Mary Denise Bryant

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Experience Summary

Almost 30 years of diverse experience at Arnold Engineering Development Center (AEDC) in numerous capacities at various locations on base. My work career began in May 1989 as an Engineering Assistant for the Test Projects Department in the Propulsion Wind Tunnel Facility. In 2001 I graduated from University of Tennessee with my Bachelors of Science degree in Engineering while working in the Intrusive Diagnostics Team for the Technology Group. At that point I was offered a position as an Engineer III. After several years in the Technology Department I accepted a position as a Capital Investments Project Manager in the Investment Group. Two years as a Capital Investments PM prepared me for a position as a Test/Mechanical Systems Engineer in Flight Systems Group in 2006. Since then I have become the Lead Maintenance Mechanical System Engineer for all VKF Tunnels and Technical Lead for the reactivation of Tunnel D in cooperation with AFRL, including acting as the Project Manager for major modifications. In addition I have been certified as a Test Operations Engineer in all the operating continuous flow wind tunnels at AEDC (16T/4T/A/B/C). Finally, in August 2018 I returned to the Capital Investments Group to perform the Project Engineer duties.

Experience

National Aerospace Solutions, Arnold AFB, TN **August 2018 to Present**

Capital Investments Technical Project Engineer, Senior Engineer

- Manage and support field operations; to include technical evaluation and solutions, continuous review and monitoring of specifications and scope of work, materials and equipment management, oversea quality assurance, evaluate real-time schedule and cost, and directs and coordinates the workload with the project team.

- Provides updates and daily reports to Program Manager. Identifies issues or potential concerns to minimize any impact to the project cost or schedule.

National Aerospace Solutions (formerly Aerospace Testing Alliance), Arnold AFB, TN April 2006 to Present

Tunnels A/B/C Lead Maintenance Mechanical Systems Engineer and Tunnels A/B/C/16T/4T Test Operations Engineer, Senior Engineer V

- Serve as Lead Maintenance Mechanical System Engineer for VKF. Responsible for all mechanical systems engineering duties for the test operations aspects of Tunnel B, and several VKF support systems. Duties include the following: direct preventative and corrective maintenance activities, design/modify system components for modernization, prepare test operation and asset maintenance procedures, prepare/updated system drawings, analyze system hazards, and resolve technical issues with system components.

- Project Manager for several major modification projects for VKF. Provide planning, budget evaluations and status deliverables, execution, documentation, and assessment of results.

- Perform Test Operations Engineering duties for AEDC wind tunnels A, B, C, 16T, and 4T. Duties to include the following: preparation, installation, checkout, testing, and removal of tests conducted in the wind tunnels, direct craft personnel for operations tasks, and prepare test related documents (hazard analysis, safety reviews, procedures, operating time logs, test unit status logs).

- Technical Lead for the reactivation of Tunnel D in conjunction with AFRL. Responsible for the rebuild of all Tunnel D components from the Stilling Chamber downstream to the Transition Duct.

- Mentor interns and new Engineers for both Mechanical Systems and Test Engineering, and aid in developing Project Manager skills for mid-level Engineers.

Aerospace Testing Alliance, Arnold AFB, TN **November 2004 to April 2006**

Capital Investment Project Manager, Engineer IV

- Responsible for managing multi-million dollar capital investment projects to upgrade, replace, or install AEDC equipment or components. Duties included the following: estimated and determined scope of work, coordinated personnel, evaluated schedule and cost, provided monthly status updates to the Federal Government, and ensured technical requirements and deliverables were met.

Aerospace Testing Alliance (and Sverdrup Technology, Inc), Arnold AFB, TN October 2000 to October 2004

Emissions Analysis Engineer, Engineer III

- Responsible for obtaining and analyzing exhaust and ambient air emissions data obtained at numerous AEDC facilities and several off-base facilities. Duties included the following: maintained and calibrated gas analyzers (FT-IR Spectrometer, GC-Mass Spectrometer, Heated-Flame Ionization Detectors, Paramagnetic Analyzers), installed intrusive emissions equipment, designed extraction equipment, and evaluated and reported data results. Also a member of the NSMS (Non-Intrusive Stress Measurement) team with Pratt & Whitney for determining blade tip timing and stress.

MicroCraft Technology and Calspan Corporation, Arnold AFB, TN **May 1989 to September 2000**

Engineering Assistant

- Assisted Test Project Engineers with testing efforts in AEDC wind tunnels A, B, C, 16T, and 4T. Duties included the following: preparation, installation, checkout, testing, removal, and reporting of tests conducted in the wind tunnels, tracked test costs, and prepared sketches of test articles.

Education

Bachelors of Science in Engineering, Mechanical Emphasis **2001**
University of Tennessee at Chattanooga, TN

Pursing a Masters of Science in Mechanical Engineering **Present**
University of Tennessee Space Institute, TN

Professional Licenses/Certifications/Memberships

Tennessee Board of Architectural and Engineering Examiners Engineer Intern, FE, License 21676, 2001
Member of Tau Beta Pi Engineering Honor Society

Publications

Bryant, M. D., "Wind Tunnel Test of a Full-Scale Longbow Hellfire Missile at Mach Numbers 0.50 to 1.60," AEDC-TSR-92-P5, 1992.

Bryant, M. D., Arendt, L. L., Hobbs, R. W., "Wind Tunnel Test of a 0.10-scale F-22 Aircraft Pressure Model (L3) with and without Stores," AEDC-TSR-93-P3, 1993.

Bryant, M. D., Gifford, R. M., Spurlin, C. J., "Wind Tunnel Tests of a 1/10-Scale Dornier Alpha Jet Model with a Transonic Technology (TST) Wing," AEDC-TSR-94-P7, 1994.

Bryant, M. D., Mills, B. H., Jr, "Test to Determine the Aerodynamic Effects of Mixed and Partial Store Loadings on the F-15E Aircraft," AEDC-TSR-93-P24, 1994.

Bryant, M. D., Mills, B. H., Jr, "Test to Determine the Aerodynamic Effects of Unique Store Loadings on the F-155 Aircraft," AEDC-TSR-93-P23, 1994.

Bryant, M.D. and Arendt, L. L., "0.046-Scale Boeing 767-300 (Model 1868) Full Model Test," AEDC-TSR-94-P15, 1994.

Fensky, C. S., Bryant, M. D., "Documentation of the Fifth in a Series of Wind Tunnel (4T) Tests Investigating the Separation Characteristics of Stores from the F-15E Aircraft in Support of Development of the Ballistic Accuracy Improvement (BAI) Database," AEDC-TSR-95-P6, 1995.

Rogers, J. C.; Hawkins, W. R.; Winters, P. S.; Bryant, M. D., "Documentation of a Wind Tunnel Test to Investigate the Separation Characteristics of Stores Released from the F/A-18 E/F Aircraft Using Flow Improvement Concepts and to Measure the Corresponding Aircraft Pressure Flow Field (Phase 4)", AEDC-TSR-95-P22, 1995.

Bryant, M. Denise, Lloyd, Tom C., Tickner, James H., "1/12-scale F-22 force model (V9) tests in AEDC Tunnels 16S and 16T," AEDC-TSR-95-P18.

Hodges, D. A., Bryant, M. D., "Static Stability and Control Test of a 21-percent Scale Model of the M-10 Missile," AEDC-TSR-96-P13, 1996.

Bryant, M. D., Hopf, John C., "Aerodynamic Characteristics of a Full-Scale Raytheon AIM-9X Missile Configuration at Mach Numbers from 0.5 to 1.5," AEDC-TSR-95-P27, 1996.

Bryant, M. D., Hopf, John C., "Aerodynamic Characteristics of a Full-Scale Hughes AlM-9X Missile Configuration at Mach Numbers from 0.20 to 1.55," AEDC-TSR-96-P1, 1996.

Hopf, John, Bryant, Denise, "Wind Tunnel Test to Obtain Aerothermal Characteristics of the Full-Scale Sanders-Lockheed IDECM Mode at Mach Numbers 0.2 to 2.0," AEDC-TSR-97-P6, 1997.

Mills, Ben; Bryant, Denise, "Wind Tunnel Test to Obtain Aerodynamic Characteristics of the Boeing Company Joint Direct Attack Munition (JDAM) Models at Mach Numbers from 0.6 to 1.6," AEDC-TSR-98-P4, 1998.

Davenport, A. H., Jr.; Simons, S. A.; Bryant, M. D., "Flow-Field and Separation Characteristics of the Strap-on Solid Rocket Motors (SSRM) from the EELV DELTA IV at Supersonic Mach Numbers of 2.0 through 4.25," AEDC-TSR-99-V2, 1999.

Mills, Ben; Bryant, Denise, "Wind Tunnel Test to Obtain Aerodynamic Characteristics of the Mk-82 and Mk-83 Joint Direct Attack Munitions (JDAM) at Mach Numbers from 0.6 to 1.3," AEDC-TSR-99-P2, 1999.

Jalbert, P. A., Zaccardi, V. A., Bryant, M. D., Winkleman, B. C., Markham, J. R., Bush, P. M., Bonzani, P. J., "Rapid, Complete Nozzle Exhaust Gas Measurement Capability for Gas Turbine Engines," ISA Conference, Paper PA# 04-59, 2004.

Gardner, D. G., Zaccardi, V. A., Jalbert, P. A., and Bryant, M. D., "Reducing the Cost of Aircraft Gas Turbine Emission Measurements," 49th International Instrumentation Symposium, Paper No. IIS03- P082, May, 2003.

Markham, J. R., Bush, P. M., Bonzani, P. J., Scire, J. J., Zaccardi, V. A., Jalbert, P. A., Bryant, M. D., and Gardner, D. G., "Integrated Gas Analyzer for Complete Monitoring of Turbine Engine Test Cells," *Applied Spectroscopy*, Vol. 58, No. 1, January 2004, pp. 130-136.