Department of the Navy SBIR/STTR Transition Program

DISTRIBUTION STATEMENT A. Approved for public release. Distribution is unlimited.
NAVAIR 2023-0152

Topic # N211-003
Real-Time Detection, Location, and Isolation of High-Resistance, Wye Power System Ground Faults
AURA Technologies, LLC

WHO

SYSCOM: NAVAIR

Sponsoring Program: NAVAIR

Transition Target: The expected transition target is the Electromagnetic Aircraft Launch System (EMALS) aboard the Ford class aircraft carriers.

TPOC: (732) 323-4708

Other Transition Opportunities: Commercial electric fault detection

Notes:

WHAT

Operational Need and Improvement: AI/ML controller, electrical hardware, and digital signal processing that can detect ground fault and locate faults within EMALS.

Specifications Required: The solution is required to: detect ground faults of 10,000 Ohms or less with no false negatives; minimize false positives above 10,000 Ohms; localize faults to within 10 feet of the fault to decrease mean time to repair (MTTR).

Technology Developed: Prototype hardware and mechanical design of sensor units that can be non-intrusively deployed on EMALS system; AI/ML controller that can provide recommendations for maintenance actions.

Warfighter Value: Improve operational availability of EMALS by reducing time to inspect and locate ground faults. GroundFaultInsight™ enables the Navy to detect and localize ground faults to within 10 feet, greatly improving readiness and decreasing maintenance time.

WHEN

Contract Number: N68335-22-C-0639 **Ending on:** Aug 29, 2024

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Requirements Defined			1	4th QTR FY22
Site Visit (Data Collection)			2	4th QTR FY22
Hardware Design Document			3	2nd QTR FY23
Prototype Hardware Fabrication			5	3rd QTR FY23
Demonstration On-Site			7	1st QTR FY24

HOW

Projected Business Model: GroundFaultInsight™ is a hybrid hardware/software solution for diagnosis/prognosis of multiple ground faults.

Company Objectives: Integrate GroundFaultInsight™ within AssuranceAI™, AURA's product that contains a suite of AI/ML diagnostic/prognostic solutions for a variety of applications, including electrical.

Potential Commercial Applications: Existing approaches are commercially available but cannot be performed online or are difficult to use. Our technology particularly excels at detecting faults within very high voltage/current electrical systems.

Contact: Eric Strong, EVP AI Systems
estrong@aura-tech.us (207) 275-8319