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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2020 Army	<b>Date:</b> March 2019
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<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b>											
2040: Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development	PE 0205412A / Environmental Quality Technology - Operational System Dev											
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	-	0.187	0.249	0.732	-	0.732	0.259	0.265	0.776	0.283	0.000	2.751
EE6: Environmental Information Tech Modernization	-	0.187	0.249	0.732	-	0.732	0.259	0.265	0.776	0.283	0.000	2.751

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

The Environmental Information Technology Management (EITM) program includes support for the Defense Environment, Safety & Occupational Health Network Information Exchange (DENIX) defense business system, as well as its database and reporting application, the Knowledge Based Corporate Reporting System (KBCRS). This request for research, development, test and evaluation (RDTE) is to implement necessary enhancements to facilitate DENIX's Platform-as-a-Service capabilities, with additional modernizations that will improve the DoD's ESOH system of record and reporting tool set. This also includes upgrades to incorporate ongoing cybersecurity, cloud computing, and other information technology requirements.

<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2018</u></b>	<b><u>FY 2019</u></b>	<b><u>FY 2020 Base</u></b>	<b><u>FY 2020 OCO</u></b>	<b><u>FY 2020 Total</u></b>
Previous President's Budget	0.195	0.249	0.732	-	0.732
Current President's Budget	0.187	0.249	0.732	-	0.732
Total Adjustments	-0.008	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.008	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0205412A / Environmental Quality Technology - Operational System Dev				Project (Number/Name) EE6 / Environmental Information Tech Modernization			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
EE6: Environmental Information Tech Modernization	-	0.187	0.249	0.732	-	0.732	0.259	0.265	0.776	0.283	0.000	2.751
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

The Environmental Information Technology Management (EITM) program includes support for the Defense Environment, Safety & Occupational Health Network and Information Exchange (DENIX) defense business system, as well as its database and reporting application, the Knowledge Based Corporate Reporting System (KBCRS). This request for research, development, test, and evaluation (RDTE) is to implement necessary enhancements to facilitate DENIX's Platform-as-a-Service (PaaS) capabilities, with additional modernizations that will improve the DoD's ESOH system of record and reporting tool set. This also includes upgrades to incorporate ongoing cybersecurity, cloud computing, and other information technology requirements.

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

	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
<b>Title:</b> Environmental Information Technology Modernization	0.187	0.249	0.732
<b>Description:</b> Prototype, develop, and implement platform enhancements as required to meet data management requirements for the Defense Environment, Safety & Occupational Health Network and Information Exchange (DENIX) and its reporting application, the Knowledge Based Corporate Reporting System (KBCRS).			
<b>FY 2019 Plans:</b> Upon completing the BCAC process via CMO approval of Part 2 of the DENIX CRD, the EITM program will accomplish the following with FY18 and FY19 RDTE funding: The current architecture of the DENIX platform will be expanded from one Level 4 container (Controlled Unclassified Information) to add a separate Level 2 container (Non-Controlled Unclassified Information) within the cloud Infrastructure-as-a-Service (IaaS) model. These efforts will provide DENIX the architecture and bandwidth required to support large-scale web conferencing and implement necessary user experience updates to the platform.			
<b>FY 2020 Plans:</b> The DENIX platform will use machine learning algorithms to ?learn? the business processes and rules used by OSD for the environmental data calls (Defense Environmental Programs Annual Report to Congress and the Environmental Management Review). ?Learning? this information will pave the way for the prototyping of a tool that will allow KBCRS to predict anomalies and trends in data input, improving data quality.			
<b>FY 2019 to FY 2020 Increase/Decrease Statement:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Army		<b>Date:</b> March 2019	
<b>Appropriation/Budget Activity</b> 2040 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0205412A / <i>Environmental Quality Technology - Operational System Dev</i>	<b>Project (Number/Name)</b> EE6 / <i>Environmental Information Tech Modernization</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2018</b>	<b>FY 2019</b>
Increase in RDTE funding for subsequent years will be allocated to comply with Cybersecurity Service Provider and Risk Management Framework requirements for the system.			
<b>Accomplishments/Planned Programs Subtotals</b>		0.187	0.732
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b> Information Mgmt - Automation 43261200 - This is the associated OMA line that provides daily support for the DoD Environment, Safety & Occupational Health Network Information Exchange and associated applications. EITM is managed as a Defense Business System #3180.			
<b>D. Acquisition Strategy</b> The Deputy Assistant Secretary of the Army for Environment, Safety & Occupational Health is the designated Executive Agent for the Environmental Information Technology Management (EITM) program. Defined by the DoD Directive 4715.1E, the EITM mission is to ensure efficient use of enterprise environment, safety, and occupational health (ESOH) corporate information management processes by providing and sustaining requirement-driven ESOH corporate data management, Congressional-reporting, and public outreach tools to the DoD, and other DoD stakeholders. Funding provided for this program will allow EITM to continue to develop and modernize the platform to meet Army and DoD policy-driven cloud computing and cybersecurity requirements. Prior to funding being committed, DoD ESOH stakeholders and authoritative information technology organizations were consulted to determine necessary system interface upgrades to be incorporated. Expanding DENIX's architecture to create a Level 2 container separate from the current Level 4 container will not only provide a more secure, cybersecurity risk-adverse environment, but it will also optimize performance, capabilities, and mandatory reporting for ESOH stakeholders using a PaaS delivery model. This phased solution begins in FY 2018 by prototyping of system architecture optimization that improves user experience, enabling web conferencing in FY 2019 and applying machine learning concepts to improve data quality in FY 2020-2022.			
<b>E. Performance Metrics</b> N/A			

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2020 Army												<b>Date:</b> March 2019			
<b>Appropriation/Budget Activity</b> 2040 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0205412A / <i>Environmental Quality Technology - Operational System Dev</i>				<b>Project (Number/Name)</b> EE6 / <i>Environmental Information Tech Modernization</i>					
<b>Product Development (\$ in Millions)</b>				<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
System enhancements for required network interfaces to support EITM mission.	C/FFP	Delta Resources : Alexandria, VA	0.270	0.187		0.249		0.732		-		0.732	0.000	1.438	-
<b>Subtotal</b>			0.270	0.187		0.249		0.732		-		0.732	0.000	1.438	N/A
			<b>Prior Years</b>	<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			0.270	0.187		0.249		0.732		-		0.732	0.000	1.438	N/A
<b>Remarks</b>															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army												Date: March 2019																
Appropriation/Budget Activity 2040 / 7								R-1 Program Element (Number/Name) PE 0205412A / Environmental Quality Technology - Operational System Dev								Project (Number/Name) EE6 / Environmental Information Tech Modernization												
Event Name	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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
Split architecture prototype																												
User experience and containerization																												
Webinars/virtual conferencing prototype and development																												
Machine learning algorithms																												
Machine learning prototype																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Army			<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 2040 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0205412A / <i>Environmental Quality Technology - Operational System Dev</i>	<b>Project (Number/Name)</b> EE6 / <i>Environmental Information Tech Modernization</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Split architecture prototype	2	2019	2	2020
User experience and containerization	3	2019	3	2021
Webinars/virtual conferencing prototype and development	1	2020	4	2020
Machine learning algorithms	1	2020	4	2021
Machine learning prototype	4	2020	4	2022