Application Title: Mobile Cybersecurity Laboratory Environment (MCLE)

Lead contact for RDF Application:

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Key Participating Units:

Institute for National Security and Cybersecurity Education and Research (INSCER)
Texas A&M Cybersecurity Center, Center for Nuclear Security Science and Policy Initiatives
Texas A&M University
College of Engineering, College of Agriculture and Life Sciences, Medicine, School of Public Health, Science, Bush School of Government and Public Service
Texas A&M Agrilife Research
Texas A&M Engineering Experiment Station
Texas A&M Energy Institute
Texas A&M Engineering Extension Service
Cyber Rediness Center

Anticipated Request Amount ($): $665,734

Executive summary:

This proposal is requesting funds to add physical infrastructure to the Texas Cyber Range (TCR), and create, equip, facilitate, and maintain a mobile cybersecurity laboratory environment (MCLE) to be managed by the Cyber Programs under the Institute for National Security and Cybersecurity Education and Research (INSCER). The TCR is an innovative, highly instrumented, and robust platform for hands-on cybersecurity education and research. It allows for the replication of an IT system in a safe environment where researchers and students can test and train on systems during a cyber-attack stemming from a variety of exploits. The proposed MCLE will provide this same research and educational capability in a mobile format that allows for projects, technical assistance, and training to be conducted not only across the Texas A&M campus, but also across the state and beyond. This proposal will provide the TCR with the hardware and software needed to expand existing functionality, develop new ones, and provide the flexibility of a manageable and mobile component. The purpose of this request is to improve our nation's cybersecurity resiliency, particularly for critical infrastructure, and assist in the University gaining additional recognition as an educational and research leader in cybersecurity education and research. The proposal will enhance INSCER's mission to advance national and international security for community-based information technology. The MCLE would deliver an interactive laboratory for experiments to help secure all 16 critical infrastructure sectors[1]. The mobile lab will be available for courses anywhere on the College Station, RELLIS, and Galveston campuses. The mobility of the MCLE allows INSCER to bring unique services to public and private organizations in a cost-effective manner. Likewise, instead of an organization being reluctant to send people to train in College Station, timely and relevant services can be brought to an organization, resulting in greater cost-savings and buy-in from a larger number of participants and industry partners. The MCLE would deliver an interactive laboratory for experiments and training, to help secure all 16 critical infrastructure sectors[1]. The MCLE capability, equipment, and support staff will be sustained by seeking any of a number of federal grants including, National Security Agency (NSA), National Science Foundation (NSF), and Department of Homeland Security (DHS) resources. The TCR and MCLE will result in numerous cooperative research proposals, improve collaboration with industry and provide international visibility of University research, and benefit the education of undergraduate and graduate students.

[1]Chemical; Commercial Facilities; Communications; Critical Manufacturing; Dams; Defense Industrial Base; Emergency Services; Energy; Financial Services; Food and Agriculture; Government Facilities; Healthcare and Public Health; Information Technology; Nuclear Reactors; Material and Waste; Transportation; Water and Wastewater.