AMENDMENT TO RULES COMMITTEE PRINT 119-33

OFFERED BY MS. DAVIS OF NORTH CAROLINA

Add at the end of subtitle E of title X the following new section:

Sec. 10___ Resilient Tactical Power and Battery Safety.

(a) Findings.— Congress finds the following:

1) Army units operating at the tactical edge increasingly rely on resilient power generation, storage, distribution, and charging to support communications systems, sensor networks, unmanned systems, directed-energy counter-UAS capabilities, command-and-control nodes, tactical vehicles, and other mission equipment.

2) Current fielded power solutions may not be optimized as integrated systems, limiting interoperability and increasing fuel, maintenance, and logistics burdens.

(3) Batteries are a critical part of this architecture, because lithium battery performance and safety depend heavily on subcomponents, including separator materials.

(4) Separator failure or degradation under high-rate cycling, cold-start pulse demand, elevated temperatures, extended storage, or mechanical and electrical abuse can contribute to internal short circuits, thermal events, and fault propagation in confined, manned, vehicle-integrated, or unmanned applications.

(5) Separator technologies and other subcomponents should be assessed by the Army alongside power generation, charging, distribution, and sustainment needs.

(**b) Report---**

Not later than 90 days after the date of the enactment of this section, the Secretary of the Army shall submit a report to the Committees on Armed Services of the House of Representatives and the Senate on Army efforts to demonstrate, assess, and transition resilient tactical power architectures and safe lithium battery technologies for mission systems. The report shall include the following numbered requirements:

(1) A description of priority operational use cases for integrated tactical power and battery-dependent mission systems, including how hybrid tactical microgrids, control nodes, batteries, power electronics, charging, distribution, and energy storage would support unmanned systems, sensors, command-and-control nodes, directed-energy counter-UAS systems, tactical vehicles, and other systems at the tactical edge;

(2) A roadmap for laboratory, field, and operational demonstrations, including integration with Army generators, tactical vehicles, batteries, power electronics, and representative combat formations; use of modular open systems architectures; cyber and electromagnetic resilience requirements; and metrics for fuel efficiency, logistics burden, reliability, survivability, and lifecycle cost;

(3) An assessment of lithium battery designs, separator technologies, and related subcomponents that could improve high-rate cycling, cold-start performance, persistent low-draw operation, elevated-temperature endurance, long-duration storage, intrinsic fault containment, and propagation resistance, including relevant cooperative agreements, test standards, and representative Army mission profiles;

(4) A description of performance, safety, and sustainment testing for fielded batteries, including overcharge, crush, puncture, internal short-circuit, thermal exposure, thermal runaway, charging in extreme or austere environments, and procedures to keep batteries for unmanned systems and other mission equipment functional and charged in storage and regular use; and

(5) A transition and sourcing plan for successful prototypes, validated battery designs, separator materials, and related subcomponents, including current and planned programs of record, existing platforms, candidate units and echelons for initial fielding, opportunities to leverage commercially proven domestic or allied battery and power electronics technologies, barriers to transition, and steps to secure domestic or allied production of separators, electrodes, electrolytes, cells, packs, and associated manufacturing capabilities.