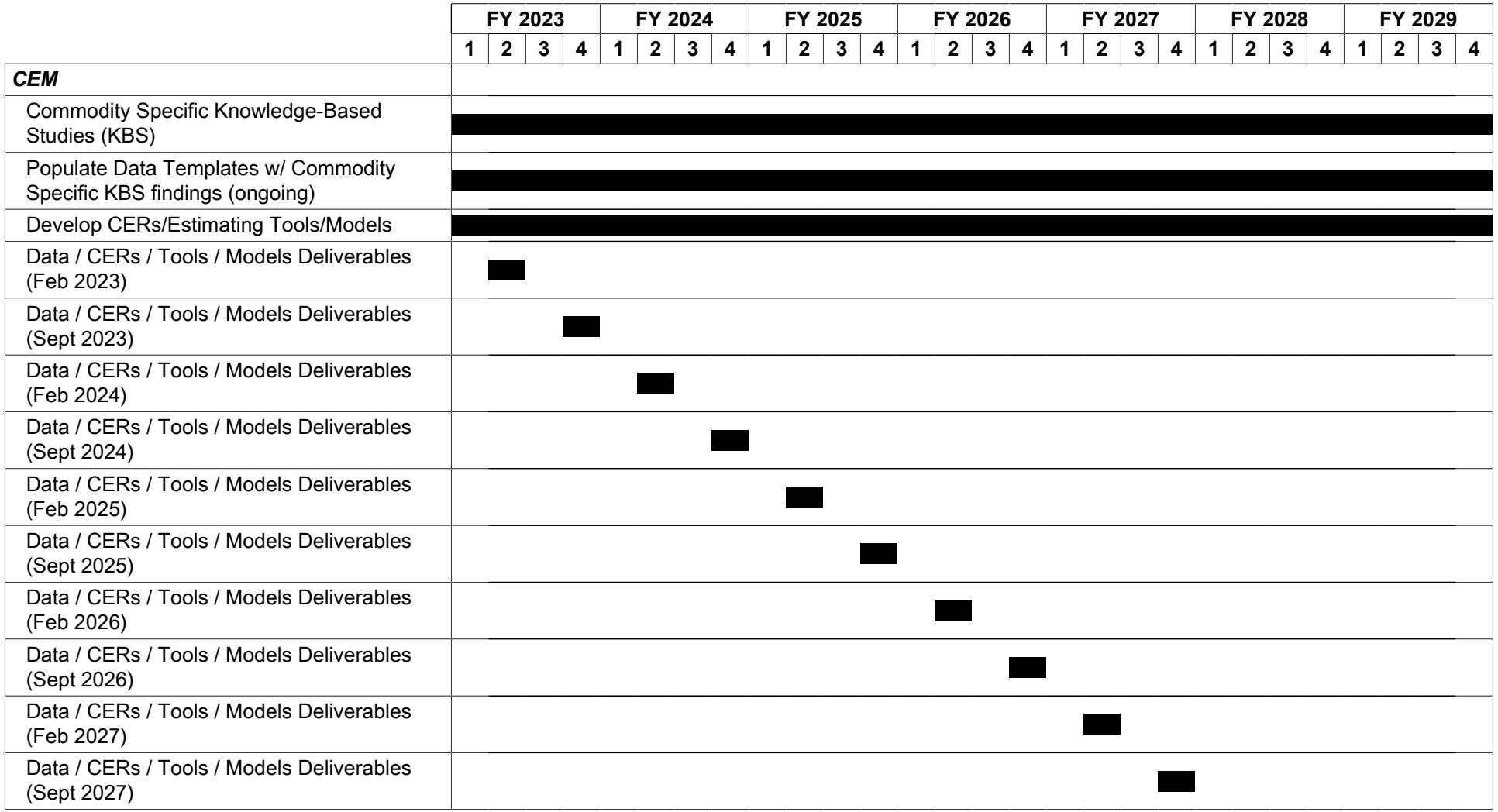

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

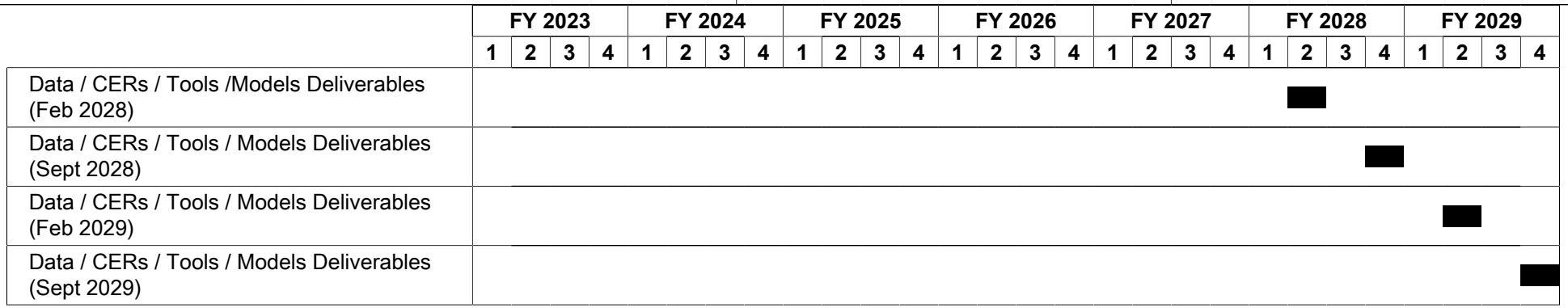

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CEM				
Commodity Specific Knowledge-Based Studies (KBS)	1	2023	4	2029
Populate Data Templates w/ Commodity Specific KBS findings (ongoing)	1	2023	4	2029
Develop CERs/Estimating Tools/Models	1	2023	4	2029
Data / CERs / Tools / Models Deliverables (Feb 2023)	2	2023	2	2023
Data / CERs / Tools / Models Deliverables (Sept 2023)	4	2023	4	2023
Data / CERs / Tools / Models Deliverables (Feb 2024)	2	2024	2	2024
Data / CERs / Tools / Models Deliverables (Sept 2024)	4	2024	4	2024
Data / CERs / Tools / Models Deliverables (Feb 2025)	2	2025	2	2025
Data / CERs / Tools / Models Deliverables (Sept 2025)	4	2025	4	2025
Data / CERs / Tools / Models Deliverables (Feb 2026)	2	2026	2	2026
Data / CERs / Tools / Models Deliverables (Sept 2026)	4	2026	4	2026
Data / CERs / Tools / Models Deliverables (Feb 2027)	2	2027	2	2027
Data / CERs / Tools / Models Deliverables (Sept 2027)	4	2027	4	2027
Data / CERs / Tools /Models Deliverables (Feb 2028)	2	2028	2	2028
Data / CERs / Tools / Models Deliverables (Sept 2028)	4	2028	4	2028
Data / CERs / Tools / Models Deliverables (Feb 2029)	2	2029	2	2029
Data / CERs / Tools / Models Deliverables (Sept 2029)	4	2029	4	2029