

BANKS ENGINEERING  
3715 East 55th Street  
Tulsa, OK 74135  
877-747-2354 (toll free)

## CONSULTING RESUME OF DAN BANKS

### **QUALIFICATIONS**

Thirty years experience in combustion and air pollution control systems design, marketing and project execution. Strong skills in process engineering design, system trouble-shooting, safety training, capacity expansion and combustion theory.

### **EXPERIENCE**

#### **Consultant, Banks Engineering, 11/96 - Present**

Management of consulting firm with overall responsibility for marketing and contract negotiation. Consulting in the areas of combustion and gas cleaning system design and operation. Projects have included

- Incinerator system problem solving and detailed design of modifications to improve throughput and combustion safety.
- Combustor startup assistance and operation improvements.
- Project specification preparation and bid evaluations,
- Detailed design of waste handling and flue gas scrubbing systems.
- Design of waste gas and waste liquid thermal oxidizers from problem statement through fabrication drawings.
- Furnace safety studies, accident investigation and preparation of detailed training programs to satisfy current industry standards.
- Combustion safety training for plant operators, engineers and maintenance specialists.
- Assistance with design, presentation and sale of new incineration systems.
- Assistance with the sale of used combustion systems (and modifications to meet new performance requirements).
- HAZOP studies, both as leader and participant.
- Expert witness in cases involving waste incineration and heat recovery.

#### **Direct Positions**

#### **John Zink Company, Senior Engineer, Thermal Oxidizer Systems Division, 4/92 - 10/96**

Responsible for customer problem evaluation and resolution, including guidance of other engineers in formation of the most cost effective solution. Special areas of activities were chlorinated liquid and gaseous waste incineration, kraft pulp mill non-condensable gas disposal systems and special combustion equipment for NOx reduction. Designed operator training programs and assisted clients in preparation of air permit documents.

#### **IT / McGill Environmental Systems, Product Manager, Incineration Systems, 9/80 - 4/92**

Responsible for the marketing and design of industrial waste incineration systems, including heat recovery, gas cleaning and control systems. Developed designs and methods for staged gas injection for improved incinerator burner stability with highly variable waste streams. Supervised the process design efforts for all incineration systems and the creation of design standards. Managed incineration and flare projects from order receipt to client hand-off. Authored computer programs for gas network pressure drop calculation, burner design and emission estimating.

#### **John Zink Company, Applications Engineer, Process Systems Department, 10/76 - 9/80**

Responsible for evaluation and design and sales of waste liquid and gas incineration systems. Participated in semi-works scale combustion tests for system development and demonstration. Conducted system startups and problem solving. Provided expert testimony during client negotiations with state air boards and regulatory authorities.

#### **Mobil Oil Corporation, Process Engineer, Beaumont Refinery, 10/71 - 10/76**

Process computer control and technical service support in a large integrated refinery.

## **Fluor Engineering, Process Engineer, 6/70 - 10/71**

Process plant design tasks and computer simulation program coding.

### **EDUCATION**

- Rice University, BA, 1969
- Rice University, Masters in Chemical Engineering, 1970

### **PROFESSIONAL AFFILIATIONS**

- American Institute of Chemical Engineers
- National Fire Protection Association
- Oklahoma Registered Professional Engineer #15390

### **BIBLIOGRAPHY**

Banks, James D., 1987, "Incineration Practices", a paper delivered to Water Pollution Control Federation Annual Conference in Philadelphia, Pennsylvania.

Banks, Dan and Tom Burghart, 1992, "Emission Control Using Thermal and Catalytic Oxidation", a paper delivered to Southern States Annual Environmental Conference in Biloxi, Mississippi

Banks, Dan and Greg Horne, 1995, "Technologies for the Reduction of Air Pollution", a paper delivered to the Canadian Pulp & Paper Association in Halifax, Nova Scotia.

Banks, Dan, 1995, "In Anticipation of Regulatory Impacts: Dedicated NCG Incineration with SO<sub>2</sub> Removal", a paper delivered to CPPA in Halifax, Nova Scotia.

Banks, Dan and Hazel Ladner, Jim Howe, Carl Connally, 1996, "Evolutionary NCG Incineration System Installed at Mead Coated Board, Maht, Alabama", a paper delivered to TAPPI Environmental Conference in Orlando, Florida.

Banks, Dan, 1999, "Problems With Kraft Pulp Mill Non-Condensable Gas Incinerators, a paper delivered at the TAPPI Engineering Conference in Orlando, Florida.

Banks, Dan and Rick Ullrich, Robert Leduc, 2000, "Simple Modifications Increase Incinerator Capacity by over 50%", a paper delivered to the International Incineration Conference at Portland, Oregon.

Banks, Dan, "Claus Plant Combustor Problem Survey", a paper delivered at the Laurance Reid Gas Conditioning Conference, Norman OK, 2000.

Banks, Dan and Lyle Maxwell, Jackie Carpenter, 2007, "Thermal Oxidizer Experiences at a Treatment, Storage and Disposal Facility", a paper delivered at the International Incineration Conference at Phoenix, AZ.

Banks, Dan, "Combustion Pulsations and Noise", Process Heating Magazine, August 2007.

Banks, Dan, "Cut the Cost of Waste Gas Incineration", Chemical Processing Magazine, February 2009.