Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy

**Date:** February 2018

Appropriation/Budget Activity

1319: Research, Development, Test & Evaluation, Navy I BA 6: RDT&E

Management Support

R-1 Program Element (Number/Name)

PE 0605154N I Center For Naval Analyses

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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	0.000	43.532	50.432	48.797	-	48.797	50.578	51.594	52.620	53.700	Continuing	Continuing
0031: MCOAG	0.000	5.555	6.212	5.149	-	5.149	6.421	6.566	6.701	6.839	Continuing	Continuing
0148: Center For Naval Analyses (CNA)	0.000	37.977	44.220	43.648	-	43.648	44.157	45.028	45.919	46.861	Continuing	Continuing

## A. Mission Description and Budget Item Justification

The Center for Naval Analyses (CNA) is the Department of the Navy's (DoN) only Federally Funded Research and Development Center (FFRDC). CNA provides independent, objective, and expert analyses based on its unique access to sensitive data and hands-on exposure to fleet operations gained through its world-wide field program. CNA's research program is centrally funded by this program element and is primarily concentrated along one Marine Corps category and thirteen Navy categories of study called product areas. These product areas are structured to enhance CNA's focus of research and analysis upon the major present and future needs and issues of the Navy and the Marine Corps. Because of rapid advances in technology, changes in the fleet, the increasing complexity of weapon systems, and reductions in manpower, force structure, budgets, the current security environment, and Department of Defense (DoD) transformation, the Navy and Marine Corps have a greater need for analyses that are sophisticated, relevant, and timely. CNA conducts research and analysis at all security classification levels, to include Sensitive Compartmented Information (SCI) and Special Access Programs (SAP).

B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	46.634	50.432	51.799	-	51.799
Current President's Budget	43.532	50.432	48.797	-	48.797
Total Adjustments	-3.102	0.000	-3.002	-	-3.002
<ul> <li>Congressional General Reductions</li> </ul>	-	-			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>	-	-			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
<ul> <li>Reprogrammings</li> </ul>	-	-			
<ul> <li>SBIR/STTR Transfer</li> </ul>	-1.725	0.000			
<ul> <li>Program Adjustments</li> </ul>	0.000	0.000	-2.398	=	-2.398
<ul> <li>Rate/Misc Adjustments</li> </ul>	0.000	0.000	-0.604	=	-0.604
<ul> <li>Congressional General Reductions Adjustments</li> </ul>	-1.377	-	-	-	-

## **Change Summary Explanation**

The decrease in FY 2019 reflects fewer studies being conducted.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy		Date: February 2018
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Technical: N/A		
Schedule: N/A		

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Exhibit R-2A, RDT&E Project Ju	stification	: PB 2019 N	lavy							Date: Febr	ruary 2018	
Appropriation/Budget Activity 1319 / 6					_		<b>t (Number</b> / r For Naval	•	Project (N 0031 / MC		ne)	
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
0031: MCOAG	0.000	5.555	6.212	5.149	-	5.149	6.421	6.566	6.701	6.839	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

## A. Mission Description and Budget Item Justification

This project supports the Marine Corps portion of the Department of Navy, CNA, Center for Naval Analysis Research Program, and is managed as an element of the Marine Corps Studies System. This program provides the Marine Corps with independent and objective research and analysis of specific issues/topics appropriately performed by a Federally Funded Research and Development Center (FFRDC). Marine Corps Division analysts work at CNA headquarters and, through CNA's Field representative Program serve at commands worldwide, including: Marine Forces Command, Marine Forces Pacific, Marine Special Operations Command, the three Marine Expeditionary Forces, Marine Aviation Weapons and Tactics Squadron One (MAWTS-1), and in Iraq, providing on-site analysis to deployed Marine forces there. CNA also assigns analysts to support the Deputy Commandants and their staffs as well as other Marine Corps organizations such as the Marine Corps Warfighting Lab, Marine Corps Systems Command, and the Commander, Marine Forces Reserve.

The program areas are linked to the Marine Corps Advocacy (prepotency), which are: (1) Logistics and Infrastructure; (2) Manpower and Training; (3) Research, Development and Acquisition; (4) Operations and Plans; (5) Programs and Resources; (6) Aviation; (7) Combat Development and Integration; and (8) Intelligence, Surveillance and Reconnaissance. Scientific Analyst support provides six scientific analysts for the following six focus areas: Deputy Commandant (DC), Plans, Policies and Operations; DC Aviation; DC Installation and Logistics; DC Programs and Resources; DC Manpower Reserve Affairs; and Director, Manpower Plans (MP) - Manpower and Reserve Affairs (M&RA). The program continues analytical support for field exercises, Ad Hoc and Quick Response study requirements.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: MARINE CORPS OPERATIONS AND ANALYSIS GROUP	5.555	6.212	5.149	0.000	5.149
Articles:	-	-	-	-	-
FY 2018 Plans:					
- Continue research analysis, modeling and simulation data that focused analytical support to the Special Marine					
Air Ground Task Forces (MAGTF) Crisis Response (CR) that provides critical mission research advise to unit					
commanders.					
- Continue support current operations to include: weapons and systems programs, MAGTF training and exercise assessments, amphibious shipping capabilities, and reductions to naval operations and strategic					
commitments. Analysis and solutions relating to support and sustainment in terms of equipment readiness,					
training, responsiveness and maintaining squadron readiness, development of facilities sustainment and service					
life programs save the Marine Corps valuable time and resources. Manpower, force structure, aviation recruiting					
and retention, and valuations of recruiting, retaining and retiring Marines analyses provide viable personnel					
solutions in times of shrinking resources. Intelligence capabilities assessments, analyses of threat assessments					

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy				Date: Febr	uary 2018	
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/ PE 0605154N / Center For Naval		<b>Project (N</b> 0031 / MC	umber/Nan OAG	ne)	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities i	n Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
from known and unknown enemies, i.e. Al-Qaeda, Northern Africa and Iran, an Baseline (JIWAB) development provide valuable information to assist Marine C keeping the force educated and safe.  - Continue high priority study and analysis projects approved in FY17 Marine C (MCSSMP).  - Continue research analysis, and survey support efforts associated with developmentary forces Integration Plan (MCFIP) Women in Infantry.  - Continue high priority study and analysis projects approved in FY17 Marine C (MCSSMP).  - Initiate high priority study and analysis projects approved in FY18 Marine Cor (MCSSMP).	corps Intelligence organizations in corps Studies System Master Plan opment and implantation of the corps Studies System Master Plan					
Conduct new studies in support of the FY19 Marine Corps Studies System Marine Corps of the FY19 Marine Corps Studies System Marine Collowing priority areas: applying USMC capabilities today, balancing current de innovating to enhance Marine Corps warfighting advantages, ways and means and operating the Marine Corps more effectively and efficiently. Continue the FCMC priorities. Enhanced support and increased capacity to address CMC priorities. The relative threats posed by our major adversaries (e.g., Russian resurgence activities)  - Prosecuting global campaigns  - Enabling and supporting distributed operations  - Integrating information operations into the MAGTF construct both organization the battlefield  - Leveraging autonomy and artificial intelligence to establish and maintain dome emerging threats  - Using big data/data science/predictive analysis to gain comparative advantages. Improving the use of gaming in Navy learning and research  - Leveraging our analytic efforts for the Navy to support USMC priorities.	emands against future readiness, for USMC strategy and policy, sy18 analytic focus in support of prities such as: see and PRC capabilities and smally and to maximize effects on minance over existing and					
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement:						

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Appropriation/Budget Activity 1319 / 6  R-1 Program Element (Number/Name) PE 0605154N / Center For Naval Analyses 0031 / MCOAG	Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
The funding decrease from FY18 to FY19 reflects the delay of two studies.					
Accomplishments/Planned Programs Subtotals	5.555	6.212	5.149	0.000	5.149

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

N/A

Remarks

## **D. Acquisition Strategy**

N/A

#### E. Performance Metrics

This project supports the Marine Corps portion of the Department of Navy, CNA Center for Naval Analysis Research Program, and is managed as an element of the Marine Corps Studies System. This program provides the Marine Corps with independent and objective research and analysis of specific issues/topics appropriately performed by a Federally Funded Research and Development Center (FFRDC). Marine Corps Division analysts work at CNA headquarters and, through CNA's Field representative Program, serve at commands worldwide, including: Marine Forces Command, Marine Forces Pacific, Marine Special Operations Command, the three Marine Expeditionary Forces, Marine Aviation Weapons and Tactics Squadron One (MAWTS-1), and in Iraq, providing on-site analysis to deployed Marine forces there. CNA also assigns analysts to support the Deputy Commandants and their staffs as well as other Marine Corps organizations such as the Marine Corps Warfighting Lab, Marine Corps Systems Command, and the Commander, Marine Forces Reserve.

The program areas are linked to the Marine Corps Advocacy (prepotency), which are: (1) Logistics and Infrastructure; (2) Manpower and Training; (3) Research, Development and Acquisition; (4) Operations and Plans; (5) Programs and Resources; (6) Aviation; (7) Combat Development and Integration; and (8) Intelligence, Surveillance and Reconnaissance. Scientific Analyst support provides six scientific analysts for the following six focus areas: Deputy Commandant (DC), Plans, Policies and Operations; DC Aviation; DC Installation and Logistics; DC Programs and Resources; DC Manpower Reserve Affairs; and Director, Manpower Plans (MP) - Manpower and Reserve Affairs (M&RA).

The Marine Corps' portion of the CNA program is executed via the Marine Corps Studies System (MCSS) Annual Plan which is reviewed and updated on a quarterly basis. The MCSS maintains a comprehensive listing of all CNA studies performed for the Marine Corps. The MCSS ensures there are no duplicate analytical efforts within the Marine Corps. Additionally, the Operations Analysis Division of Combat Integration Division (CD&I, MCCDC) provides analytical review of all CNA products for the Marine Corps and integrates the results and recommendations into a quarterly newsletter for research and analysis.

Other evaluation processes are as follows:

A) Contract Status Meetings: The Marine Corps participates in contract status meetings. The Contracting Officer chairs monthly meetings with the Marine Corps, and members of the CNA Business Support Group to provide guidance regarding contract management to include reviewing the Defense Technical Information Center

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
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(DTIC) database requirements to emphasize the contractual requirement that a CNA's cost effectiveness and efficiency.	all ongoing research be submitted to DTIC to	ensure against duplication to reviewing
B) Marine Corps Three-Star Flag Officer Review: The Commanding General, Conthe current research program and provide guidance to CNA regarding future reconducted is of the greatest value to the Marine Corps. The meetings serve as DoN's Annual Plan that is submitted to the Deputy Chief of Naval Operations for	esearch requirements. Meetings are essential a roadmap for future projects. The Marine Co	to provide CNA to ensure that research orps' research plan is consolidated with the

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Exhibit R-2A, RDT&E Project Ju	stification	PB 2019 N	lavy							Date: Febr	ruary 2018	
Appropriation/Budget Activity 1319 / 6					_		<b>t (Number</b> / r For Naval		Project (N 0148 / Cen		ne) val Analyses	(CNA)
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
0148: Center For Naval Analyses (CNA)	0.000	37.977	44.220	43.648	-	43.648	44.157	45.028	45.919	46.861	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

## A. Mission Description and Budget Item Justification

This program supports the Navy's portion of the CNA Research Program, which is primarily concentrated along thirteen Navy categories of study called product areas. These product areas include the following: (1) Manpower/Personnel, Medical and Training; (2) Intelligence, Information and Networks; (3) Plans, Policy, and Operations; (4) Infrastructure and Readiness; (5) Resources, Programs, and Assessments; (6) Capability Integration; (7) Research, Development and Acquisition; (8) Navy Field Program; (9) Navy Field Exercise Program; (10) Scientific Analyst Program; (11) Navy Quick Response Projects; (12) Navy General Concept Development and (13) CNA Initiated Projects. This program provides the Navy with independent and objective research and analysis of specific issues/topics appropriately performed by a FFRDC and includes studies support (to include quick response studies support), field support to fleet commanders, scientific analyst support to Deputy Chiefs of Naval Operations (DCNOs) and their staffs, exercise support, and ad hoc support. CNA's analyses have resulted in substantial improvements in force structure, fleet effectiveness, and significant cost avoidance

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2019	FY 2019	FY 2019
	FY 2017	FY 2018	Base	oco	Total
Title: CENTER FOR NAVAL ANALYSES, NAVY	37.977	44.220	43.648	0.000	43.648
Articles:	-	-	-	-	-
<b>Description:</b> Funding in this project supports integrated research for the Department of Navy (DoN) and other DoD components across a broad range of issues including the development and evaluation of tactics, operations testing of new systems, assessment of current capabilities, logistics and readiness, work-force management, space and space-related activities, cyber operations, cost and operational program analysis, assessment of advanced technology, force planning, and strategies implications of political-military developments.					
FY 2018 Plans: CNA conducts individual analytic efforts for a wide range of DoN and DoD sponsors including: OPNAV and HQMC, the Navy Secretariat, Type Commanders, the numbered Fleets and Navy/Marine Corps component commanders, Combatant Commands, operational test and evaluation (OT&E) activities including OPTEVFOR and DOT&E, SYSCOMs, Office of the Secretary of Defense, Defense agencies and the Defense Intelligence Community.					
Priority Objectives: - Offensive and defensive cyber operations					

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,		,	Date: Feb	uary 2018		
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rticle Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	
nd Russia evelopment Commands n, North Korea, Russia, and other state actor's dications for CONOPs and acquisition strategy						
	R-1 Program Element (Number	R-1 Program Element (Number/Name) PE 0605154N / Center For Naval Analyses  rticle Quantities in Each)  FY 2017  communities and Russia evelopment Commands an, North Korea, Russia, and other state actor's  dications for CONOPs and acquisition strategy	R-1 Program Element (Number/Name) PE 0605154N / Center For Naval Analyses  rticle Quantities in Each)  FY 2017  FY 2018  communities nd Russia evelopment Commands n, North Korea, Russia, and other state actor's  dications for CONOPs and acquisition strategy	R-1 Program Element (Number/Name) PE 0605154N / Center For Naval Analyses  rticle Quantities in Each)  FY 2017 FY 2018 FY 2019 Base  communities nd Russia evelopment Commands n, North Korea, Russia, and other state actor's  dications for CONOPs and acquisition strategy	R-1 Program Element (Number/Name) PE 0605154N / Center For Naval Analyses  rticle Quantities in Each)  FY 2017  FY 2018  FY 2018  FY 2019  Base  OCO  Communities  nd Russia evelopment Commands n, North Korea, Russia, and other state actor's  Olications for CONOPs and acquisition strategy	

- Recruiting and retaining the force of the future
- Understanding and addressing new and every-changing threats from non-state actors
- Improving the interoperability of Navy systems and greater use of the systems-of-systems concept
- Implementing and assessing the effectiveness of new distributed lethality concepts
- Applications and potential of big data to better understand and address complex operational and logistical challenges facing the USN
- Cyber considerations into Operational Test & Evaluation (OT&E) of new Navy systems and better understanding how to best man the cyber force of the future
- Recruiting and re-training the force of the future
- Understanding and addressing new and every-changing threats from non-state actors
- Improving and interoperability of Navy systems and greater use of the systems-of-systems concept
- Implementing and assessing the effectiveness of new distributed lethality concepts
- New applications for unmanned systems
- Continue all efforts above in support of the following CNO 2018 priorities:
- Maintaining maritime superiority for the future
- Applying maritime power today
- Navy strategy and policy
- Strategic Workforce planning and management
- Operating the Navy more efficiently and effectively
- Balancing current and future readiness

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- Understanding great power dynamics
- Increase work in offensive and defensive cyber operations
- Increase work in Electromagnetic Maneuver Warfare (EMW)

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy				Date: February 2018		
Appropriation/Budget Activity 1319 / 6	,		, ,	lumber/Name) nter For Naval Analyses (CNA)		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities	in Each)			FY 2019	FY 2019	FY 2019

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	EV 2047	EV 2040	FY 2019	FY 2019	FY 2019
- Increase support to the Navy and Marine Corps special operations communities - Increase work based on the 7 CNO approved FY 2017 priorities and FY 2018 revisions based on Navy	FY 2017	FY 2018	Base	oco	Total
emerging priorities and requirements					
FY 2019 Base Plans:					
Continue all efforts from FY18 in support of CNO priorities, and conduct new studies in the following priority					
Areas:					
- Applying maritime power today - Maintaining maritime superiority for the future					
- Innovating to compete and win					
- Balancing current and future readiness					
- Understanding great power dynamics					
- Aligning ends, ways and means for Navy strategy and policy					
- Operating the Navy more efficiently and effectively					
- Strategic workforce planning					
- Enhanced support and increased capacity to address emerging CNO priorities including Russia's resurgence and implications for the Navy and its partners					
- Aligning the programming and budgeting process with Navy strategy					
- Enabling distributed networked operations					
- Leveraging autonomy and artificial intelligence to establish and maintain dominance over emerging threats					
<ul> <li>Using bid data/data science/predictive analytics to gain competitive advantage; and integrating gaming into Navy learning and research</li> </ul>					
FY 2019 OCO Plans:					
N/A					
FY 2018 to FY 2019 Increase/Decrease Statement:					
There is no significant change between FY 2018 and FY 2019.					
Accomplishments/Planned Programs Subtotals	37.977	44.220	43.648	0.000	43.648

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

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018
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#### D. Acquisition Strategy

N/A

#### **E. Performance Metrics**

CNA is reviewed throughout the research year on several different levels to ensure that research produced is not duplicated elsewhere. The primary (and most effective) method of review for duplication is the Contracting Officer's Technical Representative (COTR) review and approval of each and every project proposal submitted by CNA. This method is highly effective in providing the necessary oversight to ensure that duplication of effort does not occur. The Marine Corps Studies System (MCSS) maintains a comprehensive listing of all CNA studies performed for the USMC. The MCSS ensures that there are no duplicate analytical efforts within the USMC. Additionally, the Studies and Analysis Division of the Marine Corps Combat Development Command (MCCDC) provides analytical review of all CNA products for the USMC and integrates the results and recommendations into a quarterly newsletter and an annual plan for research and analysis. Other evaluation processes:

- A) DoN Contract Status Meetings: As part of the CNA oversight process, the Office of Naval Research Contracting Officer chairs a monthly meeting with the COTR, the USMC, and the CNA's Chief Financial Office to provide guidance regarding contract management.
- B) Two-Star Flag Officers and VCNO Corporate Board Meetings: DoN Two-Star and their equivalent civilian counterparts meet several times a year to review the current fiscal year's research and provide guidance to CNA regarding their future research for DoN. These high level meetings are essential to provide CNA with DoN's guidance to ensure that the research conducted is of the greatest value to DoN. The meetings also serve as the catalyst for the formation of the CNA Annual Plan, CNA's roadmap for research during the upcoming fiscal year. The CNA Annual Plan is then submitted to VCNO/N8 for final review and acceptance.
- C) CNA Comprehensive Review: Prior to contract renewal, CNA, as an Federally Funded Research and Development Center (FFRDC), must be evaluated to ensure that the DoN wants to renew CNA's contract for an additional five year period. DoN completes an exhaustive review of sponsors' technical needs and mission requirements; DoN's consideration of other sources; CNA's efficiency and effectiveness; CNA's management and cost effectiveness; as well as the FFRDC establishment criteria and sponsorship agreement. The CNA Comprehensive Review is approved by ASN (RDA) and accepted by OSD (AT&L).
- D) Navy-CNA Integration Board. DON 3-stars and CNA leadership meet quarterly to review the annual research program, discuss priorities and related implications for current and future work, and address issues impacting CNA's ability to execute its mission as an FFRDC. CNA research highlights are also briefed and discussed. The board meetings are chaired by the Director, Navy Staff.

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