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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Office of the Secretary Of Defense **Date:** February 2016

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 1: Basic Research</i>	R-1 Program Element (Number/Name) PE 0601228D8Z I <i>Historically Black Colleges and Universities and Minority Institutions</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	33.263	35.834	23.572	-	23.572	25.888	30.613	31.036	31.646	Continuing	Continuing
P448: <i>Historically Black Colleges and Universities and Minority Institutions</i>	-	33.263	35.834	23.572	-	23.572	25.888	30.613	31.036	31.646	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Historically Black Colleges and Universities and Minority Institutions (HBCU/MI) program provides support in fields of science and engineering that are important to national defense. The Department of Defense (DoD) HBCU/MI Program encourages participation of small minority schools, as well as, large minority research institutions. This competitive program provides support through grants or contracts for research, education assistance, instrumentation purchases, and technical assistance as described below.

- Research. The research grants are to further the knowledge in the basic scientific disciplines through theoretical and experimental activities. Collaborative research allows university professors to work directly with military laboratories or other universities.
- Education. Education assistance funds are used by minority institutions to strengthen their academic programs in science, technology, engineering, and mathematics (STEM), thereby increasing the number of under-represented minorities obtaining undergraduate and graduate degrees in these fields. These grants provide equipment, scholarships, cooperative work/study opportunities, visiting faculty programs, summer intern programs, and a variety of other enhancements designed to support students, and to encourage them to pursue careers in STEM.
- Instrumentation purchases. The program allows universities to purchase basic laboratory equipment for research and education program enhancements to highly sophisticated research instruments, such as lasers and spectrometers.
- Technical assistance. The funds are used to design programs that enhance the ability of minority institutions to successfully compete for future Defense funding. The objective is to assist the HBCU/MI community in areas such as proposal writing and administration of grants and contracts.

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Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 1: Basic Research</i>	PE 0601228D8Z I <i>Historically Black Colleges and Universities and Minority Institutions</i>

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	34.412	25.834	25.388	-	25.388
Current President's Budget	33.263	35.834	23.572	-	23.572
Total Adjustments	-1.149	10.000	-1.816	-	-1.816
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.136	-			
• Realignment for Higher Priority Programs	-	-	-1.634	-	-1.634
• FY15 Reprog. for Cancelled Account	-0.013	-	-	-	-
• Economic Assumptions	-	-	-0.182	-	-0.182

Change Summary Explanation

FY 2017 internal realignment reflects funding changes for higher Departmental priorities and requirements. As a result, the number of grant awards will be reduced by three in FY 2017.

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Appropriation/Budget Activity 0400 / 1					R-1 Program Element (Number/Name) PE 0601228D8Z / <i>Historically Black Colleges and Universities and Minority Institutions</i>				Project (Number/Name) P448 / <i>Historically Black Colleges and Universities and Minority Institutions</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
P448: <i>Historically Black Colleges and Universities and Minority Institutions</i>	-	33.263	35.834	23.572	-	23.572	25.888	30.613	31.036	31.646	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Historically Black Colleges and Universities and Minority Institutions (HBCU/MI) program provides support in fields of science and engineering that are important to national defense. The Department of Defense (DoD) HBCU/MI Program encourages participation of small minority schools as well as large minority research institutions. This competitive program provides support through grants or contracts for research, education assistance, instrumentation purchases, and technical assistance as described below.

- Research. The research grants are to further the knowledge in the basic scientific disciplines through theoretical and experimental activities. Collaborative research allows university professors to work directly with DoD laboratories or other universities.
- Education. Education assistance funds are used by minority institutions to strengthen their academic programs in science, technology, engineering, and mathematics (STEM), thereby increasing the number of under-represented minorities obtaining undergraduate and graduate degrees in these fields. These grants provide equipment, scholarships, cooperative work/study opportunities, visiting faculty programs, summer intern programs, and a variety of other enhancements designed to support students, and to encourage them to pursue careers in STEM.
- Instrumentation purchases. The program allows universities to purchase basic laboratory equipment for research and education program enhancements to highly sophisticated research instruments, such as lasers and spectrometers.
- Technical assistance. The funds are used to design programs that enhance the ability of minority institutions to successfully compete for future Defense funding. The objective is to assist the HBCU/MI community in areas such as proposal writing and administration of grants and contracts.

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

	FY 2015	FY 2016	FY 2017
Title: Historically Black Colleges and Universities and Minority Institutions (HBCU/MI)	33.263	35.834	23.572
Description: The HBCU/MI program provides support for research and collaboration with DoD facilities and personnel. The research grants further knowledge in the basic physical scientific and engineering disciplines through theoretical and empirical activities. Collaborative research allows university professors to work directly with DoD laboratories or other universities.			
FY 2015 Accomplishments:			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
<p>Conducted annual competition of the HBCU/MI program for basic research and student support. The competition resulted in 43 basic research grant awards totaling \$24.000 million supporting 66 undergraduate students and 77 graduate students/post docs, for a total of 143. The students will receive tuition and stipends for participating in the research. Continued the research and educational collaboration for the STEM Prep project with HBCUs: Paul Quinn College and Cheyney University of Pennsylvania. Increased the number of FY 2015 summer interns from 79 to 85 participants in the DoD Labs. Established new Centers of Excellence in support of the ASD(R&E) Science and Technology priorities in the areas of Cyber Security, Research Data Analysis, and Autonomy. Conducted two outreach webinars to expose HBCUs/MIs to opportunities in DoD totaling \$0.200 million.</p> <p><i>FY 2016 Plans:</i> Continue efforts from FY 2015. Conduct annual competition of the HBCU/MI program for basic research, student support, and/or equipment/instrumentation. Continue the research and educational collaboration for the STEM Prep project with HBCUs: Paul Quinn College and Cheyney University of Pennsylvania. The goal is to increase the number of FY 2016 summer interns from 85 to 100 participants. Continue the efforts from FY 2015 to establish new Centers of Excellence in support of the Assistant Secretary of Defense for Research and Engineering (ASD(R&E)) Science and Technology priorities in the areas of Cyber Security, Research Data Analysis, and Autonomy. Conduct annual review of the Centers.</p> <p><i>FY 2017 Plans:</i> Continue efforts from FY 2016. Conduct annual competition of the HBCU/MI program for basic research, student support, and/or equipment/instrumentation. The number of grant awards will be reduced by three to account for the program change for higher priority DoD requirements. Continue the research and educational collaboration for the STEM Prep project with HBCUs: Paul Quinn College, Cheyney University of Pennsylvania, and add North Carolina Central University. The goal is to maintain the number of FY 2017 summer interns at 100 participants. Monitor established Centers of Excellence in support of the ASD(R&E) Science and Technology priorities in the areas of Cyber Security, Research Data Analysis, and Autonomy. Conduct annual review of the Centers.</p>			
Accomplishments/Planned Programs Subtotals	33.263	35.834	23.572

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

N/A

Remarks

D. Acquisition Strategy

N/A

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E. Performance Metrics

- Number of students funded other than undergraduates.
- Number of undergraduate students funded.
- Number of undergraduates funded who graduated.
- Number of students participating in the Centers of Excellence for Research and Education.
- Number of students working in Defense Laboratories.
- Number of undergraduates funded who graduated with degrees in STEM.
- Number of graduates who will continue to pursue graduate or Ph.D. degrees in STEM.
- Number of graduates who intend to work for DoD.
- Number of undergraduates who will receive scholarships and fellowships for further studies in STEM.

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