

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense **Date:** March 2023

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-Serving Institutions</i>
--	---

COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	96.277	100.500	100.467	-	100.467	100.596	100.720	100.817	100.918	Continuing	Continuing
448: <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>	-	96.277	100.500	100.467	-	100.467	100.596	100.720	100.817	100.918	Continuing	Continuing

Note

New Start (Y/N): N

A. Mission Description and Budget Item Justification

The Historically Black Colleges and Universities and Minority-Serving 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 and large minority research institutions. The program is authorized by 10 U.S.C. § 4144. This competitive program provides support through grants, cooperative agreements, or contracts for research, education assistance, and instrumentation purchases.

Work in this program provides a foundation to enhance participation of HBCUs/MIs in DoD research. Programs are structured to: build infrastructure; strengthen research and educational opportunities at HBCUs/MIs and increase the number of minority graduates in the science, technology, engineering, and mathematics (STEM) disciplines; and build a more diverse pool of scientists and engineers to meet future workforce needs.

The program includes funding for Centers of Excellence (COEs) established at HBCUs/MIs to focus on DoD science and technology priorities. Centers currently funded through cooperative agreements include Minority Women in STEM, Quantum Science, Fully Networked C4, Artificial Intelligence/Machine Learning, Aerospace, Biotechnology, and Materials Science. The Centers are administered by the Army Research Laboratory.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense **Date:** March 2023

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-Serving Institutions</i>

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	99.902	33.288	34.300	-	34.300
Current President's Budget	96.277	100.500	100.467	-	100.467
Total Adjustments	-3.625	67.212	66.167	-	66.167
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	67.212			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.610	-			
• Program Adjustments	-0.015	-	66.167	-	66.167

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 448: *Historically Black Colleges and Universities and Minority-Serving Institutions*

Congressional Add: *HBCU/MI Program Increase*

Congressional Add: *Integrated Research and Training in Artificial Intelligence and Machine Learning for ROTC Students*

Congressional Add Subtotals for Project: 448

Congressional Add Totals for all Projects

	FY 2022	FY 2023
	68.864	66.712
	-	0.500
	68.864	67.212
	68.864	67.212

Change Summary Explanation

The FY 2024 increase of \$66.167 million will allow for more grants to be awarded, to augment research activities and to elevate HBCU/MI research portfolios in achieving R-1 status on the Carnegie Classification scale, increase STEM opportunities, collaboration, and training for HBCU/MI scholars to advance their skills in DoD critical technology areas. In addition, it will allow for greater HBCU/MI involvement in defense research activities and promote the advancement of research and development capabilities at HBCUs/MIs.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense										Date: March 2023		
Appropriation/Budget Activity 0400 / 1					R-1 Program Element (Number/Name) PE 0601228D8Z / <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>				Project (Number/Name) 448 / <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
448: <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>	-	96.277	100.500	100.467	-	100.467	100.596	100.720	100.817	100.918	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Historically Black Colleges and Universities and Minority-Serving 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 and large minority research institutions. The program is authorized by 10 U.S.C. § 4144. 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 further 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 internship 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, such as lasers and spectrometers, for enhancements to the basic research efforts.
- **Technical assistance:** The funds are used to design programs that enhance the ability of minority institutions to successfully compete for future Defense funding by assisting the HBCU/MI community in areas such as proposal writing and administration of grants and contracts.

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

	FY 2022	FY 2023	FY 2024
Title: Historically Black Colleges and Universities and Minority-Serving Institutions (HBCU/MI)	27.413	33.288	100.467
Description: The HBCU/MI program provides support for research, education, and collaboration with DoD facilities and personnel. The research grants further knowledge in the basic scientific and engineering disciplines through theoretical and empirical activities. Collaborative research allows university professors to work directly with DoD laboratories or other universities.			
FY 2023 Plans:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 1	R-1 Program Element (Number/Name) PE 0601228D8Z / <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>	Project (Number/Name) 448 / <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>

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

	FY 2022	FY 2023	FY 2024
<p>Conduct annual competition of the HBCU/MI program for basic research, student support, and/or equipment/instrumentation. Continue research and educational collaboration with the DoD laboratories. Continue the summer internship and faculty fellowship programs. Continue Centers of Excellence in support of the USD(R&E) critical technology areas and the National Defense Strategy in the areas needed to expand STEM opportunities for underrepresented minorities. Conduct annual review of the Centers. Conduct outreach activities, to include one webinar and two technical assistance workshops to expose HBCUs/MIs to opportunities in the DoD. Maintain minority STEM recruitment efforts in partnership with the Science, Mathematics and Research for Transformation (SMART) Scholarship for Service Program as encouraged by Section 250 in the FY 2021 National Defense Authorization Act (NDAA). Continue support of HBCU/MI Pilot Initiative with the SMART Scholarship Program to develop and train the next generation of STEM leaders. Encourage HBCU/MI students to apply for SMART scholarships through targeted outreach including joint webinars focused on fostering a community of diversity and the STEM workforce. Continue to examine recommendations provided by the National Academies of Sciences, Engineering, and Medicine in the report to Congress on defense research at HBCUs and other MIs as required by Section 262 of the FY 2020 NDAA.</p> <p>FY 2024 Plans:</p> <p>Conduct annual competition of the HBCU/MI program for basic research, student support, and/or equipment/instrumentation. Continue research and educational collaboration with the DoD laboratories. Continue the summer internship and faculty fellowship programs. Continue Centers of Excellence in support of the USD(R&E) critical technology areas and the National Defense Strategy in the areas needed to expand STEM opportunities for underrepresented minorities. Conduct annual review of the Centers. Conduct outreach activities, to include one webinar and two technical assistance workshops to expose HBCUs/MIs to opportunities in the DoD. Maintain minority STEM recruitment efforts in partnership with the Science, Mathematics and Research for Transformation (SMART) Scholarship for Service Program as encouraged by Section 250 of the National Defense Authorization Act (NDAA) for FY 2021. Continue support of HBCU/MI Pilot Initiative with the SMART Scholarship Program to develop and train the next generation of STEM leaders. Encourage HBCU/MI students to apply for SMART scholarships through targeted outreach including joint webinars focused on fostering a community of diversity and the STEM workforce. Continue to examine recommendations provided by the National Academies of Sciences, Engineering, and Medicine (NASEM) in the report to Congress on defense research at HBCUs and other MIs as required by Section 262 of the NDAA for FY 2020. Support efforts for R-2 HBCUs/MIs with high potential to elevate research activity in science and engineering disciplines critical to the national security functions of DoD and attain R-1 status on the Carnegie Classification scale. Collaborate with the Air Force for the establishment of the first HBCU university affiliated research center in tactical autonomy to foster HBCU R-1 Research Classification and generate STEM scholar interest in DoD science and technology priorities. Collaborate with the Office of Naval Research (ONR) on STEM, education, and workforce programs to diversify the available pool of scientists and engineers available to DoD in critical technology areas. Team with ONR to expand fellowship programs that engage HBCU/MI faculty in DoD research, including both the 10-week Summer Fellows program and the Distinguished Fellows Program supporting</p>			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 1	R-1 Program Element (Number/Name) PE 0601228D8Z / <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>	Project (Number/Name) 448 / <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>appointments ranging from one semester to one year. Collaborate with the Air Force Research Laboratory Minority Leaders Program to assist HBCUs/MIs in developing both the research and contracting skills necessary to compete for DoD research opportunities. Issue two discrete funding opportunities for basic research awards and equipment awards to increase research and educational capability of HBCUs/MIs. Expand the HBCU/MI internship program to increase basic research ecosystem of additional underrepresented minorities pursuing STEM disciplines important to national defense.</p> <p>Provide funding supplement to the multidisciplinary university research initiative (MURI) program specifically for HBCU/MI participation in defense research and to strengthen collaboration between university teams proposing MURI projects. Establish a center of excellence focusing on DoD S&T critical technology area to strengthen HBCU/MI involvement in defense research activities.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: The increase of \$67.179 million from FY 2023 to FY 2024 will allow for greater HBCU/MI involvement in defense research activities and to promote the advancement of research and development capabilities at HBCUs/MIs. Funding will be used to advance the research and development capabilities of HBCUs/MIs by increasing the number of grants from approximately 60 to 120 awards. Funding will allow greater expansion of research activity and elevate HBCU/MI research portfolios in achieving R-1 status on the Carnegie Classification scale. In addition, funding will expand STEM opportunities, collaboration, and training for HBCU/MI scholars to advance skills in DoD critical technology areas.</p>			
Accomplishments/Planned Programs Subtotals	27.413	33.288	100.467

	FY 2022	FY 2023
Congressional Add: HBCU/MI Program Increase	68.864	66.712
FY 2022 Accomplishments: Awarded 60 equipment and instrumentation awards to HBCUs/MIs totaling \$28.5 million. Invested \$27 million to three HBCUs to elevate research activity in science and engineering disciplines and to facilitate growth to reach R-1 status on the Carnegie Classification scale. Placed 52 interns at 10 defense laboratories as well as OSD organizations, to receive hands-on research experiences and foster interest in DoD careers. Hosted an HBCU/MI technical assistance workshop at Durham, North Carolina. Conducted STEM Town Halls in collaboration with the National Academies of Sciences, Engineering, and Medicine. Conducted joint webinars for Science, Mathematics and Research for Transformation (SMART) scholarship program and HBCU/MI Program with participation by HBCU/MI scholars: 'Fostering a Community of Diversity'. Supported the Office of Naval Research (ONR) Distinguished Faculty Fellows. Supported the Air Force Research Laboratory		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 1	R-1 Program Element (Number/Name) PE 0601228D8Z / <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>	Project (Number/Name) 448 / <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>

	FY 2022	FY 2023
<p>Minority Leaders Program. Supported the Air Force program to establish a university affiliated research center (UARC) for tactical autonomy at an HBCU.</p> <p>FY 2023 Plans: Issue two discrete funding opportunities for basic research awards and equipment awards to increase research and educational capability of HBCUs/MIs. Continue research and educational collaboration with the DoD laboratories. Continue the summer internship and faculty fellowship programs. Continue Centers of Excellence in support of the USD(R&E) critical technology areas and the National Defense Strategy in the areas needed to expand STEM opportunities for underrepresented minorities. Conduct annual review of the Centers. Conduct outreach activities, to include one webinar and two technical assistance workshops to expose HBCUs/MIs to opportunities in the DoD. Maintain minority STEM recruitment efforts in partnership with the Science, Mathematics and Research for Transformation (SMART) Scholarship for Service Program as encouraged by Section 250 of the NDAA for FY 2021. Continue support of HBCU/MI Pilot Initiative with the SMART Scholarship Program to develop and train the next generation of STEM leaders. Encourage HBCU/MI students to apply for SMART scholarships through targeted outreach including joint webinars focused on fostering a community of diversity and the STEM workforce. Continue to examine recommendations provided by the National Academies of Sciences, Engineering, and Medicine (NASEM) in the report to Congress on defense research at HBCUs and other MIs as required by Section 262 of the NDAA for FY 2020. Continue efforts for R-2 HBCUs/MIs with high potential to elevate research activity in science and engineering disciplines critical to the national security functions of DoD and attain R-1 status on the Carnegie Classification scale. Continue collaboration with the Air Force for the establishment of the first HBCU university affiliated research center (UARC) in tactical autonomy to foster HBCU R-1 Research Classification and generate STEM scholar interest in DoD science and technology priorities. Collaborate with the Office of Naval Research (ONR) on STEM, education, and workforce programs to diversify the available pool of scientists and engineers available to DoD in critical technology areas. Team with ONR to expand fellowship programs that engage HBCU/MI faculty in DoD research, including both the 10-week Summer Fellows program and the Distinguished Fellows Program supporting appointments ranging from one semester to one year. Continue to collaborate with the Air Force Research Laboratory Minority Leaders Program to assist HBCUs/MIs in developing both the research and contracting skills necessary to compete for DoD research opportunities. Expand the HBCU/MI internship program to increase basic research ecosystem of additional underrepresented minorities pursuing STEM disciplines important to national defense. Provide funding supplement to the multidisciplinary university research initiative (MURI) program specifically for HBCU/MI participation in defense research and to strengthen</p>		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 1	R-1 Program Element (Number/Name) PE 0601228D8Z / <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>	Project (Number/Name) 448 / <i>Historically Black Colleges and Universities and Minority-Serving Institutions</i>

	FY 2022	FY 2023
collaboration between university teams proposing MURI projects. Establish centers of excellence focusing on DoD S&T critical technology areas to strengthen HBCU/MI involvement in defense research activities.		
Congressional Add: Integrated Research and Training in Artificial Intelligence and Machine Learning for ROTC Students FY 2023 Plans: Funding will be used to increase STEM opportunities, collaboration, and training for HBCU/MI ROTC scholars to advance their skills in DoD critical technology areas. Funding will be used to increase ROTC students' research and training in AI/ML supporting the research activity at the Center of Excellence (COE) in Big Data Analytics established at Prairie View A&M University as stipulated in the Division C Defense Appropriations (requested by Rep. Michael McCaul (R-TX)). The execution is aligned with the objectives of the Big Data COE to increase students' competency in big data and AI/ML disciplines. The funding is consistent with DoD's continued partnership with the COE and the Department's goal of diversifying STEM education and workforce initiatives.	-	0.500
Congressional Adds Subtotals	68.864	67.212

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

N/A

Remarks

D. Acquisition Strategy

N/A