

# DAWN McGARVEY-BUCHWALDER

VICE PRESIDENT, DAYTON AEROSPACE, INC.

## PROFILE

Former senior US Air Force (USAF) engineer with over 30 years of experience working with every USAF-owned platform across all phases of life-cycle acquisition, ultimately culminating in assignment as USAF Airworthiness Office Branch Chief. Nationally recognized for specialized expertise in airworthiness, systems engineering, human systems integration (HSI), life support, and crew systems. Partnered extensively with the US Army, Navy, and Marine Corps engineering, logistic, and research organizations. Collaborated with national and international militaries, governments, and commercial offices to enhance relationships and data exchange and optimize the delivered products for the user. GS-15, Department of the Air Force (DAF) (Retired).

## PRINCIPAL AREAS OF EXPERTISE

### Airworthiness Certification

Led the world-wide recognized USAF Airworthiness Office, the centralized point for air systems, contractors, and users to obtain a flight authorization from the Technical Airworthiness Authority (TAA). Created standardized processes, endorsed qualified people, and utilized validated tools. Brought over 150 air systems under the airworthiness policy, issued MIL-HDBK-516C, audited all chief engineers, endorsed subject matter experts, evaluated foreign airworthiness authorities for equivalency to US, assessed public aircraft operations/systems, and provided training to execute.

### Pilot Systems

Endorsed for Crew Systems (Section 9) of MIL-HDBK-516. Led development and qualification of pilot and maintainer-centric hardware/software for the USAF. Responsible for ejection systems, oxygen equipment, acceleration equipment, canopy, lighting, cockpit displays, pilot flight equipment, maintainer protection systems, helmet mounted display, night vision devices, noise, nuclear/ chemical/biological, and directed energy. A specialist in on-board oxygen generating systems.

### Technical Engineering Management

Implemented systems engineering process across many acquisition programs in the execution of USAF airworthiness, and as the F-35 Flight Systems/Pilot Systems Lead. Led numerous executive independent review teams (EIRTs), notably F-35 verification and documentation, **Occupational Safety and Health Administration (OSHA)** noise assessment, and decontamination of foot and mouth virus. Assessments resulted in holistic views of implementation, improved level of safety, and senior level concurrence.

### Human Systems Integration (HSI)

Implemented and evaluated the nine domains of human systems integration during career. Assessed how airworthiness might be utilized as an indicator of the health of human systems integration in a system.

### Cyber Security

Assisted in the development of acquisition and system security requirements for weapon system programs. Identified key weapon system resilience requirements and assisted in outlining USAF governance structure and needed policy changes necessary to implement acquisition and system security requirements. Conducted analysis of the USAF Cyber Mission Thread Analysis (CMTA) and Functional Mission Analysis-Cyber (FMA-C) with regard to specific USAF missions and their ability to complete the mission and prioritize systems for detailed cyber vulnerability assessments.



## DAYTON AEROSPACE

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## EDUCATION

**BS, Chemical Engineering**  
University of Dayton

**MS, Computer Science**  
University of Dayton

**Air War College**

## KEY POSITIONS

**Branch Chief/Technical Advisor USAF Airworthiness Office**  
Air Force Life Cycle Management  
Center Engineering Directorate  
(AFLCMC/EN)

**Chief, Flight Systems Engineering,  
Pilot Systems Lead**  
F-35 Program Office

**Lead for Life Support Systems (LSS)  
and Pilot Flight Equipment (PFE)**  
F-35 Program Office

## ORGANIZATIONAL MEMBERSHIPS

**Society of Aviation and Flight  
Educators (SAFE)**

**Association of Airworthiness  
Professionals (AAP)**

## AWARDS & RECOGNITION

**JSF Annual Award - Category 2  
Fighter/Bomber Annual Award -  
Category 3**

**4th Quarter Fighter Wing Award  
ASC/EN Director's Award**

**SAF/AQ Team Award**  
Transforming Verification

**OSD Exceptional Civilian Service**

**SAFE Wright Brother's Chapter**  
Outstanding Program Team

**SAFE Senior Civilian Award**

**USAF Exceptional Civilian Service  
Award**

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## WORK HISTORY

### **Senior Associate & Vice President | Dayton Aerospace, Inc.**

**2016-present, Dayton, OH**

Subject matter expert in airworthiness, engineering, crew systems, and program management to government and industry clients around the world. Assess and author proposal submissions for air system solicitations, program execution, design reviews, test planning, risk mitigation, and airworthiness certification products. Train clients in engineering policies and processes. Evaluate international military airworthiness authorities for Tri-Service recognition. Collaborate on anthropometric assessment of cockpits as an evaluator and subject. Facilitate and train clients on Primary Flight Reference Endorsement. Transitioned from senior associate to vice president and member of the Dayton Aerospace board of directors in 2023.

### **Branch Chief and Technical Advisor for Airworthiness | USAF Airworthiness Office, AFLCMC/EN**

**2011-2016, WPAFB, OH**

Led the USAF in bringing 150+ air systems under the USAF airworthiness policy. Directed development of bulletins, advisories, and operating instructions to execute the process with air systems. Issued all delegations and endorsements and audited for compliance. Instituted AFLCMC flight authorization standard process and disseminated airworthiness training across the USAF to streamline and enhance products. Partnered with the Navy and Army to introduce recognition process for assessment of foreign airworthiness authorities. Collaborated with industry to facilitate communication exchange on airworthiness. Issued MIL-HDBK-516C on behalf of all Services.

### **Chief, Flight Systems Engineering and Pilot Systems Lead | F-35 Program Office**

**2004-2011, WPAFB, OH**

Directed, managed, and supervised the pilot system team in development, qualification, certification, verification, production readiness, and sustainment of pilot centric hardware/software on all F-35 variants utilizing worldwide suppliers. Key components: helmet mounted display, ejection seat, life support, and pilot flight equipment, lighting, and canopy. Crew systems' flight test release authority and partner nations representative. Developed first biological shelter in conjunction with UK military.

### **Lead Engineering Technical Specialist for USAF Personal Equipment | ASC/EN**

**2000-2001, WPAFB, OH**

USAF technical focal point for all pilot and maintainer flight equipment operational usage and integration into aircraft systems. Wrote Joint Service Specification Guides (JSSGs) and initial MIL-HDBK-516 and released new hardware as safety of flight board member. Led development of first USAF helmet mounted display and chemical defense systems, developed test protocols for ejection seat neck restraint devices, acted as expert advisor for oxygen issues on USAF frontline fighters, and held role as USAF lead for compliance to OSHA hearing protection, as well as hardware decontamination response to foot and mouth outbreak in Europe.

### **USAF Lead for Life Support Systems | X-32/X-35 Program Office**

**1998-2001, WPAFB, OH**

Engineering lead for development, qualification, man-rating, and flight testing of X-32 and X-35 contractors' life support systems and pilot flight equipment. Key components included: breathing system hardware; noise suppression and communication devices; and windblast, survival, and fire protection. Developed the associated system requirements for the Joint Strike Fighter (JSF) from lessons learned. Facilitated the exchange of data which allowed the Navy to field a new female cold water immersion suit.

### **Prior to 1998**

- Life Support IPT Lead, F-22 Program Office, WPAFB, OH
- Lead Life Support Engineer, YF-22/YF-23 Program Office, WPAFB, OH
- Lead Life Support Engineer, Advanced Tactical and Air Defense Fighter, WPAFB, OH
- Journeyman Engineer, Engineering Directorate, WPAFB, OH
- Automotive Engineer, Delco Products, Dayton, OH

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## RECENT PROJECTS

- Embedded in Tri-Service team to deliver MIL-HDBK-516D.
- Member of USAF Safety Investigation Board for oxygen system issues.
- Led Non-DOD Military Airworthiness (NDMA) reviews for the USAF Airworthiness Office.
- Executed non-standard airworthiness assessments in support of electric-vertical takeoff and landing (e-VTOL) manned/unmanned air systems.
- Validated a new oxygen system for a USAF trainer platform.
- Red, white, and blue team proposal assessor for new development and modification programs.
- Performed finding compliance reviews for various industry clients in support of airworthiness approvals for new and modified systems on both USAF and foreign military sales (FMS) aircraft.
- USAF representative who performed documentation reviews and international site visits and developed a recommendation for recognition of a Foreign Military Airworthiness Authority by the National Airworthiness Council.
- Proposal writer for airworthiness subfactor for major defense contractors to include incorporation of airworthiness into the integrated master plan (IMP) and integrated master schedule (IMS).
- Delivered onsite, comprehensive, MIL-HDBK-516 assessment training to US Services and industry, for support of national and international air systems.
- Team member developing cyber-resiliency documentation to enhance USAF weapon systems' ability to "bake in" requirements and fulfill policy in a resource-efficient method.
- Updated USAF airworthiness bulletins, processes, and operating instructions to align with current execution.
- Taught the USAF airworthiness class on behalf of the airworthiness office.

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