

James Broad

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SUMMARY OF EXPERIENCE

Chemical Engineer. More than 30 years of experience in process engineering, project management, and environmental consulting for operating companies and engineering contractors.

AREAS OF ACCOMPLISHMENT

- * Refineries and process plants -- Managed design, construction, start-up, and operation of petroleum and chemical process facilities. Supervised multi-discipline and multi-national office staffs and field crews on domestic and international projects.
- * Environmental -- Managed design, construction, and commissioning of systems for air pollution control, wastewater treatment, and hazardous waste recycling. Led pollution prevention and process safety studies.
- * Writing -- Penned numerous feasibility studies, project proposals, business plans, operating procedures, marketing materials, French and German translations, and one book.
- * Teaching -- Lectured for the University of California (UCLA and UCI) Hazardous Materials Management Programs (HMMP). Taught chemistry at Saginaw Valley State University.
- * International -- Managed projects in Europe, Middle East, former Soviet Bloc, SE Asia, Africa, and South America. USA experience from Alaska to Florida.

EDUCATION

- * College of Engineering, University of Detroit, Detroit, MI.
Chemical Engineering diploma, cum laude. 1965
- * Law School, DePaul University, Chicago, IL. 1965-1966
- * Graduate Engineering School, Kansas State University, Manhattan, KS. 1971
- * Graduate Business School, Wichita State University, Wichita, KS. 1973-1974
- * Talenpracticum Dreefzigt, Haarlem, The Netherlands. Dutch language. 1975-1977
- * Alliance Française, Paris, France. French language. 1978 and 1986
- * Eurosprachs Schule, Aschaffenburg, Germany. German language. 1991-1993

PROFESSIONAL WORK EXPERIENCE

- * Contract Chemical Engineer 1994 to present
Project manager and specialist in process design, start-up, and optimization of process plants. Wrote proposals and executed projects in facilities producing semi-conductors, chemicals, petroleum products, and consumer goods. Worked in California, Michigan, The Netherlands, Germany, Nigeria, and Saudi Arabia.
- * ENSR Consulting and Engineering, Newport Beach, CA 1989-1994
Manager of Engineering, Newport Beach office. Started the department, then hired and trained a staff of process engineers. Led the firm into air pollution control systems engineering and PSM, including HazOp and other techniques. Transferred to Germany with a division of the parent company, RWE AG, for two years where I was responsible for technology development, acquisition, applications, and marketing. Helped represent the company at German technical trade shows.
- * Chemical Process Consultant; Newport Beach, CA 1982-1989.
Self-employed. Made process improvements and resolved environmental issues for Los Angeles area petroleum refineries and chemical plants. Awarded many contracts by ARCO Petroleum Products and Mittelhauser Corporation for process design, cost estimates, and feasibility studies.
- * E&L Associates, Long Beach, CA 1978-1982
Project manager. Managed design, procurement, construction, and start-up of new and revamped facilities in Los Angeles area petroleum refineries and chemical plants. Managed a half dozen project engineers for two years within the Chevron El Segundo refinery.
- * Fluor Engineers, Los Angeles, CA 1974-1978
Project engineer. Coordinated design and construction of major petroleum facilities, domestic and international. Transferred to Haarlem, The Netherlands for two years.
- * Racon, Inc., Wichita, KS 1969-1973
Process engineer. Improved yields and optimized operations for this manufacturer of fluorocarbon refrigerants (CFCs). Promoted to production manager.
- * Liquid Carbonic Corp., Chicago, IL 1965-69
Project and process engineer. Designed, oversaw construction, and started up plants for production of dry ice and hydrogen in the Midwest and South.
- * Udyllite Corp, Detroit, MI 1962-1964
Laboratory technician, Customer Service Lab. Co-op job during college.
- * Dow Corning Corp., Midland, MI 1959-1960
Laboratory technician, Organic Research Lab. Co-op job during high school.

COMMUNITY AFFILIATIONS

- * Grace A. Dow Library, Friends of the Library, book sale volunteer.
- * Midland Community Television, production volunteer.
- * Midland Public Schools, part time high school teacher.

REPRESENTATIVE PROJECTS

Amoco Oil, Kansas City, KS; Wastewater Sludge Dewatering Plant.

Construction manager and operations manager.

BP, Toledo, OH; Major Refinery Modernization.

On-Site Engineering/Construction Coordinator.

Dow Chemical Company, Midland, MI; Dow Automotive

Procedure writer, Daytona Project

Nigerian National Petroleum, Kaduna, Nigeria; Refinery Modernization Study.

Process Engineer.

Chevron USA, El Segundo, CA; Crude Oil Tanks; Multiple Projects.

Process Engineer; Project Manager.

Cetrel, Bahia, Brazil; Hazardous Waste Incinerator.

Technical Manager.

RWE AG, Essen, Germany; RDF Power Plant Feasibility Study.

Technical Manager.

Star Enterprise, Port Arthur, TX; Wastewater Sludge Treatment.

Project Manager.

BP Exploration, Anchorage, AK; North Slope Waste Incinerator.

Mechanical Design Manager.

Petrolchemie, Schwedt, Germany; Wastewater Plant Upgrade.

Proposal and Process Manager.

GNB Battery Technology, Los Angeles, CA; Waste Minimization Study.

Process Engineer

Texaco Refining, Los Angeles, CA; Wastewater System Upgrade.

Project and Process Manager.

Kommunarsky Iron and Steel, Luganskya, Ukraine; Wastewater Plant.

Site Inspection and Executive Report.

Libby Glass, Los Angeles, CA; Waste Minimization Study.

Process Engineer.

Liquid Carbonic Corp., Dania, Florida; Electrolytic Hydrogen Plant.

Project Engineer

Aramco, Juaymah, Saudi Arabia; LPG Offshore Terminal.

Project Engineer.

Hughes Electronics, San Fernando, CA; VOC Control System.

Process and Project Manager.

University of California at Los Angeles (UCLA); HMMP.

Lecturer on Air Emissions Control Technology.

Four Corners Pipeline, Long Beach, CA; Marine Oil Terminal HazOp.

Team Leader.

ARCO Petroleum, Los Angeles, CA; LPG Plant.

Process Engineer and Project Manager.

Spectrolab, Newport Beach, CA; VOC Control System.

Process Engineer and Project Manager.