Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army											Date: February 2018	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603779A / *Environmental Quality Technology Dem/Val*							
COST ($ in Millions)	**Prior Years**	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
Total Program Element	-	7.480	10.456	14.749	-	14.749	14.979	16.133	15.182	14.843	0.000	93.822
035: *National Defense Cntr For Enviro Excellence*	-	2.446	3.779	4.870	-	4.870	4.968	5.075	5.185	5.300	0.000	31.623
E21: *Environmental Quality Technology Dem/Val*	-	5.034	6.677	9.879	-	9.879	10.011	11.058	9.997	9.543	0.000	62.199

A. Mission Description and Budget Item Justification

There is a broad application potential for environmental quality technology (EQT) to be applied to multiple Army weapon systems and installations. However, technology must be demonstrated and validated (total ownership cost and performance data identified) before potential users will consider exploiting it. This Program Element (PE) includes Projects focused on validating the general military utility or cost reduction potential of technology when applied to different types of infrastructure, military equipment or techniques. It may include validations and proof-of-principle demonstrations in field exercises to evaluate upgrades or provide new operational capabilities. The validation of technologies will be in as realistic an operating environment as possible to assess performance or cost reduction potential. EQT demonstration/ validation is systemic, i.e. applies to a class of systems (e.g., vehicles or aircraft) or to a Department of Army-wide, multiple site/installation problem (e.g. unexploded ordnance detection and discrimination). This PE will address, and eventually resource, programs in each of the Army environmental quality technology pillars (military materials in the environment, sustainable ranges and lands, compliance, and pollution prevention). All work must be endorsed by potential users and supported by a state-of-the-art assessment (i.e. "technology is heading for user to implement").

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	7.785	10.456	11.727	-	11.727
Current President's Budget	7.480	10.456	14.749	-	14.749
Total Adjustments	-0.305	0.000	3.022	-	3.022
• Congressional General Reductions	-0.004	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.004	-			
• SBIR/STTR Transfer	-0.297	-			
• Adjustments to Budget Years	-	-	3.022	-	3.022

Change Summary Explanation

Fiscal Year 2019 increases support of National Defense Center for Environmental Excellence and Pollution Prevention Technology Dem/Val efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603779A / *Environmental Quality Technology Dem/Val*	Project (Number/Name) 035 / *National Defense Cntr For Enviro Excellence*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
035: *National Defense Cntr For Enviro Excellence*	-	2.446	3.779	4.870	-	4.870	4.968	5.075	5.185	5.300	0.000	31.623
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The National Defense Center for Environmental Excellence (NDCEE) was established by Congress in 1990 with a directive to "serve as a national leadership organization to address high priority environmental problems for the Department of Defense (DoD), other government organizations, and the industrial community." The NDCEE Program is a national resource for developing and disseminating advanced environmental technologies. The NDCEE is used to: demonstrate environmentally acceptable technology to industry; validate new technology prior to transferring that technology; and assist in the training of potential users as part of that technology transfer process. The NDCEE is a DoD resource for environmental quality management and technology validation. This Project is managed by the Army on behalf of the Office of the Assistant Deputy Under Secretary of Defense for Installations & Environment. In May 2008, the Project name was re-designated from the National Defense Center for Environmental Excellence to the National Defense Center for Energy and Environment to ensure that the Center's mission recognizes and addresses the strategic interdependence of energy and environmental technology requirements within an overall sustainability framework in support of our installations, weapons systems and war fighters. This name change also directly supports the DoD's proactive implementation of Executive Order 13423, "Strengthening Federal Environmental, Energy and Transportation Management."

The United States (U.S.) Army's broadly encompassing and growing mobile, personal and stationary advanced energy technology requirements include infrastructure, alternative and synthetic fuels, surety, renewables, storage, distribution, advanced power, micro-grids, transportation, systems integration and others. Further, to train as we fight, validated energy and environmental technologies need to be available and implemented at Army installations. The NDCEE will continue to demonstrate, validate, and transfer these technologies supporting our integrated environment, safety, occupational health and energy objectives with full consideration of the triple bottom line of mission, environment and community.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Conduct demonstration/validation of environmentally acceptable technologies that enhance military readiness and reduce production, operating, and/or disposal costs.	2.276	2.935	4.770
Description: Supports the demonstration and validation of environmental, safety, occupational health, and energy technologies that support the Army's Environmental Quality Technology mission. The objective is to determine if the technology is ready for implementation that will enhance military readiness and reduce production, operating, and/or disposal costs.			
FY 2018 Plans: Conduct demonstration/validation of environmental safety and occupational health (ESOH) and Energy technologies that enhance military readiness and reduce production, operating, and/or disposal costs. Conduct project selection process for potential Fiscal			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603779A / *Environmental Quality Technology Dem/Val*	**Project (Number/Name)** 035 / *National Defense Cntr For Enviro Excellence*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Year (FY) 19 new starts. Technologies will be selected by the NDCEE Technical Working Group and approved by the NDCEE Executive Advisory Board. ***FY 2019 Plans:*** Will conduct demonstration/validation of ESOH and Energy technologies that enhance military readiness and reduce production, operating, and/or disposal costs. Will conduct project selection process for potential FY 2020 new starts. Technologies will be selected by the NDCEE Technical Working Group and approved by the NDCEE Executive Advisory Board. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding is based upon an established mechanism for project demonstrations and validations that support priority requirements, and a historical growth trend of mission essential requirements across the Services. Total program costs include program operating and management expenses, and technology demonstration / validation of priority projects. Projects are typically two years in duration and funding is planned for year two of viable current year projects. There are 13 active projects (started in FY16 and 17). Eight new start projects are anticipated for FY18 (final decision to be made in Dec 2017), out of 24 joint service prioritized and approved demonstration/validation projects. The maximum number of projects will be funded, based on the budget received. It is anticipated 16 high-priority joint service demonstration/validation projects will remain unfunded. Increase in FY19 funding recognizes that high-priority demonstration/validation projects remain unfunded and additional dollars will be used to fund the remaining, outstanding FY18 projects.			
Title: NDCEE Government program management during contract negotiations and during project formulation, execution, and technology transfer. ***Description:*** Funds the government program management office for the NDCEE. This consists of personnel assisting in contract negotiations and during project formulation, execution, and technology transfer. ***FY 2018 Plans:*** Fund NDCEE Government program management during contract negotiations and project formulation, execution, and technology transfer. ***FY 2019 Plans:*** Will fund NDCEE Government program management during contract negotiations and project formulation, execution, and technology transfer. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease in program management is a result of moving day-to-day operations of NDCEE from RDECOM to AEC. Program management transition occurred at the beginning of FY18.	0.170	0.844	0.100
Accomplishments/Planned Programs Subtotals	2.446	3.779	4.870

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603779A / *Environmental Quality Technology Dem/Val*	**Project (Number/Name)** 035 / *National Defense Cntr For Enviro Excellence*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The NDCEE is a national asset focused on DoD applications that include technology transfer to appropriate DoD organizations. The NDCEE fosters an outreach program to describe its products and capabilities that include publication of results and participation in professional meetings, symposia, conferences, and appropriate coordination with industry. The management strategy for the NDCEE centers on a DoD Executive Advisory Board (EAB) chaired by the DoD NDCEE Executive Agent on behalf of the Deputy Undersecretary of Defense for Installations and Environment and composed of senior DoD leadership to oversee NDCEE operations. The EAB is supported by the NDCEE Technical Working Group (TWG) that includes senior level staff members from each of the offices represented on the EAB. The NDCEE TWG coordinates all NDCEE activities, votes on proposed joint NDCEE projects, and reports back to the EAB Principals. Working at the tactical levels, three Focus Groups (environment, safety/occupational health, and energy) were established to develop joint projects. The Army's Environmental Quality Technology Program participating in the Focus Groups also assists in the formulation of suggested environmental technology projects to be demonstrated within the NDCEE Program. The contracting strategy of the NDCEE is based on using an NDCEE Contracting Officer's Representative to validate all the contractual portions of the NDCEE and by technical monitors (TM) to oversee the technical aspects of each contracted task. A prime contractor operates NDCEE test facility to validate environmentally compatible technologies on a representative "shop floor". The NDCEE accounts for and conducts work for: (1) direct funded Army tasks; (2) reimbursable tasks from within DoD and from other Government agencies; and (3) when applicable Congressionally directed and funded tasks.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603779A / *Environmental Quality Technology Dem/Val*	Project (Number/Name) 035 / *National Defense Cntr For Enviro Excellence*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	MIPR	AEC : San Antonio, TX	24.706	0.170	Jan 2017	0.844		0.100	Nov 2018	-		0.100	Continuing	Continuing	Continuing
		Subtotal	24.706	0.170		0.844		0.100		-		0.100	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	TBD	Various : Various	8.797	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	8.797	-		-		-		-		-	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Data	Various	Various : Various	24.030	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	24.030	-		-		-		-		-	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Testing and Evaluation	Various	Various. : Various	29.760	2.276	Mar 2017	2.935		4.770	Nov 2018	-		4.770	Continuing	Continuing	Continuing
		Subtotal	29.760	2.276		2.935		4.770		-		4.770	Continuing	Continuing	N/A

Remarks

Increase in FY19 funding reflects new requirements for additional technology demonstration/validation projects. Current funding level is below requirement level.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
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	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	87.293	2.446		3.779		4.870		-		4.870	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603779A / *Environmental Quality Technology Dem/Val*	**Project (Number/Name)** 035 / *National Defense Cntr For Enviro Excellence*

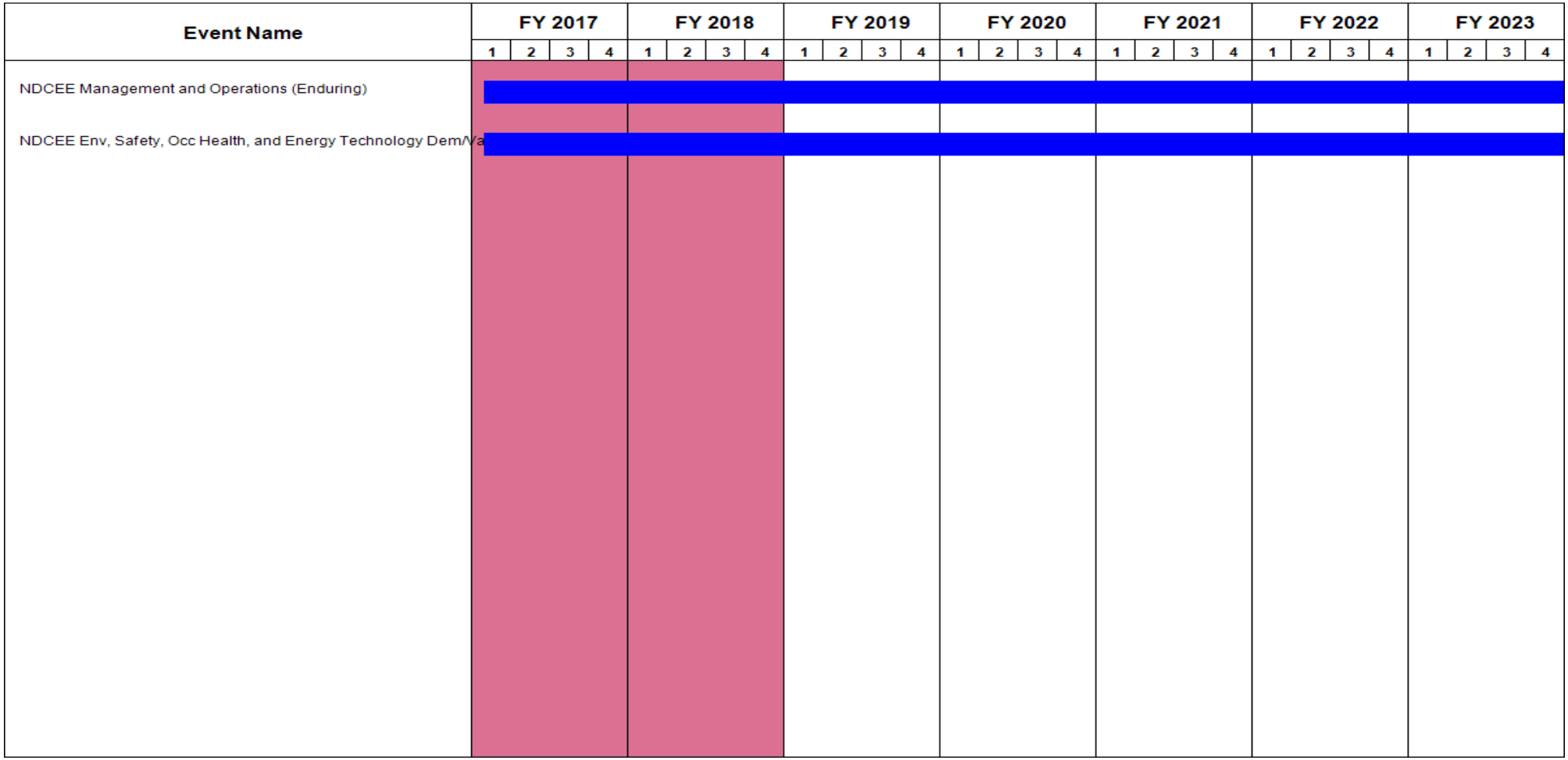

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603779A / *Environmental Quality Technology Dem/Val*	**Project (Number/Name)** 035 / *National Defense Cntr For Enviro Excellence*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
NDCEE Management and Operations (Enduring)	1	2014	4	2023
NDCEE Env, Safety, Occ Health, and Energy Technology Dem/Val (Enduring)	1	2014	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603779A / *Environmental Quality Technology Dem/Val*	Project (Number/Name) E21 / *Environmental Quality Technology Dem/Val*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
E21: *Environmental Quality Technology Dem/Val*	-	5.034	6.677	9.879	-	9.879	10.011	11.058	9.997	9.543	0.000	62.199
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project supports Advanced Component Development and Prototypes of environmental quality technologies developed within the Army Environmental Quality Technology program. The Project increases operational sustainment and warfighter training capabilities by reducing soldier and worker health risks and environmental quality impacts that would otherwise result in restoration needs and compliance enforcement actions against installations while simultaneously increasing performance and standardization across the Army. The Project expedites technology transition from the laboratory to operational use by demonstrating new materials and processes to fulfill the performance requirements outlined in Material Specifications, Depot Maintenance Work Requirements, Technical Manuals, Drawings and other technical data. Materials and processes demonstrated under this project are inherently more sustainable than the baseline with respect to environmental, safety and occupational health concerns, thereby reducing life cycle costs incurred by acquisition, industrial base and installation end users.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Environmental quality technology demonstration and validation: Toxic Metal Reduction in Surface Finishing of Army Weapon Systems ***Description:*** Increase readiness and environmental sustainability of Army depots and maintenance facilities by reducing or eliminating the use of hexavalent chromium, cadmium and associated toxic or carcinogenic materials used in surface finishing processes. ***FY 2018 Plans:*** Establish hexavalent chromium-free pilot processes for depositing and repairing hard chrome surfaces; validate alternative products for sealing black oxide, hard anodize and zinc plated surfaces at Army depots. ***FY 2019 Plans:*** Will demonstrate hexavalent chromium-free anodizing process on aluminum aircraft parts; establish test bed for cold spray repair of hard chrome-plated wear surfaces during depot maintenance; qualify hexavalent chromium-free alternatives for sealing heavy zinc phosphate surfaces on steel weapon systems. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY18 funds higher than FY19 due to the purchase and installation of pilot process equipment.	2.105	2.628	2.081
Title: Environmental quality technology demonstration and validation: Airborne Lead Reduction from Army Weapon Systems	1.500	1.277	3.105

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603779A / *Environmental Quality Technology Dem/Val*	**Project (Number/Name)** E21 / *Environmental Quality Technology Dem/Val*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Description: Sustain soldier training readiness and ensure compliance at Army installations by reducing or eliminating the use of lead compounds in rocket and missile propellants and primary explosives (primers/detonators/initiators). ***FY 2018 Plans:*** Load lead-free primers into relevant end items using new pilot-scale automated process and conduct initial performance testing; Conduct flight-weight motor testing for rocket systems utilizing reduced-lead extruded rocket propellants. ***FY 2019 Plans:*** Will demonstrate lead-free primary explosive composition in stab detonator and electric detonator configurations; establish pilot-scale production of lead-free percussion primers and conduct first article testing in hand held signals. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY19 funding increase supports demonstration/validation of lead-free alternatives in multiple items.			
Title: Environmental quality technology demonstration and validation: ESOH Impacts of Short-Term Noise Assessment Procedures ***Description:*** Demonstrate and validate the technologies, including the underlying computational algorithms, for the impact of short-term noise assessment procedures on environmental footprint and Soldier readiness. When completed the program will: 1) have validated short-term noise assessment procedures, including uncertainty metrics and 2) have on-line, self-guided training modules for Sustainable Range Program range officers on performing and interpreting short-term noise assessment results. ***FY 2018 Plans:*** Complete analysis of all datasets including any updates indicated by the demonstration / validation results. Test model updates to ensure continued accuracy and document the updates / validation results. Initiate developments of training modules for range managers. ***FY 2019 Plans:*** Will provide a report that summarizes all results of the demonstration and validation study. Validation report will document assessment accuracy across a range of environmental conditions and assessment consistency across user applications. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY19 funding decreased to the level required to provide the report of the demonstration and validation study.	0.586	0.625	0.250
Title: Environmental quality technology demonstration and validation: Advanced Water Reuse Technology for Fixed Installations ***Description:*** Demonstrate and validate advanced water reuse technology for fixed installations and assess ESOH impacts. At the completion of this program, the following will be accomplished: 1) demonstration of energy efficient advanced water reuse	0.843	0.572	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603779A / *Environmental Quality Technology Dem/Val*	**Project (Number/Name)** E21 / *Environmental Quality Technology Dem/Val*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
technology at installations, 2) ESOH analysis of three water reuse technologies for installations including shower water recycling, distributed water reclamation, and centralized reclamation; 3) reports on best practices for permitting, design, and safe operation of advanced reuse technologies; and 4) marketing materials comparing quality of advanced reuse water to tap and bottled water to support technology adoption campaigns at installations and contingency bases. ***FY 2018 Plans:*** Execute demonstration testing at Tobyhanna Weapons Depot, Fort Riley and Fort Carson. Demonstrations will include measurements of technology performance with a focus on removal of emerging micro-pollutants to guide ESOH analysis in coordination with Army Public Health Center (APHC). ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Effort completed in FY18.			
Title: Environmental quality technology demonstration and validation: Insensitive Munitions (IM) Wastewater Treatment ***Description:*** Demonstrate and validate optimized scalable wastewater treatment system basic technology for the destructive treatment of existing and emerging insensitive munitions (IM) contaminated production wastewater generated during Army ammunition plant munitions production. ***FY 2018 Plans:*** Demonstrate new IMX production process wastewater remediation technology to allow efficient, low cost destruction of harmful and regulated contaminates for increased surface water discharge. Technology will allow increased production rates of munitions compounds while meeting permit regulatory thresholds for wastewater discharge. ***FY 2019 Plans:*** Will transition IM wastewater treatment technologies from a prototype pilot scale system to an initial field-scale pilot system for demonstration and validation of cost effective treatment of IM wastewater. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY19 increase funds the transition to an initial field-scale pilot system for demonstration and validation.	-	1.575	1.805
Title: Environmental quality technology demonstration and validation: Environmental Toolkit for Expeditionary Operations ***Description:*** Conduct pilot-scale demonstration and validation studies to determine the effectiveness of basic technologies/ methods developed for rapidly collecting environmental data in the field for the purposes of siting bases in expeditionary and austere environments. ***FY 2019 Plans:***	-	-	1.275

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603779A / *Environmental Quality Technology Dem/Val*	**Project (Number/Name)** E21 / *Environmental Quality Technology Dem/Val*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Will demonstrate software and sensors package for environmental baseline evaluation capabilities with engineer soldiers. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY19 is the first year of transition from BA2/BA3 research and development effort.			
Title: Environmental quality technology demonstration and validation: Fate and Risk Evaluation System for Contaminants ***Description:*** Validate computational capabilities for multi-purpose evaluation of Emerging Contaminants fate and transport as well as for human and ecosystem health risk management in multimedia environmental modeling system. ***FY 2019 Plans:*** Will demonstrate software for environmental fate and transport data with user community for evaluation. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY19 is the first year of transition from BA2/BA3 research and development effort.	-	-	1.254
Title: Environmental quality technology demonstration and validation: Low Global Warming Potential (LGWP) Alternatives to Ozone Depleting Substances (ODS) ***Description:*** Evaluate low GWP ODS alternatives being developed by industry to assess their toxicity and flammability hazards adn verify their acceptability in military unique refrigeration and fire suppression applications. ***FY 2019 Plans:*** Will demonstrate lower GWP, non-ODS fire suppression agent in handheld fire extinguishers. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY19 is the first year of transition from BA2/BA3 research and development efforts.	-	-	0.109
Accomplishments/Planned Programs Subtotals	5.034	6.677	9.879

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• 06I: *POLLUTION PREVENTION TECH SUPPORT*	0.105	0.710	0.923	-	0.923	0.562	0.605	0.614	0.651	0.000	4.170

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603779A / *Environmental Quality Technology Dem/Val*	**Project (Number/Name)** E21 / *Environmental Quality Technology Dem/Val*

D. Acquisition Strategy

The project ultimately transitions successfully demonstrated environmental quality technologies to Army acquisition, industrial base and installation end users. As part of the Army's Environmental Quality Technology Program, all technology efforts address a valid Army Environmental Requirements and Technology Assessments (AERTA) requirement. The Army's Environmental Technology Integrated Product Team conducts a thorough assessment and makes funding recommendations to senior Army environmental leadership. Efforts approved by senior Army environmental leadership receive Advanced Component Development and Prototype funding to fully demonstrate and validate the technology for transition to end users for follow on implementation.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Conduct Demonstrations	MIPR	Varies : Varies	10.847	5.034	Oct 2016	6.677		9.879	Oct 2018	-		9.879	Continuing	Continuing	Continuing
		Subtotal	10.847	5.034		6.677		9.879		-		9.879	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	10.847	5.034		6.677		9.879		-		9.879	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603779A / *Environmental Quality Technology Dem/Val*	**Project (Number/Name)** E21 / *Environmental Quality Technology Dem/Val*

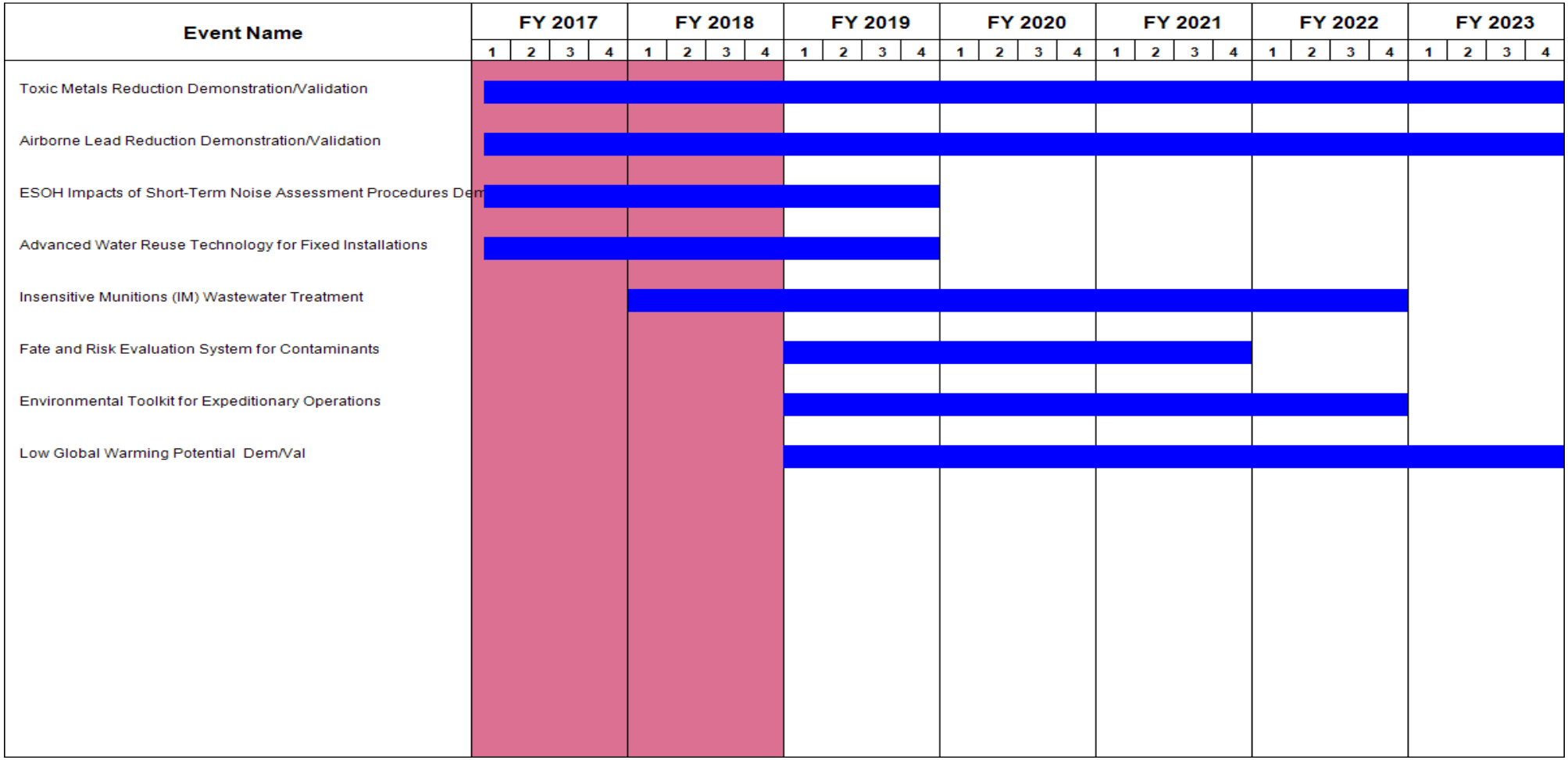

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603779A / *Environmental Quality Technology Dem/Val*	**Project (Number/Name)** E21 / *Environmental Quality Technology Dem/Val*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Toxic Metals Reduction Demonstration/Validation	1	2015	4	2023
Airborne Lead Reduction Demonstration/Validation	1	2015	4	2023
ESOH Impacts of Short-Term Noise Assessment Procedures Demonstration/Validation	1	2016	4	2019
Advanced Water Reuse Technology for Fixed Installations	1	2016	4	2019
Insensitive Munitions (IM) Wastewater Treatment	1	2018	4	2022
Fate and Risk Evaluation System for Contaminants	1	2019	4	2021
Environmental Toolkit for Expeditionary Operations	1	2019	4	2022
Low Global Warming Potential Dem/Val	1	2019	4	2023