

# DEBORAH BAILEY

ASSOCIATE, DAYTON AEROSPACE, INC.

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## PROFILE

Over 35 years of engineering and technical management experience in Air Force (USAF) acquisition encompassing overall weapon system development and test; modification programs and sustainment issues; training systems; aging aircraft issues; airworthiness certification; and operational safety, suitability and effectiveness (OSS&E). Primary experience in flight systems engineering (aero-mechanics, structures, and subsystems) and systems engineering. Experienced in proposal preparation, strategic planning, and technology transition. GS-15, Department of the Air Force (DAF) (Retired).

## PRINCIPAL AREAS OF EXPERTISE

### Technical Engineering Management

Technical authority for all engineering decisions on the B-2, including two ACAT IC modification programs. Successfully reduced B-2 maintenance man-hours for low observables with numerous material improvements. Led two estimate-at-completion (EAC) exercises for the F-22 development program. Led the development of the F-22 flight envelope expansion plan.

### Military Airworthiness Certification

Experienced in the execution and instruction of MIL-HDBK-516. Led development of the certification basis for several major modification programs on the B-2. Developed and delivered training to government and industry. Supporting industry clients in airworthiness certification planning.

### Flight Systems Engineering

Led the development of the organic low observables engineering function at the USAF Aeronautical Systems Center (ASC). Led the development of organic electronic warfare effectiveness and weapon system survivability analysis capability and the definition and acquisition of an electronic technical information system that captures technical and process information at all classification levels. Served as mentor to multiple ASC engineers that now have senior leadership roles in Air Force Life Cycle Management Center (AFLCMC) programs.

### Systems Engineering

Directed several initiatives to revitalize systems engineering processes on the B-2 program to improve requirements documentation and manage weapon system-level resources. Provided technical direction to the EHF SATCOM program, the most complex B-2 modification program to date. Successfully convinced HQ Air Combat Command (ACC) to fund a processor upgrade program.

### Technology Transition

Evaluated emerging lab technologies for transition readiness and managed transition programs to address aging aircraft sustainment issues. Co-chaired annual B-2 low observables technology reviews with the Air Force Research Laboratory (AFRL).

### Acquisition Strategy Development and Source Selection Support

Led technical aspects of acquisition planning on the B-2 to include technology assessment, analysis of alternatives, and capability/requirements development. Helped develop acquisition strategies for major B-2 modification programs. Supported all technical aspects of highly complex source selections. Developed source selection criteria and coordinated evaluator support on the Non-Developmental Airlift Aircraft (NDAA) System Program.



## DAYTON AEROSPACE

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## EDUCATION

### BS, Mechanical Engineering

Virginia Polytechnic Institute &  
State University

### Air Command and Staff College

### Executive Program Management

Leadership Miami Valley

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## KEY POSITIONS

### Chief Engineer

B-2 Program

### Chief Flight Systems Engineer

F-22 Program

### Chief Engineer

Aging Systems Office

### Chief Flight Systems Engineer

Training Systems Product Group

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## CERTIFICATIONS

### Acquisition Professional Development Program (APDP)

Systems Planning, Research,  
Development and Engineering,  
*Level III*

Test and Evaluation, *Level II*

Program Management, *Level I*

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## WORK HISTORY

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

**2010-present, Dayton, Ohio**

Involved in multiple proposal efforts to include authoring significant portions of technical volumes and other required documentation such as System Engineering Plans (SEPs), System Engineering Management Plans (SEMPs), and Configuration Management Plans (CMPs) as well supporting Red Team reviews for defense contractors. Conducted a readiness review for a small business in preparation for a Critical Design Review (CDR) and Test Readiness Review (TRR) with their USAF customer. Airworthiness subject matter expert in aircraft systems and flight technology modules, providing training to government and industry and assisting industry in the certification process. Assist industry in developing the certification basis and providing 'first eyes' review for compliance. Authored an initial Concept Characterization and Technical Description Document (CCTD). In 2016, transitioned from full-time Senior Associate to Associate (subcontractor) status.

### **Chief Engineer | B-2 Program**

**2003-2009, WPAFB, OH**

Served as the principal technical advisor to the B-2 system program director on a wide range of development, test, production, and sustainment efforts. Development efforts included radar modernization, aft deck re-design, communication/navigation system upgrades, numerous low observable material improvements, and weapons integration (JDAM, JSOW, JASSM). Sustainment issues included landing gear corrosion, hot trailing edge, and windshield redesign. Established the Systems Engineering Steering Group to strengthen the B-2 systems engineering process. Coordinated mishap investigation board technical support in 2008; ultimately requested to serve as the technical lead for the Safety Investigation Board.

### **Chief Flight Systems Engineer | F-22 Program**

**2000-2003, WPAFB, OH**

Served as the Chief, Air Vehicle IPT, responsible for the development and test of the F-22 structure and aircraft subsystems. Worked closely with the Combined Test Force (CTF), ACC, and Air Force Operational Test and Evaluation Center (AFOTEC) to develop an envelope expansion plan to incrementally deliver capability required for developmental and operational test. Resolved numerous technical issues, such as brake energy, canopy howl, and fin buffet, which had potentially significant operational implications if not resolved. Led two air vehicle estimate-at-completion (EAC) exercises.

### **Chief Engineer | Aging Systems Office**

**1996-2000, WPAFB, OH**

Provided technical and programmatic direction to three programs valued at \$35M; programs targeted towards transitioning technologies from the commercial sector and research laboratories to address sustainment needs. A principle member of the HQ USAF Aging Aircraft IPT. Served as acting product group manager for four months. Handpicked to stand up the Aging Aircraft Program Office and successfully established program funding in the FY99 APOM.

### **Chief Flight Systems Engineer | Non-Developmental Airlift Aircraft (NDAA) System Program**

**1995-1996, WPAFB, OH**

Responsible for all aspects of flight systems engineering to the NDAA program which required identifying, planning and managing extensive support from the Engineering Directorate (EN) and the Federal Aviation Administration (FAA). Developed source selection criteria and coordinated evaluator support with the home office. Given the potential for used aircraft to be proposed, engaged with the FAA on their aging aircraft initiatives to better understand the risk areas. Also, provided technical direction for two FAA aging aircraft research initiatives funded by the NDAA program as part of their risk mitigation strategy.

### **Chief Flight Systems Engineer | Training System Product Group**

**1994-1995, WPAFB, OH**

Provided senior technical expertise to training system development efforts in the areas of aerodynamics, handling qualities, and propulsion. Served as senior advisor to an internal team reviewing the change management process. Organized an EN tiger team to investigate T-3A engine problems; served as a liaison between the tiger team and product group management.

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## RECENT PROJECTS

- Provided proposal support to a major electronics defense contractor on a significant avionics systems upgrade, including developing storyboards and authoring substantial portions of the technical and risk volumes.
- Assisted small business contractor with airworthiness certification planning effort for a non-developmental aircraft program.
- Authored significant portions of the technical volume, including the Systems Engineering Plan (SEP), for a large aerospace contractor competing for a major acquisition program.
- Conducted readiness reviews for a small business in preparation for a CDR and TRR with their USAF customer.
- Developed the aircraft systems and flight technology materials for in-depth airworthiness training course and provided training to two customers.
- Participated in a Red Team proposal review as a technical subject matter expert for a 2nd tier defense contractor.
- Authored the initial CCTD for a small business assisting a program office in identifying alternative communication solutions for a fielded weapon system
- Provided proposal support for the technical volume for a small business pursuing a large USAF contract.