



Heidi Casper



Senior Consulting Process Engineer

785-841-3825

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TOP SKILLS

- Project Management
- P&ID & PFD Development
- Gas Process Design
- Technical Writing
- PHA / PSM
- Relief Valve Sizing
- HYSYS
- VMGSim

PROFESSIONAL EXPERIENCE

Senior Consulting Process Engineer

River City Engineering, Inc. / Lawrence, KS / May 2009 – Present

Process Engineering Consultant for the Oil & Gas Industry providing design and technical support for gas and liquids processing/handling projects.

- Project manager for greenfield 250 MMSCFD gas plant in West Texas. Managed costs to stay within budget and managed schedule to meet client timeline. Consistent communication with a wide array of contacts including equipment vendors, EPC contractor, landowner representative, construction personnel, environmental permitting personnel, various engineering disciplines, and safety personnel. Performed technical review of design including P&IDs, PFDs, Cause and Effects, Heat and Material balances, Plot Plan and 3D model. Worked closely with operations personnel to ensure plant met requirements for ease of operability. Responsible for equipment selection, budgeting of project, coordinating personnel, change order management, problem solving with subject matter experts, environmental and safety compliance. Work included acquiring geotechnical report, grading of site, coordinating pipeline groups, power routing, construction of control room, office, and warehouse complex. Plant includes inlet compression, amine treating and regeneration, glycol treating and regeneration, mole sieve dehydration, cryogenic NGL recovery, residue compression, hot oil systems, and instrument air system.
- Part of an optimization team responsible for 16 West Texas gas plants. Liase with operations and discuss issues that are causing them problems. Work options to alleviate these problems. Also, collect and analyze plant data to evaluate and track equipment performance and make recommendations on operating set-points to maximize recoveries.
- Provided process support for startup of several 200 and 250 MMSCFD cryogenic gas processing plants in West Texas. Activities include writing and implementation of purge procedures and dryout procedures with simulations and PFDs, leading operations personnel in execution of said procedures, troubleshooting of equipment and operating modes, coordinating with equipment vendors for solutions, coordinating with EPC contractor to resolve issues.
- Created operating procedures and train operations personnel for several 200 and 250 MMSCFD cryogenic gas processing plants in West Texas. Training in both a classroom style setting, and on-the-job-training in the control room.
- Performed detailed engineering for various plant upgrades at large mid-Continent storage terminal. Upgrades included improved design of Thermal Oxidizer, reconfiguring Tank Farm for optimum layout, replacing underperforming TEG skid, and piping changes to improve operational flexibility. Developed options and presented to client. Worked with mechanical engineering contractor on piping layout, tie-ins, and other details.
- Facilitated PHAs for multiple clients for cryogenic gas processing plants ranging from 25 to 250 MMSCFD in West Texas and a production facility in Argentina.
- Facilitated and worked on multiple PHA revalidations for various cryogenic gas plants in Louisiana.
- Executed debottlenecking study for 500,000 BPD fractionator in Mont Belvieu, Texas. Gathered equipment data from the plant, discussed existing limitations with operations, simulated existing operating conditions, simulated various improvements and solutions to improve plant throughput, and presented results to client. Worked with tower internals subject matter expert to determine and verify limitations of each fractionation tower.
- Performed multiple PSV sizing studies for varied clients. Projects include compressor stations, cryogenic gas processing plants with amine, TEG, and hot oil systems. Performed detailed backpressure analysis per API 521.
- Supported client during preliminary engineering for 24,000 bpd product purification process, focusing on organic arsenic removal. Scope of work included creating PFDs, determining technology feasibility with vendors, and high level economic analysis.



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- Revised and edited Texas Railroad Commission (RRC) R3 report for a client with a gathering system consisting of approximately 40 wells. Created new, detailed R3 spreadsheet for client's use. Provide support to update and edit when new wells tied in.
- Completed Cause and Effects study for main control system in a 80MMSCFD natural gas processing plant. Created updated Cause and Effect Matrix, verified against P&IDs and updated when necessary, confirmed set points with operations personnel.
- Performed various in-house studies. Topics include analysis of dehydration methods to determine most cost effective method for variety of feed rates and conditions, prediction of Joule-Thomson inversion curve, Dowtherm T viscosity for startup applications, and applicability of dividing wall column in C2-C3-C4 separation train.

EDUCATION

B.S. Chemical Engineering, 2009

University of Kansas, Lawrence, KS

LICENSES & CERTIFICATIONS

Confined Space Certified