

JOE DEBOY

ASSOCIATE, DAYTON AEROSPACE, INC.



DAYTON AEROSPACE

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PROFILE

Experienced electromagnetic environmental effects (E3) subject matter expert (SME) with 30 years of Department of Defense (DoD) experience in the E3 field as it applies to design integrity, development, integration, test, and sustainment of advanced avionics/weapon systems. Developed and authored recent updates to the DoD and US Air Force (USAF) E3 technical standards and policies including: MIL-STD-461/464, *Environmental Conditions and Test Procedures for Airborne Equipment (RTCA/DO-160)*, USAF airworthiness technical standards/advisory material and Air Force Instructions (AFI)—all critical documents contributing to the improvement of the overall safety and reliability of USAF, US Army, and US Navy weapon systems. GS-15, Department of the Air Force (DAF) (Retired).

PRINCIPAL AREAS OF EXPERTISE

Electronics Engineering
Electromagnetic
Compatibility
Electromagnetic Pulse

Electromagnetic
Interference
Lightning Protection
Electrical Bonding

Radio Frequency
Compatibility
HERO/HERP/HERF
Electrical Power Systems

WORK HISTORY

Associate | Dayton Aerospace, Inc.
2021-present, Dayton, OH

Leads teams of multi-functional experts solving a vast variety of E3 issues for both government and industry clients.

Technical Advisor | Air Force Life Cycle Management Center
2012-2021, Dayton, OH

USAF E3 Lead and technical advisor to senior leadership on all E3 related matters. Applied E3 expertise as the USAF technical advisor for E3 airworthiness and provided oversight of MIL-HDBK-516, Section 13 in support of airworthiness assessments and E3 sign-off for all carry-on equipment. Conducted cost, schedule, and risk impacts of newly developed AFI requiring hazards of electromagnetic radiation to ordinance (HERO) certification for all USAF ordnance. Conducted review and briefed senior leaders on lightning risks and hazards associated with 30 mm gun installation on AC-130 aircraft lead tot, abating serious risk to aircraft flying in lightning conditions. Served as chairman and USAF representative of the Tri-Service Working Group (TSWG) responsible for revision activity of MIL-STD-461 and MIL-STD-464, along with serving as USAF representative for SAE AE-2 Lightning Committee and primary technical advisor for E3 related USAF Safety Investigation Boards.

E3 Tech Specialist | Air Force Life Cycle Management Center
2016-2019, WPAFB, OH

The E3 SME to the Joint Strike Fighter (JSF), Fighter/Bomber and Mobility Wings acquisition program offices and the Air Force Life Cycle Management Center Engineering Directorate (AFLCMC/EN) home office in support of USAF airworthiness assessments. Provided critical lightning protection expertise to avert high risk lightning hazards associated with F-35 fuel systems. Supported Air Force Safety Center in critical E3 analysis following catastrophic mishaps and provided mitigation steps to minimize likelihood of future occurrences thus saving aircrew lives as well as costs of lost aircraft. Developed should-cost analysis for electromagnetic interference (EMI) qualification testing on next generation radar systems resulting in saving in excess of \$15M.

EDUCATION

**BS, Business Manufacturing
Engineering**
Miami University

BS, Electrical Engineering
Louisiana Tech University

MS, Electrical Engineering
University of Dayton

Air War College

**USAF Leadership Development
Course – Senior Level**

CERTIFICATIONS

USAF Airworthiness Endorsement
Level III – E3

**Acquisition Professional
Development Program (APDP)**
Level III – SPRDE

Six Sigma Certification
Green Belt

WORK HISTORY (CONT'D)

Senior Electronics Engineer | General Electric (GE) Aviation – Aircraft Engines Division

1990- 2010, Cincinnati, OH and Jacksonville, FL

Senior electronics design/test engineer with responsibility for all environmental, electromagnetic interference and E3 qualification testing, system design and analysis aspects for jet engine systems/components. Authored GE's Design Practices and GE Process Specifications as well as provided oversight to product design reviews. Served as Federal Aviation Administration Designated Engineering Representative (FAA-DER) responsible for FAA inspections and oversight of E3 certification tests. Applied design expertise with analog circuits/filters, power system filter design, digital design, harness shielding design, detailed knowledge of jet engine logic design and extensive experience troubleshooting complex electrical and mechanical systems.