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**Exhibit R-2, RDT&E Budget Item Justification: FY 2018 The Joint Staff** **Date:** May 2017

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0303166J <i>I Support to Information Operations Capability (IO) Capabilities</i>
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COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	23.875	10.404	0.857	0.673	-	0.673	0.673	0.673	0.781	0.781	Continuing	Continuing
001: <i>Information Operations Range</i>	23.875	10.404	0.857	0.673	-	0.673	0.673	0.673	0.781	0.781	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

The Joint Information Operations Range (JIOR) provides DoD a closed-loop, persistent, geographically distributed network to conduct training, testing, and experimentation in support of Computer Network Attack (CNA)/Computer Network Defense (CND) in a threat representative environment with realistic and relevant targets and command & control systems of interest. JIOR uniquely provides Services, Combatant Commanders (CCMD), and other government agencies the ability to test deployment and collaboratively gain insights into advanced Cyberspace, Information Operations (IO), and Electronic Warfare (EW) capabilities under current and future operational environment conditions. JIOR integrates other cyberspace ranges, replicates critical infrastructure, cyber targets, Internet traffic, and opposing forces. These provide the capacity to meet Presidential policy and CJCS mandates for training and certification of 6000+ cyber warriors by 2017 and DoD/Interagency cyber vulnerability assessments. The JIOR security construct allows users to develop, test, and secure their unique cyber capabilities and protect their identity during range activities. The JIOR conducts multiple, simultaneous, and disparate training, testing, and experimentation events.

<b>B. Program Change Summary (\$ in Millions)</b>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018 Base</u>	<u>FY 2018 OCO</u>	<u>FY 2018 Total</u>
Previous President's Budget	10.404	0.857	0.673	-	0.673
Current President's Budget	10.404	0.857	0.673	-	0.673
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

**Change Summary Explanation**

Decrease from FY 2016 to FY 2017 due to realignment of funds to Operations and Maintenance (O&M).

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2016	FY 2017	FY 2018
<b>Title:</b> Information Operations Range	10.404	0.857	0.673

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<p><b>Description:</b> The Joint Information Operations Range (JIOR) is a closed-loop network that forms a live-fire range utilizing encrypted tunneling over existing networks to conduct training, testing, and experimentation in support of Information Operations (IO), Electronic Warfare (EW), Computer Network Attack (CNA)/Computer Network Defense (CND)), and Cyberspace mission areas in a threat representative environment.</p> <p><b>FY 2016 Accomplishments:</b> Continued FY 2015 efforts:</p> <p>(1) Expanded national, DoD, and Inter-Agency awareness and support regarding IO and cyber related activities. (2) Improved the threat representation and operational relevance of the network. (3) Improved the integration of LVC simulations with other Joint training and testing communities and infrastructures.</p> <p><b>FY 2017 Plans:</b> The Joint Staff conducted a thorough program review and determined the majority of IO Range expenses were better suited to the O&amp;M appropriation for proper execution.</p> <p>Continues FY 2016 efforts:</p> <p>(1) Expand national, DoD, and Inter-Agency awareness and support regarding IO and cyber related activities. (2) Improve the threat representation and operational relevance of the network. (3) Improve the integration of LVC simulations with other Joint training and testing communities and infrastructures.</p> <p><b>FY 2018 Plans:</b> (1) Continues FY 2017 efforts. (2) Evaluate and deploy network automation tools to better manage the JIOR.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	10.404	0.857	0.673

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**Remarks**

**E. Acquisition Strategy**

N/A

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**F. Performance Metrics**

The Joint Staff conducted a thorough program review and determined the majority of IO Range expenses were better suited to the O&M appropriation for proper execution.

Measures: JIOR modernization results in reduced network reconfiguration time for use and reuse of DoD Enterprise Cyber Range Environment (DECRE) ranges.

- Number of Defense Research and Engineering Network (DREN) circuits remaining and rate of replacement with Defense Information Systems Network (DISN) circuits (Cost).
- Estimated man-hours saved due to transforming manual paper-driven planning processes to on-demand automated services (Schedule).
- Sufficient capacity & agility to support Cyber Mission Forces force development and MDAP/C2 systems cybersecurity assessments & testing (Outcomes).
- Improved rapid response for short-notice mission rehearsal requirements from days to on-demand (Outcomes).