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February 9, 2022

The Honorable John Bel Edwards
Governor, State of Louisiana

Dear Governor Edwards:

We are pleased to share with you an update on the work of the Cybersecurity Education Management Council (CEMC), written in response to Act 57 of the 2020 Regular Legislative Session.

Act 57, authored by Senator Mark Abraham, commissioned the Cybersecurity Education Management Council and created the Louisiana Cybersecurity Talent Initiative Fund. Under the auspices of the Louisiana Board of Regents, the Cybersecurity Education Management Council is tasked to do the following:

- Advise and make recommendations to the Louisiana Board of Regents with respect to distributions from the Fund;
- Annually review the list of degree and certificate programs upon which the distribution is based and the final distribution amounts; and
- Provide updates on the work of the Council, recommendations, distribution of funds, and the impact of distributions on the workforce.

The Cybersecurity Education Management Council is required to meet quarterly each year. Since its first meeting in September 2020, the Council reviewed the current landscape of existing and emerging cybersecurity initiatives, created a workgroup, and proposed a plan with milestones for 2021. As required by Act 57, this report provides updates and recommendations related to cybersecurity education and workforce activities since the Council's establishment.

The work of this Council continues to enhance the visibility of and access to Cybersecurity education across the state. I am grateful for the Council members' commitment to this vital work.

We welcome questions and look forward to working with you during the upcoming legislative session

Sincerely,



Kim Hunter Reed, Ph.D.
Commissioner of Higher Education

cc. Lance Harris, House Education Committee Chair
Cleo Fields, Senate Education Committee Chair
Zee Zeringue, House Appropriations Committee Chair
Bodi White, Senate Finance Committee Chair
Yolanda Dixon, Secretary of the Senate
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**CYBERSECURITY EDUCATION MANAGEMENT COUNCIL
STATUS REPORT TO THE LOUISIANA SENATE EDUCATION,
SENATE FINANCE, HOUSE EDUCATION AND HOUSE
APPROPRIATIONS COMMITTEES**

LOUISIANA BOARD OF REGENTS

JANUARY 2022

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Executive Summary

Act 57 of the 2020 Regular Session, authored by Senator Mark Abraham, commissioned the Cybersecurity Education Management Council (“CEMC”) and created the Louisiana Cybersecurity Talent Initiative Fund (“the Fund”). Under the auspices of the Louisiana Board of Regents, CEMC is tasked to do the following:

- Advise and make recommendations to the Louisiana Board of Regents with respect to distributions from the Fund;
- Annually review the list of degree and certificate programs upon which the distribution and final distribution amounts are determined; and
- Provide updates on CEMC’s work, recommendations, distribution of funds, and the distribution’s impact on the cybersecurity workforce.

CEMC is comprised of 11 members including the Commissioner of Higher Education, two members appointed by the Governor, one representative with expertise in science, technology, engineering, and mathematics education appointed by the state superintendent of education, the president of the Louisiana Chemical Association, the president of the Louisiana State University System, the president of the University of Louisiana System, the president of the Southern University System, the president of the Louisiana Community and Technical College System, the secretary of the Louisiana Workforce Commission, and the secretary of the Louisiana Department of Economic Development. Vacancies in the membership of CEMC are filled in the same manner as the original appointment.

The purpose of the Fund is to provide a mechanism for donations and/or appropriations of funding for degree and certificate programs in cybersecurity fields offered by public postsecondary education institutions in order to meet the state's cybersecurity workforce needs. Cyber threats persist across every industry sector and domain and attacks on critical infrastructure are a national security concern. Recent high-profile incidents, including cyber-attacks on several Louisiana educational institutions and government agencies, underscore the impact and importance of robust cybersecurity tools and training to the state. Combatting these threats demands a steady supply of well-trained individuals; however, the nation faces a critical

shortage of security professionals to address current and near-term challenges. The goal of the Fund is to help Louisiana to develop, train, produce, and retain workforce-ready cybersecurity professionals and improve cyber literacy across industry sectors.

CEMC advises and makes recommendations to the Louisiana Board of Regents relative to the distribution of Fund resources. Monies are distributed by the Board of Regents to public postsecondary education management boards on behalf of receiving institutions. Award of available funds requires a match of no less than 25 percent of the amount of funding to be distributed. The match provided may include, but is not limited to, cash, in-kind donations of technology, personnel, construction materials, facility modifications, corporeal property, internships, scholarships, sponsorship of staff or faculty, or faculty endowment.

As required by Act 57, this report provides an update on the work of CEMC, emerging initiatives, distribution of funds, workforce impact from distribution, and recommendations. Meeting quarterly since September 2020, CEMC has reviewed the current landscape of existing and emerging cybersecurity initiatives, created a workgroup, and proposed a plan with milestones to measure the impact of current and future fiscal support. In 2021, eight awards totaling the full \$1 million available in the Fund were provided to launch new or support existing cybersecurity programs at Louisiana's public colleges and universities.

List of Acronyms

BOR	Louisiana Board of Regents
CEMC	Cybersecurity Education Management Council
LDOE	Louisiana Department of Education
LED	Louisiana Economic Development
NICE	National Initiative for Cybersecurity Education
NIST	National Institute of Standards and Technology
RFA	Request For Application

Part I: Introduction

This report, filed pursuant to Act 57 of the 2020 Regular Session of the Louisiana Legislature, highlights the significant progress achieved by the Cybersecurity Education Management Council (CEMC) in 2021.

The CEMC's mission and primary objective guided its work during the creation and implementation of a distribution process for the Louisiana Cybersecurity Talent Initiative Fund ("the Fund"):

- **Mission:** Increase cybersecurity talent output for Louisiana industries.
- **Objective:** Accelerate cybersecurity talent development by initiating measurable, targeted, and practical program support for postsecondary institutions.

In 2020, CEMC set an ambitious but considered timeframe to implement a fund distribution process. The process began with the development of a Request for Application (RFA) to solicit proposals from our public postsecondary institution(s) for innovative cybersecurity initiatives. In early 2021, a total of 12 proposals were submitted for consideration. Utilizing the CEMC scoring rubric, Council members independently scored each proposal. The averages of the scores were calculated and available funds were awarded to 8 public postsecondary institutions. The approved projects were launched during the second half of 2021. This first round funding was the culmination of the successful work of CEMC since its first meeting in September 2020.

Part II: A Successful Year of Engagement in Cybersecurity in Louisiana

Council Meetings

During the 2021 quarterly meetings, CEMC reviewed and discussed the charges set forth in Act 57 of the 2020 Regular Session. Since its first meeting in September 2020, the primary focus of CEMC was to establish and implement a process to distribute available funds to high-quality, high-impact programs aligned with its goal and mission. The 2020 meetings laid the groundwork for the distribution process and a Request for Applications (RFA) to solicit proposals. The RFA was reviewed and approved by CEMC at its January 26, 2021 meeting.

2021 Quarterly Meetings

- **January 26, 2021:** Reviewed content, provided feedback, and approved the RFA pending available funds
- **April 13, 2021:** Timeline, review process, and scoring rubric for applications shared,
- **July 14, 2021:** \$1 million in FY 2022 funding announced, summary of awarded projects and performance metrics discussed, FY 2022 RFA planned.
- **October 12, 2021:** Three awardees (Bossier Parish Community College, Louisiana State University, and Louisiana Tech University) reported progress, alignment of CEMC with LaSTEM discussed, determination made that FY 2022 monies will support continuation of existing projects and new programs.

Additional information can be found on the CEMC [website](#).

Cybersecurity Activities and Accomplishments

The following sections will highlight the progress and successes of CEMC, its stakeholders, and the agencies vital to its success during 2021.

Fund Distribution Process

The creation of the Cybersecurity Talent Initiative Program resulted from CEMC meeting discussions, relevant feedback from internal and external stakeholders, and ongoing cybersecurity collaborations with public postsecondary institutions. Group assessments and discussions of cybersecurity data from multiple resources and reports including the NIST Cybersecurity Framework (nist.gov), the Cybersecurity and Infrastructure Security Agency's NICE Cybersecurity Workforce Framework (cisa.gov), and the ISC² Cybersecurity Workforce study for 2019 and 2020 laid a strong context and foundation for CEMC's plans. Based on this review, CEMC drafted an RFA to solicit innovative solutions from Louisiana's public postsecondary institutions, which was approved in January 2021. The RFA sets forth for all potential applicants project requirements, metrics and reporting, project tracks, eligibility, and the application review process.

- **Project Requirements**

The RFA requires applicants to:

- Focus on development of new and/or incumbent cybersecurity workforce;
- Detail pathways to employment with industry, including specific employers and roles/competencies where possible;
- Detail monitoring and reporting of any students, graduates, or participants who secure internships, apprenticeships, or jobs;
- Include validation of at least 25% private or non-public funds as match which may encompass, but is not limited to, cash, in-kind donations of technology, personnel, construction materials, facility modification, or corporeal property, internships, scholarships, sponsorship of staff or faculty, or faculty endowment;
- Detail all tracks for students (minors/majors), graduates, or learners for reporting;
- Align closely to industry and cybersecurity practitioner-recognized standards such as professional certifications or certificate programs;
- Detail alignment to the NIST Cybersecurity Framework and/or NICE Cybersecurity Workforce Framework (e.g., Categories or Work Areas);

- Directly support the participation and success of underrepresented groups (i.e., African American, women, Spanish/Hispanic/Latino, and other students of color) in pathways and employment opportunities; and
- Articulate potential follow-on grant opportunities and/or federal/private support to ensure sustainability.

- **Metrics and Reporting**

The following metrics must be detailed in the application and reported for all funded projects:

- The number(s) of potential candidates at the end of the project including students, graduates, or participants in mentorships, internships, externships, apprenticeships, job offers, or jobs;
- Other indicators of hire-ability or possible employment including, but not limited to, letters from industry confirming workforce readiness;
- Measures of student or learner engagement with industry such as hiring events, interviews, total time (hours) of training programs, and any/all indicators that further illustrate student-industry connectivity;
- Student/learner demographics or other indicators of support of or participation by historically underrepresented groups (i.e., African American, women, Spanish/Hispanic/Latino, and other students of color).
- The degree, certificate, or certification programs supported by the project, and any awarded, if applicable.

Applicants were reminded that proposed projects should be career-focused with an emphasis on cybersecurity-relevant programs/courses, enhancement of current degree programs, and/or plans to award nationally recognized certifications in cybersecurity practices. Proposed projects should also be measurable and practical, encourage close coordination with industry, and emphasize cybersecurity talent development and retention throughout and beyond postsecondary education. For guidance, applicants were strongly encouraged to refer to and adhere to the principles of both the NIST Cybersecurity Framework (nist.gov) and the Cybersecurity and Infrastructure Security Agency's NICE Cybersecurity Workforce Framework

(cisa.gov), which reflect current and evolving best practices in cybersecurity.

- **Project Tracks**

Two tracks were defined in the RFA: (1) Student Projects and (2) Incumbent Workforce and Education Projects. Track 1, Student Projects, focused on building awareness and foundational cybersecurity skills by translating industry cybersecurity challenges, needs, and opportunities into impactful undergraduate and graduate programs that lead directly to cyber-related job opportunities. Track 1 projects could address any industry dimension of cyber (e.g., from business to technical) and focus on the following:

- Adding measures of competency to existing programs;
- Supporting third-party professional or association certifications and undergraduate certificates;
- Developing work-based and other experiential learning opportunities;
- Creating new programs targeted to cybersecurity and related disciplines;
- Preparing students for and recruiting students into cyber-related jobs and industries;
- Enhancing and refining channels of industry engagement around cyber-specific skills; and/or
- Supporting research and/or faculty with direct and measurable impact on the production of cyber-fluent, workforce-ready candidates;
- Developing innovative approaches to directly support the participation and success of underrepresented groups (i.e., African Americans, women, Spanish/Hispanic/Latino, and other students of color) in pathways and employment opportunities;
- Developing innovative approaches to directly support the participation and success of veterans in pathways and employment opportunities; and
- Providing pathways for graduates with higher-level degrees (master's and above) to transition into cybersecurity education and instruction.

Track 2, Incumbent Workforce and Adult Education Projects, were charged to translate industry cybersecurity challenges, needs, and opportunities into programs establishing and enhancing the skills needed for current and emerging opportunities in cybersecurity. Track 2 projects could address any industry dimension of cyber and include:

- Reskilling/upskilling/skills refinement or competency-based programs;
- Establishing or accelerating certification or certificate opportunities for incumbent workers and adult learners transitioning to cybersecurity careers;
- Establishing or accelerating certification or certificate opportunities for incumbent workers and adult learners to pursue degrees in cybersecurity-related fields;
- Creating new business opportunities for existing employers through skills enhancement;
- Building new measurable pathways from one industry to another in areas of cybersecurity;
- Working with industry partners on new or enhanced workforce-ready programs;
- Establishing or improving wraparound service models to maximize participant or candidate engagement;
- Developing innovative approaches to directly support the participation and success of underrepresented groups (i.e., African Americans, women, Spanish/Hispanic/Latino, and other students of color) in pathways and employment opportunities;
- Developing innovative approaches to directly support the participation and success of veterans in pathways and employment opportunities;
- Identifying and (re)engaging candidates who left the workforce, to underscore job opportunities in cybersecurity fields; and
- Providing pathways for graduates with higher-level degrees (master's and above) to transition into cybersecurity education and instruction.

- **Application Review Process**

The application review process required that all applications be reviewed by CEMC. Each member individually assessed the applications based on the published scoring rubric, after which CEMC collectively ranked all submissions. Final funding decisions were derived from CEMC's scoring.

- **2021 Awardees**

The following projects received funding in 2021:

- Louisiana State University and A&M College: Forensic and Incident Response Environment-FIREStarter, \$185,544
- University of Louisiana at Lafayette: LCTI: Development of two VR-assisted low-cost online courses leading to security certificates, \$115,735
- Louisiana Tech University: Cybersecurity Talent Expansion Program, \$317,489
- Southern University System: Cybersecurity Talent Initiative Program, \$205,519
- Louisiana State University Shreveport: Cybersecurity Certification Incentive Program, \$17,420
- Bossier Parish Community College: Accelerated Network Security Training, \$67,000
- Northwestern State University: Central Louisiana Cybersecurity Work-Based Scholarship Program, \$30,000
- Louisiana State University of Alexandria: Central Louisiana Initiative in Cybersecurity, \$58,364

A total of \$997,071 was awarded through the competitive review process, with the remaining \$2,929 available distributed as supplements (\$366.12 per program) to the eight awardees.

Part III: Policy/Funding Recommendations and Summary

Recommendations and Summary

Act 57 of the 2020 Regular Legislative Session established CEMC and the Fund to meet the growing demands of Louisiana’s cybersecurity workforce. The work of CEMC during 2021 created a process that builds capacity and quality across public postsecondary institutions possessing innovative and effective cybersecurity solutions. As charged by the Legislature, CEMC will continue in future years to advance cybersecurity efforts across Louisiana. Its significant achievements to date in raising awareness and promoting cybersecurity for Louisiana would not have been possible without the collective efforts of CEMC members, stakeholders, and participating industry and institutional partners.

CEMC can now build on the processes developed in 2021 to continue distributing resources through the Fund and support both new and ongoing cybersecurity education programs at all levels across the state. The reporting mechanisms and metrics will ensure that programs align with and help accomplish the goals of CEMC and contribute significantly to Louisiana’s cybersecurity talent pipeline.

CEMC’s work in 2022 will continue to evolve and expand. The Cybersecurity Talent Initiative program will increase in effectiveness and reach, even as the demand for its students and trainees increases across all sectors. These efforts will strengthen educational and business/industry partnerships and are focused on meeting immediate and future workforce needs. Through CEMC’s work, Louisiana can become a leader in this critical and ever-expanding field that underpins our 21st-century information economy.