Nathan A. Hatcher, P.E.

Engineering Consultant

Background & Core Competencies

A versatile, innovative chemical engineer with 25 years experience in all aspects of Gas Treating and Sulfur Processing. Nate carries a broad and unique background from working in the EPC business, refining technical services and operations, process engineering consulting, and engineering software development. Positions have ranged from entry level process engineer through senior management.

- Recognized world-wide industry expert and influence: SRU, TGU, Amine, SWS, glycol dehydration, and caustic treating
- Licensing, conceptual design, detailed engineering, startup, operations training, troubleshooting, software development
- Ability to communicate and work effectively with operators through top management
- Familiarity with the unique amine and sulfur analytical and technology capabilities through technology development at ConocoPhillips and Black & Veatch Pritchard, Inc.

Experience

Optimized Gas Treating, Inc. Buda TX (2009 – Present)

Technical Development Lead, Vice President, Technical Development, Engineering Consultant

- Expanded the ProTreat® mass transfer rate-based simulator from solely amine treating into the industry standard gas treating simulator capable of modeling sour water, physical solvents, gas dehydration, caustic treating, sulfur recovery and tail gas treating systems
- Coordinated and developed training material, technical papers, workshops in gas treating and sulfur processing, project work hour forecasts, provided technical support for customers
- Served as legal expert witness for a troubled gas treating facility

Trimeric Corporation, Buda TX (2007–2009)

Senior Engineer

- Concept through startup process engineer—gas production CO_2 removal membrane skid.
- Selectox process evaluation study – rating and debottlenecking
- HF Alkylation waste neutralization study
- Conceptual and front-end process design for a CO_2 Capture pilot plant (amine)
- Detailed engineering for Glycerol dehydration skid treating supercritical CO2
- Developed cost estimating and process modeling tools

ConocoPhillips, Ponca City OK (2002—2007)

As Sulfur Processing Best Practices Network Coordination Co-Lead:

- Provided technical consulting for amine/SWS/SRU capital projects
- Troubleshooting support and training for sulfur processing units at 13 refineries
- Coordinated and conducted site unit reviews to identify improvement opportunities in the areas of safety, environmental, reliability, and economics
- Developed, promoted and shared metrics and best practices for sulfur processing units across the company
- Interfaced environmental (consent decree) requirements between sites
- Identified and assisted sites with implementation of new technologies
- Developed computer simulation tools for unit performance monitoring, optimization and troubleshooting including the SPOC™ technology
- Helped organize and conduct annual network face-to-face meetings between sites and establishment of network following the merger of Conoco and Phillips

Conoco, Inc. Ponca City, OK (2000-2002)

As Senior Process Engineer, Continental Business Unit Regional Engineering Office:

- Developed and screened preliminary process designs with budgetary cost estimating for small refinery capital projects (crude, vacuum, utilities, decant oil tankage)
- Interfaced with outside contractors/vendors, mechanical disciplines, corporate best practices networks and updated refinery management with process engineering issues through presentations during the project life
- Basic engineering package development during FEL-3 capital project stage
- Assisted area operations with developing operating procedures, training and startup assistance
- Supervision of summer engineers and other REO process engineers

The Pritchard Corp., Black & Veatch Pritchard, Inc. Overland Park, KS (1994—2000)

In positions ranging from Assistant Process Engineer to Lead Process Engineer:

- Developed project workhour forecasts, budgets, work assignments and assured technical integrity of designs via QA/QC
- Served as focal contact for client and internal project team correspondence
- Developed PFDs, heat & material balances, P&IDs, equipment lists/specifications, process descriptions/write-ups, piping line schedules, cause/effect diagrams, and process instrument data for projects
- Provided startup assistance at several plants
- Interim plant engineer for Conoco's Lake Charles Refinery Lube Oil Hydrocracker project
- Projects included sulfur recovery (including O_2 enrichment), tail gas treating, sulfur handling, storage and degassing, LPG fractionation, and utilities in refineries and gas plants world-wide

As Sulfur Technology Manager Assistant (concurrent with process design duties):

- Evaluated and developed new gas treating/sulfur recovery technology and software
- Provided support for licensing and marketing opportunities (proposals)
- Responsible for developing and training new engineers in Sulfur technology

Conoco Inc., Ponca City OK (Summer 1993)

As Summer Engineer:

- Performed a RCRA 3007 emissions study at Conoco's four domestic refineries by surveying process units for approximately 200 compounds the US EPA was considering to list as hazardous chemicals
- Presented results to management

Education, Training & Certification, Professional Activity

- Professional Engineer – Kansas #15596
- Amine Best Practices Group (2003-present)
- Laurance Reid Gas Conditioning Conference Advisory Board 2005-Present
- Accounting Principles for Non-accountants – SMU Cox School of Business, 2013
- Conoco Principle Centered Leadership (Covey's 7 Habits)
- Aqueous Electrolyte Modeling, OLI Process Systems, 2005
- Callidus Burner School, May 2002
- J.M. Campbell Gas Conditioning & Sulfur Recovery Course
- Black & Veatch Teamwork & Leads Training
- University of Kansas, Lawrence KS – B.S. Chemical Engineering (with distinction), May 1994

Publications and Patents

Authored, coauthored or presented over 50 technical papers in gas treating and sulfur recovery

Coauthor: Advanced Gas Treating: The Engineering Science, 2nd Edition

Patents include:

- "Novel Sulfur Recovery Plant", US Patent No. 7658906
- "Increased capacity sulfur recovery plant and process for recovering elemental sulfur", US Patent No 7501111
- "Compact Sulfur Recovery Plant and Process", US Patent No. 7226572
- "Method for removing hydrogen sulfide from molten sulfur", US Patent No. 5935548
- "Sulfur Degassing Process", US Patent No. 7998451