

# William Baker

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## WORK EXPERIENCE

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**LyondellBasell, Houston TX**

**Nov 2018 – Nov 2019**

*Process / Production Engineer*

Process and production engineer supporting a world-scale continuous petrochemicals manufacturing facility.

- Lead troubleshooting team using Kepner-Tregoe problem analysis to identify malfunctioning distillation column reboiler and successfully returned unit from 65% production rates to 100% production rates.
- Managed external contractor to install and operate a temporary emissions control system, allowing for 2 environmentally critical scrubbers to be isolated, repaired, and returned to fully compliant performance.

**The Dow Chemical Company, Midland MI**

**Jan 2010 – Nov 2018**

*Senior Production Engineer*

*Mar 2015 – Nov 2018*

Oversaw production from a sold-out batch chemical synthesis plant. Lead hands-on process troubleshooting and completed strategic projects to achieve 100% of production targets for three consecutive years.

- Developed custom process data aggregation system using Aspen SQLplus and Microsoft Excel to identify and implement optimizations worth 6.5MM annually.
- Successfully managed largest ever turnaround for facility, consisting of over 270 jobs, by working directly with maintenance and plant personnel to coordinate equipment preparations and return to operations.
- Managed \$800M project to produce a new product by leading a team of chemists, engineers, operators, and contractors through project design, construction, and commissioning to exceed campaign yield goals.
- Led plant Six Sigma team to eliminate batch cycle time waste identified by value stream mapping to achieve 10+% production rate increases on three process trains.
- Implemented equipment and process control improvements to optimize solvent recovery system, resulting in raw material savings of \$4.5MM per year.
- Identified and implemented methods to eliminate cross-contamination in reactor transfer systems, resulting in yield increases worth \$1.5MM per year and increasing plant capacity by 15%.

*Process Design Engineer*

*Jan 2010 – Mar 2015*

Completed process design for FEL packages on capital projects up to \$27MM. Prepared detailed specifications for a broad range of equipment including pumps, heat exchangers, pressure vessels, and pressure relief valves.

- Led multi-disciplinary team for extensive \$3MM rehabilitation project which included new reactors, mix tank, and recovery column. Reduced cycle time by 3% through improved reactor performance.
- Partnered with customer to understand process safety needs and developed dispersion model to avoid installing \$1MM+ capital project for relief effluent treatment system.
- Simplified pilot plant campaign preparation by developing baseline hazard analysis using LOPA. Provided training to new process safety specialist to leverage baseline analysis for second pilot plant.

## EDUCATION

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**South Dakota School of Mines & Technology**

**Dec 2009**

*BS, Chemical Engineering*

*Rapid City, SD*

- Graduated *summa cum laude*, GPA: 4.0/4.0

## SKILLS

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- **Skills:** Aspen Plus, PHAST, HTRI, Flarenet, SINET, SAS JMP, P&IDs, PFDs, M&EBs, Management of Change (MOC), Process Safety Management (PSM)