

AASIN HASAN

PHONE: +1 713 471 0820

EMAIL: aasin.hasan@gmail.com

NATIONALITY: US BORN CITIZEN

ADDRESS: 3505 SAGE ROAD, HOUSTON, TX 77056

WEBSITE: <https://aasinhasan.github.io/>

RESULTS-DRIVEN PROCESS ENGINEER

Senior process engineer for the largest integrated manufacturer of nylon 6,6 polymer in the world. Experienced in both batch and continuous operations, polymers (slurries, centrifuges, polymerization, extruders, pelletization), solids handling (bulk powder agglomeration, cyclones, screw conveyors, dryers, disintegrators, briquetters), warehouse management (FIBC, bulk bag, bagbox) and bulk shipping (ISO trucks, spargers, railcars), with an overall emphasis on process safety and ESSH. Proven ability to adapt to difficult situations, solve problems, and manage time successfully with a strong background in petrochemical and O&G. **Areas of expertise:**

- Root Cause Failure Analysis (RCFA)
- Project Management (>\$10MM)
- Process Safety Analysis & Hazards (PHA, HAZOP, PSSR, SIL, LOPA)
- Management of Change (MOC)
- Operational Excellence (OEE, KPI)
- Process Safety Management (PSM, RMP, HRP)
- Excel (w/ Macros), PowerBI
- Python, SQL, VBA, vbScript, DAX
- SolidWorks, HYSYS, AutoCAD, SAP, KMS

PROFESSIONAL EXPERIENCE

ASCEND PERFORMANCE MATERIALS, HOUSTON, TX

SEP 2019 – PRESENT

Projects

- Led \$10MM total recommissioning of plant (2800-acre facility) including steam, power, auxiliaries, specialty chemicals, and mechanical systems following 2021 Great Freeze natural disaster wherein worst-case scenario occurred and critical power was lost for several days resulting in 250,000 lbs of sodium cyanide solution frozen in reactor forming solid hydrate. Completely stripped insulation off the 48 ft crystallizer and reboiler circulation loop and thawed out material safely using specially designed heating elements, providing engineering technical expertise during HAZOP and PSSR. Wrote detailed operating procedure several hundred pages in length explaining exactly how the situation was overcome and how to prevent it from happening again.
- Designed \$1MM custom agitators for gravity fed slurry tanks experiencing severe pluggage issues. Worked with vendors providing engineering spec sheets and designed computational fluid dynamic (CFD) models which met our criteria while remaining under budget. Reduced costs by re-using motors (~150k savings), while avoiding critical speed issues (natural harmonic frequency vibration amplification) by tapering the shaft diameter and utilizing rigorous simulation models to ensure sufficient design. Implemented said design during turnaround and measured the improvement in pluggage and reduced downtime as a result, saving the company over \$250K/YR.
- Created real-time auto updating KPI Dashboard in PowerBI using Python, SQL, VBA, and vbScript. Retrieved critical plant data and refreshed automatically every 30 minutes. Dashboard was used throughout control rooms and also displayed on Intrinsically Safe devices via mobile app to allow operators to view unit parameters while in the field without needing to radio the Board. Demo of KPI Dashboard can be found on my website: <https://aasinhasan.github.io/>

HCN Team Lead /Sr. Manufacturing Engineer

APR 2021 – PRESENT

Managed core team of engineers overseeing every unit within the plant, determining unit production rates depending on customer need, supply chain logistics, SIOP, maintenance schedules, and profitability. HCN was the primary feedstock used throughout the plant including guest unit operations. I governed propylene, methanol, formaldehyde, caustic, and steam balance and would coordinate with my engineers bi-weekly to formulate the overall plan for the plant for the next 72 hours.

In addition to my responsibilities as Team Lead, I also became the Sr. Manufacturing Engineer supporting day to day operations of the Disodium iminodiacetate (DSIDA) and Nitrilotriacetate (NTA) facilities. These were batch operation facilities producing the intermediate chemicals to Roundup herbicide.

- Resolve incidents through RCFA and analyzing Aspen IP.21 data trends, as well as other Six Sigma tools.
- Tasked with developing capital improvement projects to drive production while maintaining unit reliability.
- Presented engineered solutions through management of change (MOC) and formal engineering recommendation (REC) via KMS.
- Responsible for maintaining unit MOC's and KPIs. Coordinate with operations daily to see what the plan for the next 48-72 hours will be in terms of production and implement work orders accordingly via SAP.
- Responsible for shipping operations on the back-end, managing warehouse inventory as well as bulk loading shipments.

Manufacturing Engineer

SEP 2019 – APR 2021

Process engineer supporting the everyday continuous operations of a sodium cyanide production facility ensuring safe, reliable, and efficient operations. Manage overall daily production, raw material and utility usage, OEE and quality control, as well as troubleshooting any production upsets.

TENASKA POWER SERVICES, DALLAS, TX

APR 2016 – SEP 2019

Power Engineer

Create and optimize generation schedules to operate power plants in the most economically feasible manner given real-time market conditions and plant capabilities. Responsible for operating and monitoring activity within 6 energy markets across the US and maintaining electrical grid reliability nationwide.

- Accountable for over 9000MW of electrical generating capacity throughout the US with multiple energy projects including nuclear, coal, natural gas, and renewables.
- Required to remain alert and react instantaneously in case of ERCOT frequency emergencies wherein 500MW/h of energy load must be deployed within 10 minutes to keep electrical grid stability.
- Correspond with power plants and scheduling managers invariably to ensure accurate deployment of power and leave zero room for error. Coordinate with regulation markets in several ISOs to mitigate energy capacity shortages following NERC compliant protocols

BAKER HUGHES, INC., MIDLAND, TX

JUL 2015 – MAR 2016

Field Engineer

Worked in the largest upstream completions shop in Permian Basin. Broke down and re-assembled several completion tools including Packers, Plugs, and Liners. Obtained hands-on experience with running tools on rig site and working in the field. Obtained formal training in Houston, TX on the Engineering Development Program and the Completions and Wellbore Intervention Academy.

- Recognized for effectively learning upstream oil and gas, running several completions jobs, and gaining in-depth knowledge of cased hole completion tools and how to properly run jobs on the rig site.
- Worked hands-on with completion tools and executed field jobs following company operational and safety standards.
- Interacted with customers daily and received mentorship from highly experienced Completions Engineers.

EDUCATION AND TECHNICAL PROFICIENCIES

TEXAS TECH UNIVERSITY, LUBBOCK, TX

AUG 2011 – MAY 2015

Bachelor of Science – Petroleum Engineering – GPA 3.57/4.00

CERTIFICATIONS & PROFICIENCIES

ISO 9001 Internal Audit

RCFA (ThinkReliability) – Cause Mapping I & II

NERC Certified

2D and 3D CAD Modeling Software - **SolidWorks, Inventor, AutoCAD, Aspen HYSYS, PIPESIM, OLGA, FLARENET**

Business Communications and Customer Relations – **SAP, Visium KMS**

DCS Data Acquisition – **Aspen IP21, OSI PI Processbook, Emerson DeltaV**

Microsoft Office Suite – **Excel (including VBA programming & macros), PowerBI, Word, PowerPoint**

Programming – **Python, SQL, VBA, vbScript, DAX, HTML/CSS, JavaScript**

Process Simulation using HYSYS

Steady State Hydraulic Analysis of multiphase piping / pipelines using PIPESIM

Transient Analysis of multiphase piping / pipelines using OLGA

Flare network simulation using FLARENET

Perform Process / Optimization Studies like Flare Study, Vent and Drain Study, HIPPS Configuration Study, etc.

Preparation of PFD's, Material Balance, PSFD's, P&ID's and C&E Diagrams.

Vent & Equipment Sizing

Process Datasheets for Equipment and Instruments

Develop Operating and Control Philosophies

Develop Safeguarding Philosophies for Process Shutdown / Emergency Shutdown

Blowdown / Depressurization Simulations through rigorous modeling in HYSYS (Dynamics) & OLGA

HAZID, HAZOP, SIL assessment and Design Reviews

Preparation of Operating Manual (SOPs)

OTHER INFORMATION

Languages: English (Native), Bengali (Fluent)

Notice Period: Immediate

US Driver's License