Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Office of the Secretary Of Defense	Date: February 2020
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604016D8Z / *Department of Defense Corrosion Program*

COST ($ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	122.994	9.281	13.165	3.325	-	3.325	3.373	3.437	3.508	3.582	Continuing	Continuing
015: *Corrosion Protection Projects*	122.994	9.281	13.165	3.325	-	3.325	3.373	3.437	3.508	3.582	Continuing	Continuing

A. Mission Description and Budget Item Justification

The purpose of this program is to develop a comprehensive capability to prevent and mitigate corrosion and its effects on Department of Defense (DoD) weapon systems and infrastructure. Corrosion severely impacts system and facility reliability, readiness and safety, and consumes a disproportionate amount of material and labor hours for repair and treatment of corrosion damaged systems and facilities. The cost of corrosion across the DoD is currently in excess of $19 billion per year (down from approximately $22 billion in Fiscal Year 2007). The impacts and costs are so pervasive that Congress enacted Public Law 107-314 Sec: 1067 Prevention and mitigation of corrosion of military infrastructure and equipment [portions codified in 10 U.S.C. 2228]. This legislation requires that DoD develop a long-term corrosion strategy to include establishment of a coordinated R&D program with transition plans. The legislation also requires that DoD designate a responsible official or organization to oversee a corrosion prevention and mitigation program. The responsibilities of the Director, Corrosion Policy and Oversight and the Military Department Corrosion Prevention and Control Executives were further delineated in DODI 5000.67 "Prevention and Mitigation of Corrosion on Military Equipment and Infrastructure" of 01 February 2010.

A major responsibility of the Director, Corrosion Policy and Oversight (CPO) is to select high payoff research and development projects that promise to prevent or mitigate corrosion and significantly reduce the total cost of corrosion along with the adverse impact of corrosion effects on weapon system and infrastructure operational capability. This office chartered a Corrosion Prevention and Control Integrated Product Team (CPCIPT) that has selected and funded Operation and Maintenance projects for each Fiscal Year (FY) commencing in FY 2005. However, the DoD CPCIPT has determined that the biggest payoff in corrosion prevention and mitigation will come from investing in up-front prevention technologies, materials, and processes to leverage downstream cost avoidance in corrosion maintenance and repair. Likewise, development of improved predictive and prognostic techniques can eliminate unseen failure and reduce unnecessary maintenance and repair costs. Thus, technology development, demonstration, and transition projects have been selected and funded since FY 2006. These projects address critical corrosion issues in both Department of Defense systems and infrastructure. A number of low-risk, high-payoff technologies promise to vastly improve the service life and significantly reduce the maintenance costs and improve the availability and safety of weapon systems and facilities essential to maintain support for the warfighter. A total of 85 projects have been completed including a follow-on assessment of their return on investment estimates. The overall return on investment as estimated by the Military Departments is 17.2:1.

In addition, the University Corrosion Collaboration (now the Technical Corrosion Collaboration (TCC)) was formed as collaboration between universities, Armed Forces Academies and DoD laboratories focused on corrosion technology research and development, and building a workforce with corrosion expertise for the DoD. Research areas include performance prediction, assessment of finishes, surface engineering, and product support. This advanced corrosion research has been ongoing since FY 2008 and performed by teams from TCC participating organizations.

Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Office of the Secretary Of Defense	Date: February 2020
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604016D8Z / *Department of Defense Corrosion Program*

B. Program Change Summary ($ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	3.458	3.365	3.425	-	3.425
Current President's Budget	9.281	13.165	3.325	-	3.325
Total Adjustments	5.823	9.800	-0.100	-	-0.100
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	5.000	9.800			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.938	-			
• SBIR/STTR Transfer	-0.114	-			
• Cancelled Acct	-0.001	-	-0.095	-	-0.095
• Economic Assumption	-	-	-0.005	-	-0.005

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2019	FY 2020
Project: 015: *Corrosion Protection Projects*		
Congressional Add: *Congressional Add: Corrosion Prevention and Control Projects and Activities*	5.000	-
Congressional Add Subtotals for Project: 015	5.000	-
Congressional Add Totals for all Projects	5.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense											Date: February 2020	
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0604016D8Z / *Department of Defense Corrosion Program*				Project (Number/Name) 015 / *Corrosion Protection Projects*			
COST ($ in Millions)	**Prior Years**	**FY 2019**	**FY 2020**	**FY 2021 Base**	**FY 2021 OCO**	**FY 2021 Total**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**Cost To Complete**	**Total Cost**
015: *Corrosion Protection Projects*	122.994	9.281	13.165	3.325	-	3.325	3.373	3.437	3.508	3.582	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604016D8Z / *Department of Defense Corrosion Program*	**Project (Number/Name)** 015 / *Corrosion Protection Projects*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
Title: Corrosion Prevention and Control Projects and Activities	4.281	13.165	3.325
FY 2020 Plans: Continue to: • Collaborate with the Services to develop and transition mature technologies and eliminate duplicative investments in technology development; • Refine and improve acquisition and sustainment policies related to corrosion control; • Support independent risk assessments relative to corrosion for ACAT I systems; • Complete impact of corrosion studies on all defense segments; • Integrate corrosion control into critical specifications and standards; • Partner with the Services to develop and provide corrosion training to military and DoD civilians; • Engage in communication and outreach activities to create awareness of solutions to corrosion problems and the associated cost reductions and readiness improvements; • Initiate a major update of the DoD Corrosion Prevention and Mitigation Strategic Plan in coordination with the Military Departments.			
FY 2021 Plans: Continue to: • Collaborate with the Services to develop and transition mature technologies and eliminate duplicative investments in technology development; • Refine and improve acquisition and sustainment policies related to corrosion control; • Support independent risk assessments relative to corrosion for ACAT I systems; • Complete impact of corrosion studies on all defense segments; • Integrate corrosion control into critical specifications and standards; • Partner with the Services to develop and provide corrosion training to military and DoD civilians; • Engage in communication and outreach activities to create awareness of solutions to corrosion problems and the associated cost reductions and readiness improvements; • Finalize a major update of the DoD Corrosion Prevention and Mitigation Strategic Plan in coordination with the Military Departments; • Update DoDI 5000.67 and issue an associated manual to document CPO processes.			
FY 2020 to FY 2021 Increase/Decrease Statement: The decrease is a result of planned program changes in the OUSD (A&S) budget.			
Accomplishments/Planned Programs Subtotals	4.281	13.165	3.325

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604016D8Z / *Department of Defense Corrosion Program*	**Project (Number/Name)** 015 / *Corrosion Protection Projects*

	FY 2019	FY 2020
Congressional Add: Congressional Add: Corrosion Prevention and Control Projects and Activities	5.000	-
FY 2019 Accomplishments: Increased investment in projects by $1.5M. Increased investment in TCC by $2M. Used the remainder to do the following: • Updated the General Building Unified Facilities Criteria UFC 1-200-01 to include requirements to consider environmental corrosivity when designing facilities • Developed and deployed new training modules and knowledge pages for facilities professionals • Extended availability of corrosion-related training for military and DoD civilians		
Congressional Adds Subtotals	5.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisitions are accomplished in three categories including projects, research opportunities, and activities as described in the DoD Corrosion Prevention and Mitigation Strategic Plan.

Projects are funded jointly by CPO and the Military Departments and are led by subject matter experts at the Military Department laboratories. CPO issues a call for proposed project plans in April and projects are submitted in June. The project plan format is contained in the DoD Corrosion Prevention and Mitigation Strategic Plan. CPO receives project plans and convenes evaluation selection panel to review proposed projects and make recommendations regarding project selection. Projects are evaluated on factors including project performance period, ratio of OSD funding to Service funding, return-on-investment (ROI), degree to which the proposed technology addresses high-cost corrosion problems, potential benefits, joint service applicability, and probability of transition. Upon acceptance and approval of the projects, funding is distributed to the Military Departments by Military Interdepartmental Purchase Request (MIPR) based on funding priorities associated with the evaluation process results. Project execution is monitored through submission of quarterly quad charts and by conducting an annual review.

Research opportunities are funded through the Technical Corrosion Collaboration (TCC). A call for white paper proposals is issued by CPO through an existing U.S. Air Force Academy (USAFA) Broad Agency Announcement (BAA). Submissions are evaluated by a technical panel. Evaluation factors include quality of proposed research, potential impact on DoD corrosion problems, level of student involvement, and proposed collaboration between the research institutions and DoD laboratories. Projects are ranked by the selection panel and funded based on merit and available funds. Research institutions receive funds for the TCC through the establishment of cooperative agreements with USAFA. Research execution is monitored through submission of quarterly quad charts and by conducting an annual review.

Activities are those work efforts associated with the Working Integrated Product Teams (WIPT) under the CPCIPT and include policy, training, specifications and standards, metrics, science and technology, facilities, and communication and outreach. WIPT Leads submit funding requirements associated with their annual

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604016D8Z / *Department of Defense Corrosion Program*	**Project (Number/Name)** 015 / *Corrosion Protection Projects*

tactical plan submission to CPO. The proposed activities are prioritized by CPO and funded based on merit and available funds. Activities are accomplished by both government and contractor personnel. Funds are transferred to government personnel through the MIPR process. Funds are transferred to contractor personnel through competitively awarded contracts including the multiple-award Blanket Purchase Agreement held by OASD(S). Progress on activities is reviewed tri-annually at meetings of the CPCIPT.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604016D8Z / *Department of Defense Corrosion Program*	**Project (Number/Name)** 015 / *Corrosion Protection Projects*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Corrosion Policy and Oversight	MIPR	Various (Army, Navy, Air Force) : Various	103.145	7.912	Jan 2019	4.343	Jan 2020	1.031	Jan 2021	-		1.031	-	-	Continuing
		Subtotal	103.145	7.912		4.343		1.031		-		1.031	-	-	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Corrosion Policy and Oversight	MIPR	Logistics Management Institute : McLean, VA	19.849	1.369	Jul 2019	8.822	Feb 2020	2.294	Feb 2021	-		2.294	-	-	Continuing
		Subtotal	19.849	1.369		8.822		2.294		-		2.294	-	-	N/A

	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	122.994	9.281		13.165		3.325		-		3.325	-	-	N/A

Remarks

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604016D8Z / *Department of Defense Corrosion Program*	**Project (Number/Name)** 015 / *Corrosion Protection Projects*

EXHIBIT R-4. SCHEDULE PROFILE	Date: September 2019
Appropriation/ Budget Category: RDT&E, CORROSION PREVENTION AND CONTROL / BA 4	Program Element: 0604016D8Z

PROJECT / TASK	2019	2020				2021				2022				2023				2024	
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
	JUL AUG SEP	OCT NOV DEC	JAN FEB MAR	APR MAY JUN	JUL AUG SEP	OCT NOV DEC	JAN FEB MAR	APR MAY JUN	JUL AUG SEP	OCT NOV DEC	JAN FEB MAR	APR MAY JUN	JUL AUG SEP	OCT NOV DEC	JAN FEB MAR	APR MAY JUN	JUL AUG SEP	OCT NOV DEC	JAN FEB MAR
CORROSION POLICY AND OVERSIGHT																			
DOD 5000-Series Review	25%	0%				0%				0%				0%				0%	
Integration of CPC and CPC-Related Policy	25%																		
DAG Review	25%																		
Corrosion Board of Directors	25%																		
DOD Corrosion Prevention and Mitigation Strategic Plan	25%																		
USC Engagement	25%																		
GAO Engagement	25%																		
Corrosion Technology Implementation Projects Support	25%																		
Training Gap Analysis	25%																		
Facilitate/Support Corrosion Events	25%																		
International Corrosion Partnerships and Engagements	25%																		
Programmatic Support	25%																		
Technical Corrosion Collaboration	25%																		

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604016D8Z / *Department of Defense Corrosion Program*	**Project (Number/Name)** 015 / *Corrosion Protection Projects*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Corrosion Policy and Oversight				
DOD 5000 Series Review	4	2019	2	2024
Integration of CPC and CPC-Related Policy	4	2019	2	2024
DAG Review	4	2019	2	2024
DOD Corrosion Prevention and Mitigation Strategic Plan	4	2019	2	2024
GAO Engagement	4	2019	2	2024
Corrosion Technology Implementation Projects Support	4	2019	2	2024
Training Gap Analysis	4	2019	2	2024
Facilitate/Support Corrosion Events	4	2019	2	2024
International Corrosion Partnerships and Engagements	4	2019	2	2024
Programmatic Support	4	2019	2	2024