David Biondo

Project/Process Engineer

Philadelphia, PA - Email me on Indeed: indeed.com/r/David-Biondo/4ff5005bf7fcf0ef

WORK EXPERIENCE

Project Engineer/M&R Engineer

Kraft Foods - Philadelphia, PA - January 2009 to Present

Managed capital projects to improve the productivity of Bakery Production Lines including Mixers, Cut-sheet Laminators, Rotary Molders, Conveyors, Cream Votators, Depositors, Cooling Tunnels, Toppers, Sprayers, and Packaging Equipment. My projects were focused on Project Management, Equipment Installation and Start-up, Control Automation, and follow-up Maintenance and Operations Training in a GMP plant. My projects ranged from $22k to $1.1MM totaling $4.7MM in annual, managed Capital and Expense.

Key Accomplishments

• Icing Processing System Redesign/Upgrade: On-target implementation of $1.1MM, 2-phase system upgrade within an existing production line including PLC and motor controls, tanks, piping, cooling/heating utilities, and specialized process equipment. The project requirement to provide reliable, increased capacity equipment with more precise, user-friendly process controls was realized on-time, on-quality, and on-budget.

• Dough Forming Machinery Replacement: Design, layout, and installation of $255k rotary dough molder, feed conveyors, and related controls. A novel, reciprocating dough feed conveyor design provided an additional quality benefit of improved level and product weight control. The new system, after enhancing the OEM controls, has performed to project expectations producing consistent and controllable product.

• Ingredient Water System Redesign/Upgrade: Redesign and implementation of a $175k improvement project to insure consistent hot water ingredient deliveries to 7 independent mixer groups. The existing tanks, piping system, valves, and pumps were redesigned for capacity/pressure drop and split to reduce downtime associated with delivery queues. Enhanced PLC controls provided constant temperature, level/refill control, and monitored pressure to boost municipal water supply if needed. On-time, on-quality, and on-budget.

Process/Project Engineer

CVC Chemicals - Maple Shade, NJ - 2007 to 2009

Manufactured Epoxy Resins and Urea Curatives using a batch-wise reactor train and downstream process equipment such as Centrifuges, Extruder/Peletizers, and Belt Dryers. My projects were focused on Plant Expansion, Cooling Capacity and Supply, Toll Manufacturing, Batch Distillation, Condenser Recovery, Phase Separations, PLC/HMI Programs, Process Control, Data Analysis, and Wastewater Treatment.

Key Accomplishments

• Plant Expansion: Compiled and presented the feasible scenarios for a 3-6 MMlb/yr plant expansion as based on process step timing, product mix, logistics, and demand forecast. Completed preliminary design, process flow diagram (PFD), layout, and equipment list utilizing limited plant space. Completed and presented financial analysis to compare preliminary cost estimates to my justified payback investment calculation. Project placed on hold to seek funding.

• Cooling Capacity and Supply: Performed overall heat balance and pressure drop calculations for existing and expansion plant scenarios to address cooling deficiencies associated with exothermic batch reactions and cooling water supply pipe network. Installed an additional 150 ton chiller and redesigned pipe network to segregate critical cooling flows by process area and function. This $275k project was financially justified using time savings and the advantages of improved temperature control and consistency.

• Wastewater Treatment: Assembled and evaluated various treatment design options to reclaim funds spent on offsite wastewater treatment. Completed a cost benefit analysis to identify process trade offs and identify the lowest operational costs. A material balance was assembled to determine the required system capacity and total operating hours. A $300k packaged wastewater stripping system was justified using current off-site treatment costs as the opportunity savings.
• Process Optimization: 1. Reorganized process data point collection and added critical data points within existing data historian to give production more effective trouble-shooting tools. 2. Installed process instrumentation (flows, temperature, control valves) and operator control screens to existing HMI/PLC to enhance pressure control and to provide estimates of exothermic heat removal to improve batch-to-batch consistency. 3. Evaluated the performance of various Filter designs (stacked plate, plate and frame, cartridge), Centrifuges (decanting, tubular bowl, solids ejecting), and Reactive Extrusion and Pelletization.

Process Engineer

ARKEMA, Inc - Bristol, PA - 2004 to 2007

Provided technical and engineering support for the production of PMMA polymers and acrylate impact modifier copolymers using semi-batch emulsion polymer reactors, batch-continuous bulk polymer reactors, spray dryers, rotary atomizers, and extruder pelletizers. My projects were focused on Dense and Dilute Phase Powder Conveying, Spray Dryer Clean-in-Place System, DCS Programs (Honeywell, DeltaV), Raw Material Metering and Additive Handling Systems, New Product and Process Scale-up Trials, and Process Hazards Analysis (PHA).

Key Accomplishments
• Pneumatic Conveying De-bottleneck: Identified excessive downtime hours due to blocked conveying lines on 10,000 lb/hr emulsion spray drying system. Performed calculations for existing system's conveying capacity and made recommendation for a new, larger conveying fan. Managed the $40k blower and instrumentation upgrade project along with Reliability Engineering department. Tracked post-installation performance with results recovering 300 production hours per year ($220k annual savings).
• Spray Dryer Clean-in-Place: Installed a safe, reliable high-pressure water blast cleaning system to eliminate the ergonomic risks associated with a manual scraping operation. Trialed and presented numerous cleaning options (air pulse, low/high pressure water nozzles). Designed and installed 6000 psig extending, rotating water jet system to clean 24' diameter spray drying chamber. Completed layout, pipe design (XXS), electrical control/interlock logic, equipment quotation, and MOC/HAZOP/Layers of Protection Analysis for the standard operating procedure. Installation and start up of this $275k project was successful and equipment performs as specified.
• Process Optimization: 1. Programmed DCS and installed control valve to execute a pump flush routine for a maintenance-intensive progressive cavity pump. 2. Installed a mass flow meter in an existing gain-in-weight raw material metering system to improve accuracy and batch-to-batch consistency. 3. Completed numerous equipment and product application trials requiring scale-up, technical support, PFD revision, training, and supervision, and detailed reporting and feedback.

Pilot Plant Engineer

ARKEMA, Inc - King of Prussia, PA - 2000 to 2004

Responsible for all pilot plant related process and safety engineering, project and resource management, experimental design, scale-up / scale-down, and progress reporting in the pilot-scale production of Kynar Fluoroploymers, PMMA polymers, Acrylate copolymers, Sulfonyl Chlorides, and other Organic Chemistry (amine oxides, hydroxyl amines). My projects were focused on Condensed Monomer Transfer Systems, Equipment Installation and Start-up, Design/Install of a 500-gallon Multi-purpose Unit, Pilot-scale equipment trials for plant-scale applications (Filters, Wiped Film Evaporators, Coagulators, Thickeners, Spray Dryers, Packed Column, In-line Emulsifiers, Static Mixers, Vortex Scrubber, and Vented Extrusion).

Key Accomplishments

• Monomer Transfer System: Completed design and implementation of a $90k stand-alone monomer transfer unit to reduce existing system complexity and increase pilot plant reliability and safety. Incorporated PHA findings into the final design including gas detection alarms, pressure relief devices, and fail-safe interlocks. Start-up successful resulting in reliable operation.

• Turbulaire Scrubber Installation and Trials: Managed and supervised installation of a 5000 cfm air scrubber for pilot-scale testing of a proposed plant installation ($260k). Completed layout and placement of equipment for utility and process connections. Integrated new instrumentation into existing process control DCS. Completed management of change, safety review, procedures for the successful start-up of this new equipment. Managed trial resources and execution of experimental runs to confirm the operation of the scrubber unit. Reported operational data and process challenges to commercial plant management.

• Production Support: 1. Coordinated daily operations to efficiently execute multiple, concurrent project trials. 2. Supervision/direction of 10 personnel (operators, mechanics, technicians) for a 2-shift, 5-day schedule. 3. Managed capital project appropriations/expenditures and expense budget.

Rotating Engineer

ARKEMA, INC - Philadelphia, PA - 1999 to 2000

• Financial Analyst - Performed new product/process financial analysis providing net present value, favorable product selling price, and expense justification.

• Process Engineer - Developed operational limits (SPC/SQC) for a chemical Hydroxyl-polybutadiene process using statistical analysis of early process development work.

Process Engineer

General Chemical Corp - Claymont, DE - 1998 to 1999

• Maintained daily operations for all phases of the chemical production process for a sulfuric acid production and regeneration plant. Developed optimization strategies to de-bottleneck systems.

Process Engineer - Intern

Mobil Oil Corp - Paulsboro, NJ - 1997 to 1998

• Performed column internal design and performance simulations, field pressure and temperature surveys, and various trouble-shooting and improvement functions.

• Implemented an online heat exchanger monitoring program to provide improved cleaning efficiency thereby reducing fuel gas consumption.

Technical Services Engineer - Intern

Sunoco, Inc - Marcus Hook, PA - January 1994 to January 1995

• Provided technical/engineering support throughout refinery with focus on gasoline blender operations, process, and analyzers.

• Performed refinery troubleshooting and improvement tasks, using piping and instrument diagrams (P&ID) and self-generated drawings (CAD) and process flow diagrams (PFD).

EDUCATION

Lean Six Sigma Black Belt Certification in Process Improvement

Villanova University - Philadelphia, PA

2010 to 2011

Project Management Professional Master Certification in Project Management

Villanova University - Philadelphia, PA
2009 to 2010

Master of Business Administration in Finance

Drexel University - Philadelphia, PA
2003 to 2006

Bachelors of Science in Chemical Engineering

Drexel University - Philadelphia, PA
1993 to 1998