



# Reed Knobbe, PE



## Senior Consulting Process Engineer

785-766-5881

[rknobbe@rivercityeng.com](mailto:rknobbe@rivercityeng.com)

### TOP SKILLS

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

### PROFESSIONAL EXPERIENCE

#### Senior Consulting Process Engineer

*River City Engineering, Inc. / Lawrence, KS / Nov 2007 – Jun 2018 / Feb 2020 – Present*

Highly adaptable process-oriented Engineering Professional with 10+ years of experience coordinating projects in the Oil and Gas industry. Skilled at coordinating personnel, administering capital resources, and procuring materials to plan and execute large-scale projects. Excellent at applying keen organizational skills to manage, interpret, and develop designs and documentation to guide projects from proposal through delivery.

- Integrated ethane rejection mode of operation to improve plant efficiency, increasing revenue by \$10K per month.
- Coordinated leak testing for Greenfield & Brown offshore installation.
- Created FEL-1 Level process design for gas plant with 60MMSCFD capacity, expandable to 120 MMSCFD.
- Completed PreFEED level design for a 500MMSCFD NGL recovery gas plant.
- Successfully commissioned and initialized 200 MMSCFD cryogenic gas plant ahead of scheduled delivery date.
- Directed multidisciplinary team to develop improved designs for de-bottlenecking Ryan-Holmes plant, increasing capacity from 70 to 90 MMSCFD
- Developed design to expand capacity of a 25 MMSCFD cryogenic gas plant to 30 MMSCFD.
- Provide continuous troubleshooting support for client operations.
- Provided client new operating recommendations for Amine unit to address increased CO2 levels by coordinating with both equipment and chemical vendors.
- Part of owner's project team responsible for review and development of FEED study for a new 300 MMscfd propane recovery plant located in the Caribbean.
- Provided process evaluation of West African 150,000 BPD FPSO FEED proposal as part of owner's project team.
- Commissioning and Startup support for 4.5 MMscfd NGL recovery plant.
- Commissioning Leak Test Coordinator - Responsible for review and approval of all N2/He leak testing procedures for ConocoPhillips Jasmine project during offshore greenfield commissioning.
- Evaluation of available gas plant options (GSP, OHR, SCORE, etc.) to determine optimal design during FEL-1 for 300 MMSCFD
- Feasibility study of using a fleet of Gas Production Storage Shuttles for production of a series of small 300 Bcf short life gas reservoirs.
- PreFEED level design of a 500 MMSCFD Gas Processing and Transport Ship.
- Evaluation of PSV & Flare Systems at a 10 MMSCFD gas plant to meet regular reporting requirements.
- Capacity study to identify bottlenecks preventing a 700 MMSCFD gas plant from processing 800 MMSCFD.
- Develop Cause & Effect diagrams for new storage unit of a 1.9 BCFD gas plant.
- Evaluation of refrigeration unit capacity for a 1.9 BCFD gas plant.
- Process evaluation of landfill gas recovery plant using the Kryosol process to determine necessary modifications as throughput increased.
- Process evaluation of coal mine methane processing plant turndown. Evaluated alternative technologies and performed high level cost estimates for replacement of the existing cryogenic nitrogen rejection column.
- Expansion, performance, and troubleshooting study to increase capacity of a cryogenic gas plant from 60 MMSCFD to 90 MMSCFD.
- Preliminary engineering study of a process to purify n-butane for further processing to food acids. Evaluated technology and provided high level cost estimates.



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- High level analysis of cost effectiveness of compressing, dehydrating, and transporting CO<sub>2</sub> for use in tertiary oil recovery.
- Evaluation of plate-fin exchangers in gas plant to determine if thermal stresses caused by temperature differences were within acceptable limits.

### Project Engineer

*Morningstar Partners / Fort Worth, TX / Jun 2018 – Jan 2020*

- Reduced disposal costs by 50% through implementation of Produced Water Recycling Project.
- Optimized facility design to increase monthly production facility revenue by \$10K+ per well.
- Managed the design and development of two saltwater disposal facilities resulting in \$40K per day reduction to operating expenses.

### Consultant

*Trinity Consultants / Lenexa, KS / Mar 2007 – Nov 2007*

- Reduced disposal costs by 50% through implementation of Produced Water Recycling Project.
- Optimized facility design to increase monthly production facility revenue by \$10K+ per well.
- Managed the design and development of two saltwater disposal facilities resulting in \$40K per day reduction to operating expenses.
- Performed dispersion modeling using AERMOD to model potential particle pollution from facilities.
- Researched environmental regulations specific to client industries
- Conducted Opacity testing for clients to ensure compliance at all emission points.

## EDUCATION

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### B.S. Chemical Engineering, 2006

*University of Kansas, Lawrence, KS*

### M.S. Engineering Management, 2018

*University of Kansas, Lawrence, KS*

## LICENSES & CERTIFICATIONS

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### Licensed Professional Engineer

State of Texas and Kansas