

JOHN L. BIRKLER

EDUCATION

Executive Management Program, 1991-1992, UCLA
M.S., 1969, Physics, University of South Carolina
B.S., 1967, Physics, Roanoke College

PROFESSIONAL EXPERIENCE

1996-Present	Research Leader, Acquisition, Defense Production and Technology Base Issues, Acquisition and Technology Policy Center, National Defense Research Institute, RAND, Santa Monica, California
1994-1996	Associate Director, Acquisition and Technology Policy, National Defense Research Institute, RAND, Santa Monica, California
1987-1994	Director, Acquisition and Support Policy Program, National Defense Research Institute, RAND, Santa Monica, California
1977-1987	Member of Technical Staff, System Sciences Department, RAND, Santa Monica California
1972-1977	Section head, Propulsion Branch, Aero Design and Propulsion Division, Air Vehicle Technology Department, Naval Air Development Center, Warminster, Penn.
1969-1972	Active Duty, U.S. Navy. Directed repair and maintenance of naval nuclear reactors and managed the Radiation Health/Safety Program for a Fleet Ballistic Missile Submarine Squadron

CURRENT MANAGEMENT ROLE

Research Leader Acquisition, Defense Production and Technology Base Issues, Acquisition and Technology Policy Center

- **Responsibilities:**

Management and technical activities spanning a multitude of projects conducted for OSD, the Joint Staff, DARPA, the Navy, SOCOM, U.S. Coast Guard and other US government agencies, departments and UK MOD and Australian DoD.

- **Duties:**

- *Enhance the development of research themes in acquisition and technology.*
 - Interact with staff and clients to identify and plan a systematic, coherent agenda of future research topics, including both content area and methodology
 - Initiate exploratory research
 - Nurture sponsor relationships and solve and overcome research difficulties with senior OSD, Navy, SOCOM, Coast Guard and UK MOD leadership

- ❑ *Communicate research on DoD-wide issues to senior audiences at OSD, the services, and the legislative branch.*
 - Write, produce, tailor, and disseminate peer-reviewed monograph reports, scholarly papers, briefings and other research products targeted to a variety of high-level stakeholders and other interested parties
 - Draw national-level attention to important research on DoD resource management issues
 - Speak often at conferences, symposiums, and industry gatherings
- ❑ *Deliver a quality product on time and within budget.*
 - Establish project funding and schedules, assist project leaders in staffing projects, perform ongoing quality control
 - Evaluate staff performance and advance staff development
 - Oversee various administrative tasks-budgets, financial reporting, semiannual and annual report inputs
 - Coordinate with the Center Directors and other programs and divisions.
 - Select project leaders and ensure that they succeed

RESEARCH AREAS

Acquisition Policy: Analyze various strategies for acquiring technically advanced systems; develop strategy, process and organizational options to streamline the acquisition system, examine the cost and schedule implications of multinational coproduction. Examine and recommend improvements to internal DoD organizational and management structures, develop methods to improve acquisition program management and oversight process. Identify innovative acquisition approaches and policies, with emphasis on requirements phase test and evaluation (T&E) activities, that will lead to weapon systems with better operational suitability, particularly in combat environments lacking well-developed support infrastructures. These efforts have included examinations of acquisition strategies for the DD(X) and of ways to accelerate the U.S. Coast Guard's Deepwater program. Have been asked by the senior leadership of UK MOD to evaluate and develop an acquisition strategy for their Type 45 Destroyer, future aircraft carrier and Astute Class submarine.. Have also lead and managed multiple Analysis of Alternatives (AoA) studies for U.S. Navy and SOCOM.

Project Evaluation: Focus on technical assessment and cost, schedule, and performance analysis of advanced and innovative maritime, aerospace and energy systems. Military systems researched include: submarines, aircraft carriers, surface combatants, Advanced Seal Delivery Systems (ASDS), A-12, B-1, B-2, Comanche, F-117, F-15, F-16, F-18 E/F, F-22, Joint Strike Fighter, Advanced Cruise Missile, Tomahawk, conventional and advanced vertical/short takeoff and landing (V/STOL), aircraft, UAVs, turbine engines, engine monitoring and diagnostic systems, ship electric drive concepts, SOF delivery platforms, business cases and roadmaps, airframes, airframe structural modifications, missiles, precision conventional munitions, and aircraft simulators. At the request of the UK MOD have worked on Type 45 Destroyer, future aircraft carrier (CVF) and Astute Class submarines. These efforts involved analyzing contractors' direct and indirect costs and deriving a methodology for predicting changes in both cost categories when scheduled production rates change. Explored alternative funding options and acquisition strategies for ships, including advanced appropriations and escrow accounts. With respect to energy

projects, analyzed various coal gasification processes and proposed shale oil and coal synthetic fuel plants; and established refining industry measures and a methodology that allows individual firms to assess their competitiveness.

Advanced Technologies: Develop methodologies to determine RD&T investment priorities and strategies, identify which technologies have a revolutionary impact on future military operations, conduct intelligence assessments of foreign technologies, develop a R&D roadmap for aircraft carriers.

Industrial Base Issues: Recent research has, at the request of senior UK MOD officials, evaluated and suggested ways to maintain competition and innovation in the UK's warship industrial base; developed strategies for U.S. Coast Guard to accelerate acquisition of its Deepwater program; and performed a Congressionally directed analysis on how to sustain competition and innovation in the U.S. fixed-wing military aircraft industry. Evaluated and recommended policies regarding the post-Cold War shutdown of production lines for major weapon systems and issues relating to their restart; analyzed the practicality and cost effectiveness of reconstituting various aerospace systems; analyzed submarine production base; addressed industrial-base issue and implications for future bomber, Nimitz and CVX Class Aircraft Carriers, and nuclear and non-nuclear aircraft carrier propulsion options.

MILITARY EXPERIENCE

Reserve

1995	Retired as a Captain (O-6)
1992-1994	Commanding Officer, Naval Air Weapons Station 0176, China Lake, California
1990-1992	Executive Officer, Naval Weapons Center 0176, China Lake, California
1988-1990	Commanding Officer, Naval Air Systems Unit 1076, Pt. Mugu, California
1987-1988	Commanding Officer, Naval Air Systems Unit 1376, Pt. Mugu, California
1986-1987	Executive Officer, Naval Air Systems Unit 1076, Pt. Mugu, California.
1973-1986	Projects Officer, Training Officer, Admin. Officer, in multiple Naval Air Systems units

Active Duty

1969-1972	Served in the Submarine Force, Fleet Ballistic Missile Program. Directed repair and maintenance of naval nuclear reactors and managed the Radiation Health/Safety Program
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MILITARY SCHOOLS

1991	Command Excellence Course, North Island NAS, San Diego
1987	Reserve Components National Security Course, Vandenberg, AFB
1985	Senior Reserve Officers Defense Economics Course, Naval War College
1979	Reserve Officers Command and Staff Course, Naval War College

MILITARY DECORATIONS

Military awards include the Meritorious Service Medal, Navy Commendation Medal, Meritorious Unit Commendation, National Defense Service Medal, second award, and Armed Forces Reserve Medal

UNCLASSIFIED PUBLICATIONS

Books and Reports (Either Lead or Co-authored)

- Keeping a Competitive U.S. Military Aircraft Industry Aloft: Findings from an Analysis of the Industrial Base*, MG-1133-OSD, RAND 2011
- Australia's Submarine Design Capabilities and Capacities: Challenges and Options for the Future Submarine*, MG-1033-OSD, RAND 2011
- Australia's Domestic Submarine Design Capabilities: Options for the Future Submarine*, RB-9562-AUS, RAND, 2011
- Industry and Infrastructure for Future Submarines: An International Perspective*, CP-622-AUS, RAND, 2011
- From Marginal Adjustments to Meaningful Change: Rethinking Weapon System Acquisition*, MG-1020-OSD, RAND, 2010
- Reasonable Strategy for the Production Phase of Defence Acquisitions*, OP-263-OSD, RAND 2009
- Dollar Value and Risk Factors: Changing How Weapon System Programs Are Managed*, OP-264-OSD, 2009
- Untying Gulliver: Taking Risks to Acquire Novel Weapon Systems*, OP-268-OSD, RAND 2009
- Getting the Most out of Littoral Combat Ships*, RB-9301, RAND 2008
- Littoral Combat Ships: Relating Performance to Mission Package Inventories, Homeports, and Installation Sites*, MG-528-Navy, RAND 2007
- Using the Steel-Vessel Material-Cost Index to Mitigate Shipbuilder Risk*, TR-520-Navy, RAND 2007
- Acquisition and Competition Strategy Options for the DD(X): The U.S. Navy's 21st Century Destroyer*, MG-259/1-Navy, RAND 2006
- The Navy's New Destroyer: Competition and Acquisition Strategy Options for Phase IV of the DD(X) Program*, MG-259-Navy, RAND 2006
- Leveraging America's Aircraft Carrier Capabilities: Exploring New Combat and Noncombat Roles and Missions for the U.S. Carrier Fleet*, MG-448-Navy, RAND 2006
- New Strategies for Acquiring Naval Warships*, PM-2162, RAND 2006
- New Combat and Noncombat Roles for U.S. Aircraft Carriers*, RB-9185, RAND 2006
- Naval Shipbuilding in the United Kingdom*, RB-9205-MOD, RAND 2005
- The United Kingdom's Nuclear Submarine Industrial Base, Volume 3: Options for Initial Fuelling*, MG-326/3-MOD, RAND 2005
- The United Kingdom's Nuclear Submarine Industrial Base, Volume 2: Ministry of Defence Roles and Required Technical Resources*, MG-326/2-MOD, RAND 2005
- The United Kingdom's Nuclear Submarine Industrial Base, Volume 1: Sustaining Design and Production Resources*, MG-326/1-MOD, RAND 2005
- Building Ships On Time: How Can the Defence Procurement Agency More Accurately Monitor Progress?* RB-9116-MOD, RAND 2005
- Diversifying the Customer Base for Shipbuilding in the United Kingdom*, RB-9117-MOD, RAND 2005
- Reducing the Cost of Aircraft Carrier Acquisition*, RB-9122-MOD, RAND 2005

- Options for Reducing Costs in the United Kingdom's Future Aircraft Carrier (CVF) Programme*, MG-167-MOD, RAND 2005
- Differences between Military and Commercial Shipbuilding: Implications for the UK Ministry of Defence*, MG-236-MOD, RAND 2005
- Monitoring the Progress of Shipbuilding Programmes: How Can the DPA More Accurately Gauge Progress?* MG-235-MOD, RAND 2005
- Modernizing the U.S. Aircraft Carrier Fleet : Accelerating CVN 21 Production vs. Mid-Life Refueling*, MG-289-Navy, RAND 2005
- World-Wide Shipbuilding Practices: Advanced Outfitting and Outsourcing*, MG-198-MOD, RAND, 2005
- The U.S. Coast Guard's Deepwater Force Modernization Plan: Can it be Accelerated? Will it Meet Changing Security Needs?* MG-114-USCG, RAND 2004
- Commercial Shipbuilding Techniques: Can They Be Applied to Warship Production in the United Kingdom?*, RB-9085-MOD, RAND 2004
- Refueling and Complex Overhaul of the USS Nimitz (CVN 68): Lessons for the Future*, RAND, MR-1632-Navy, 2002.
- Competition and Innovation in the U.S. Fixed-Wing Military Aircraft Industry*, RAND, MR-1656-OSD, 2002.
- Assessing CVF Design and Production Strategies: Phase II Interim Report*, 2002, PM-1309.
- Options for Funding Aircraft Carriers*, RAND, MR-1526-Navy, 2002.
- The Royal Navy's New-Generation Type 45 Destroyer: Acquisition Options and Implications*, RAND, MR-1486, 2001.
- Injecting Competition into the Joint Strike Fighter Program: Can a Winner-Take-All Environment Become More Competitive?* RB-7111-OSD/JSF, RAND 2001
- Advanced Seal Delivery System Perspectives and Options: A Path Forward*, RAND, DB-352-Navy, 2001.
- Assessing Competitive Strategies for the Joint Strike Fighter: Opportunities and Options*. MR-1262-OSD, 2001.
- Advanced SEAL Delivery System Perspectives and Options: A Path Forward*, AB-470, 2001.
- An Acquisition Strategy, Process, and Organization for Innovative Systems*, RAND, MR-1098-OSD, 2000.
- Introducing Competition in BMDO Radar Acquisitions: Opportunities and Options*, RAND, Restricted draft, 2000.
- Navy Shipbuilding: Integrating Budget, Force Structure, and Industrial Base Considerations*, RAND, AB-302-NAVY/OSD, 1999.
- CVX Propulsion System Decision: Industrial Base Implications of Nuclear and Non-Nuclear Options*, RAND, DB-272-NAVY, 1999.
- A Business Case Analysis of Integrated Electric Power Systems for Naval Ships and Submarines: The Project Plan*, RAND, Restricted draft, 1999.
- Modeling the Navy's Ship Industrial Base: Where We Are, Where We Want to Be*, RAND, AB-288-NAVY, 1998.
- A Tool for Evaluating Force Modernization Options*, RAND, MR-905-OSD, 1998.

- The U.S. Aircraft Carrier Industrial Base - Force Structure, Cost, Schedule, and Technology for CVN77*, RAND, MR-948-Navy, 1998
- Gaining New Military Capability: An Experiment in Concept Development*, RAND, MR-912-OSD, 1998.
- Formulating Strategies for International Collaboration in Developing and Producing Defense Systems*, RAND, IP-161, 1997.
- The Predator ACTD - A Case Study for Transition Planning to the Formal Acquisition Process*, RAND, MR-899-OSD, June 1997.
- Aircraft Carrier Industrial Base, Congressional Testimony*, CT-142, 1997.
- The Global Hawk Unmanned Aerial Vehicle Acquisition Process: A Summary of Phase I Experience*, RAND, MR-809-DARPA, 1997.
- Three Programs and Ten Criteria: Evaluating and Improving Acquisition Program Management and Oversight Processes with the Department of Defense*, RAND, MR-758-OSD, 1996.
- A Framework for Precision Conventional Strike in Post-Cold War Military Strategy*, RAND, MR-743-CRMAF, 1996.
- Shaping and Integrating the Next Military: Organizational Options for Defense Acquisition and Technology*, RAND, DB-177-OSD, 1996.
- Naval Research, Development, and Technology--Deciding What to Buy and How to Buy It*, RB-7105, RAND 1995
- Preliminary Analyses of Industrial -Base Issues and Implications for Future Bomber Design and Production*, RAND, MR-628-AF, 1995.
- Priority-setting and Strategic Sourcing in the Naval Research, Development and Technology Infrastructure*, RAND, MR-588-NAVY/OSD, 1995.
- The U.S. Submarine Production Base: An Analysis of Cost, Schedule, and Risk for Selected Force Structure*, RAND, MR-456-OSD 1994.
- Should Further U.S. Submarine Production Be Postponed?* RAND, RB-7102, 1994.
- The U.S. Submarine Production Base: An Analysis of Cost, Schedule, and Risk for Selected Force Structures, Executive Summary*, RAND, MR-456/1-OSD, 1994.
- Reconstituting a Production Capability: Past Experience, Restart Criteria and Suggested Policies*, RAND, MR-273-ACQ, 1993.
- Issues Associated with Second-Source Procurement Decisions*, The RAND Corporation, R-3996-RC, December 1990.
- Dual-Source Procurement in the Tomahawk Program*, The RAND Corporation, R-3867-DR&E, June 1990.
- Improving Operational Suitability Through Better Requirements and Testing*, The RAND Corporation, R-3333-AF, November 1986.
- The Relative Cost Factor: A Method of Comparing petroleum Refinery Investment*, The RAND Corporation, P-7307, March 1987.
- Comparing Project Investment Costs: A Methodology and Baseline for the Refining Industry*, The RAND Corporation, N-2389-PSSP, February 1986.
- Assessing the Benefits and Costs of Motion for C-17 Flight Simulators: Technical Appendixes*, The RAND Corporation, N-2301-AF, June 1986.

- Assessing the Benefits and Costs of Motion for C-17 Flight Simulators*, The RAND Corporation, R-3276-AF, June 1986.
- Cost and Schedule Implications of Multinational Coproduction*, The RAND Corporation, P-6998, July 1984.
- Reform In Defense Acquisition Policies: A Different View*, The RAND Corporation, P-6927, November 1983.
- Regression Diagnostics in Practice--Experiences from Modeling Jet Engine Costs*, The RAND Corporation, P-6896, June 1983.
- Development and Production Cost Estimating Relationships for Aircraft Turbine Engines*, The RAND Corporation, N-1882-AF, September 1982.
- The Import of Tanker Support on Selection of Long-Range Combat Aircraft Size*, The RAND Corporation, N-1861-AF, September 1982.
- Energy Concerns in Air Force 2000*, The RAND Corporation, January 1982.
- Multinational Coproduction of Military Aerospace Systems*, The RAND Corporation, R-2861-AF, October 1981.
- A Method for Estimating the Cost of Aircraft Structural Modifications*, The RAND Corporation, R-2565-AF, March 1981.
- Aircraft Turbine Engine Monitoring Experience: An Overview and Lessons Learned from Selected Case Studies*, The RAND Corporation, R-2440-AF, August 1980.
- Future V/STOL Airplanes: Guidelines and Techniques for Acquisition Program Analysis and Evaluation: Technical Volume*, The RAND Corporation, N-1242-PA&E, October 1979.
- Future V/STOL Airplanes: Guidelines and Techniques for Acquisition Program Analysis and Evaluation: Executive Summary*, The RAND Corporation, R-2397-PA&E, September 1979.
- Aircraft Turbine Engine Monitoring Systems: Overview and Lessons Learned from Six Case Studies*, The RAND Corporation, P-6337, May 1979.
- Aircraft Turbine Engine Monitoring Experience: Implications for the F100 Engine Diagnostic System Program*, The RAND Corporation, R-2391-AF, April 1979.
- Development, Acquisition, and Operational and Support Cost Methods for Aircraft Turbine Engines*, The RAND Corporation, P-6214, September 1978.

ARTICLES AND OTHER PUBLICATIONS

- Reforming How Navy Shipbuilding Contracts Adjust for Material-Cost Risk*, Defense Acquisition Review Journal, October 2008
- Using the Steel Vessel Material-Cost Index to Mitigate Shipbuilder Risk*, NPS' 5th Annual Acquisition Research Symposium, May 2008
- The Carrier Shortage*, Atlantic Monthly, July/ August 2003
- Defense Industry Goliaths*, Atlantic Monthly, July/ August 2003
- Encyclopedia of Chemical Processing and Design, Refinery Projects, Cost Section*, Marcel Dekker, Inc., New York, 1994
- Comparing Costs of Oil Refinery Projects*, **Chemical Engineering**, September 29, 1986.
- Multinational Coproduction: Cost and Schedule Implications for Military Aerospace Systems*, Aerospace Vehicle Requirement Conference, SAE851150, May 20-23, 1985.
- Future Combat Environments: Implications for the Engine Development Process*, American Institute of Aeronautics and Astronautics, AIAA-84-1339, June 11-13, 1984.
- Multinational Coproduction of Military Aerospace Systems: Cost and Schedule Implications*, **Defense Management Journal**, Vol. 20, No. 2, Second Quarter 1984.
- Producing Small Quantities: Accepting a Way of Life?*, **Aviation Week & Space Technology**, October 24, 1983.
- Simulated Mission Endurance Test (SMET) for an Aircraft Engine to be Used in a Fighter/Attack Role*, Naval Air Development Center, Warminster, Pa., Report No. NDC-77051-30, April 1979.
- The U.S. Navy Turbine Engine Cost Estimating Methodology*, 23rd International Gas Turbine Conference, London, England, April 1978.
- Propulsion System Duty Cycle: The Navy's New Look*, American Institute of Aeronautics and Astronautics, 77-883, July 1977.
- Predicting Aircraft Turbine Engine Development Cost*, Proceedings, OSD Aircraft Engine Design and Life Cycle Cost Seminar, November 1975.
- Estimation of Operational Support Requirements and Costs for Gas Turbine Engines*, Naval Air Development Center, Warminster, Pa., Report No. NADC-75052-30, April 1975.
- Forecasting Developmental Expenditures and Test Hours for Gas Turbine Engines*, Naval Air Development Center, Warminster, Pa., Report No. NADC-75059-30, April 1975.
- Estimating Relationships for Predicting Aircraft Turbine Engine Development Costs*, Naval Air Development Center, Warminster, Pa., Report No. NADC-73117-50, May 1973.