# Dossier: PC KRAUSE & ASSOCIATES INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $139,640.00

**Award Date:** 2024-07-24

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

PC Krause & Associates, Inc. (PCKA) is a power electronics consulting and engineering firm specializing in advanced modeling, simulation, analysis, design, and control of electric machines, power systems, and electric drives, primarily for aerospace and defense applications. Their core mission appears to be to improve the performance, efficiency, and reliability of electrical systems in critical applications through the application of cutting-edge modeling and simulation techniques. They solve problems related to power conversion, motor control, and grid integration, especially in scenarios requiring high power density, harsh environments, and stringent performance requirements. Their unique value proposition lies in their deep expertise in electromagnetic and circuit simulation, advanced control algorithms, and their ability to provide customized solutions for complex electromechanical systems.

**Technology Focus:**

* Development and application of advanced electric machine and drive models, including finite element analysis (FEA) for electromagnetic design and thermal analysis.
* Software tools for simulating and analyzing power systems and electric drives, specifically designed for aerospace and defense applications, with a focus on electric propulsion, power generation, and energy storage systems.

**Recent Developments & Traction:**

* PCKA announced in November 2022 that it was awarded a contract by the US Navy to support the development of advanced power electronics for future shipboard power systems. (Source indicates focus on modeling and simulation support)
* PCKA participated in and presented at the IEEE Electric Ship Technologies Symposium (ESTS) in 2021 and 2023, showcasing their expertise in naval power systems and advanced drive technologies.

**Leadership & Team:**

* Dr. Paul C. Krause:\*\* Founder and Chairman. Widely recognized expert in power electronics and electric machines, with decades of experience in the field.
* Information on current CEO/President/CTO is not readily available from the limited web search results. Further research is necessary to determine the current operational leadership structure.

**Competitive Landscape:**

* ANSYS:\*\* While a broad simulation provider, ANSYS offers electromagnetic simulation software that competes with PCKA's modeling capabilities, particularly in FEA for electric machine design. PCKA's differentiator is its niche focus on power electronics and electric drives for the defense/aerospace sector and its deep domain expertise in this specific area, likely leading to more tailored solutions.
* MathWorks (Simulink):\*\* Provides a platform for modeling and simulation of dynamic systems, including power electronics and electric drives. PCKA's advantage is its specialized expertise in developing custom models and control algorithms for specific electric machines and power systems used in defense/aerospace, which may go beyond the general-purpose capabilities of Simulink.

**Sources:**

1. https://www.military-airfields.com/news/pc-krause-associates-inc-awarded-contract-by-us-navy.htm

2. https://ieeexplore.ieee.org/xpl/conhome/1827171/proceeding

3. https://ieeexplore.ieee.org/xpl/conhome/10029631/proceeding