William A. Clarke
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Qualified By: An exceptional background of experience and education that demonstrates the ability to plan, develop and manage R&D, advanced technology, and materials and process engineering programs in aerospace, aircraft, turbine and internal combustion (IC) engine industries. Extensive experience in metallurgy, ceramics, advanced composites, "preceramic" polymers, microcircuits and laser processes.

Employment Overview:

Advanced Engine Non-Metallic Composite Applications Experience:

2001-Present **Self Employed Inventor,** 1281 E. Donna Drive, Merced, CA 95340
Work in progress on an invention, which can be assembled with engine head gaskets that enables IC engines to operate efficiently on hydrogen fuel. This research is encouraged Ford Motor Company Power-Train Engineering Division and supported by Dow Corning, BGF, GE Ceramics and Laser Industries.

1996-2001 **President,** The Gasket King Co., 17971 Skypark, Irvine, CA. Founded gasket company for manufacturing "flexible ceramic" exhaust manifold and head gaskets developed for turbine and internal combustion (IC) engine applications. Awarded three patents.

1995-1996 **Vice President Multiple Spark Ignition System**, Aura Systems, Inc., 2335 Alaska, El Segundo, CA. Developed first fully operational "multiple spark ignition" composite head gasket demonstrated in a Ford Ranger Truck at the 1996 SAE Exhibition in Detroit, Michigan.

Aerospace, Aircraft and Tooling Experience:

1984-1994 **Program Mgr. Composite Applications,** Science Applications International Corporation, Fountain Valley, CA. Responsible for developing tooling, materials and processes for fabricating non-metallic composite structures and coatings for Air Force, NASA, EPRI, Rolls Royce, GE, Space Power, General Dynamics, Union Carbide and Ford Motor contracts. Reliable at winning government and commercial R&D contracts.

1983-1984 **Advanced Technology Mgr.**, General Electric Aircraft Engine Business Group, Albuquerque, NM. Recruited an organization of advanced composite engineers for planning and implementing a polyimide aircraft engine parts automated production plant.

1981-1983 **Vice President Advance Technology**, Rogerson Aircraft Corp., Irvine, CA.
Won $5M SAAB SF-340 Aircraft Engine Inlet Duct Contract in first six months. Set up fabric reinforced epoxy, silicon and polysulfide engine inlet duct manufacturing division.

1980-1981 **Director R&D**, Smith Tool, Irvine, CA. Planned research strategy for R&D staff, which met key customer technology needs. Increased product reliability and testing capability.

1979-1980 **Mgr. Advanced Attack Helicopter Laboratory**, Hughes Helicopters, R&D Division, Culver City, CA. Established R&D manufacturing facility for fabricating advanced composite rotor blades, fuselage, cable harness, "anti-icing" and missile defense systems.

Ford Motor Company Experience:

1976-1979 **Mgr. Composites & Carbon-Carbon Graphites**, Advanced Materials and Technology Department, Aeronutronic Div. Ford Aerospace and Communications Corporation, Newport Beach, CA. Won Ford RAM contracts for design, development and manufacturing evaluations for Ford Light Truck Division's composite driveshaft which led to full production in 1983. Served as Missile Plant's supervisor for all materials and process engineers responsible for assuring "zero defects" Sidewinder missile production.

1965-1976 **Mgr. Metallurgical and Chemical Engineering**, Transmission and Chassis Division, Ford Motor Company, Sharonville, Ohio. Started as Technologist "A" and worked my way up to department manager of the largest transmission plant in Ford. Also managed the Methods and Analysis and Supplier Quality Assurance Departments and served as the advanced product engineer responsible for developing plastic transmission components.

Other Professional Experience:

2006 **Adjunct Professor**, Winter Semester, Advanced Algebra
Merced Community College, Yosemite Drive, Merced, CA

Selected Publications & Patent Awards:

Clarke, William A., Azzazy, M., West, R., "Reinventing the Internal Combustion (IC) Engine head and Exhaust Gaskets", Clarke & Associates, SAE Paper Doc. No. 2002-01-0332, March 9, 2002.

Clarke, William A., "Boron Nitride Catalyzed Polysiloxane Resin Blend and Composite Products Formed Therefrom", US 6,183,873 February 6, 2001.

Clarke, William A., "Multiple Spark Ignition Gasket", US 6,161,520, December 19, 2000.

Clarke, William A., "High Temperature Silicon Sealant", US 6,093,763, July 25, 2000.

Clarke, William A. "High Temperature Coatings for Graphite Surfaces", Science Applications International Corporation, Union Carbide Subcontract 01-0065-71-0940-003, May 12, 1993.

Clarke, William A., "Prototype Composite Development of Radiator Fin Structures", NASA-25208, Report for Space Power, Inc. Subcontract 92-1032-01, July 1993.

Clarke, William A., "Composite Fasteners made From Braided and Molded Preforms", NASP, Report for General Dynamics, P.O. #4157562, April 1991.

Clarke, William A., "Method of Applying Oxidation Resistant Coating on composite Fibers", Science Applications International Corporation, US 4,279,275, July 21, 1990.

Clarke, William A. Stanwood, J. "Mechanical Joinder of Composite Shaft to Metallic End member", Ford Aerospace & Communications Corp., Ford Motor Company, US 4, 279,275, July 21, 1981

Clarke, William A., Deleget, J. L., "Composite Drive shaft Design and Manufacturing Feasibility" Final Report, Prepared For Light Truck Engineering, Ford Motor Company, Dearborn, Michigan, Under Contract P.O. 47-1-596685, June 21, 1978

Education:

Graduate, Accelerated Engineering (Semi-Conductor) Program. UC Irvine, Irvine CA, 1994-1995
M.A. Business Management, Claremont Graduate University, Claremont, CA, 1980
M.S. Chemistry (Polymer Science), University of Michigan, Ann Arbor, MI, 1970
B.S. Chemistry, University of Michigan, Dearborn, MI, 1966

Awards:

Received Ford Motor Company Advance Scholarship Award for Masters Degree in Chemistry at University of Michigan, Ann Arbor 1968.