



Rahul Agrawal

E-Mail: x26rahula@iima.ac.in Mobile: +91 9782069331 LinkedIn: www.linkedin.com/in/rahul-agrawal177

Summary

Innovation driven energy professional with 5+ years of experience at two Fortune 500 companies, leading mission critical refinery and biofuels initiatives. Recognized for delivering operational improvements, commissioning first of their kind projects, and driving industrial innovation through cross-functional leadership. Combines deep technical expertise with strategic execution to solve complex operational challenges and create scalable business impact.

Professional Experience

Indian Oil Corporation Limited, Panipat Refinery & Petrochemical Complex | Panipat, Haryana Process Engineer

- Strengthened design assurance for ₹36,225 Cr Panipat Refinery Expansion Project by reviewing engineering designs, safety studies and 3D models across 5+ process units and packages, to identify process, operability, and maintainability gaps.
- Drove cross functional adoption of 100+ process, maintenance, and operational design improvements in collaboration with technology licensors and EPCM/LSTK partners, reducing operational risk and strengthening maintenance readiness.
- Played a pivotal role in commissioning of ₹984 Cr+ 2G Ethanol unit, first of its kind in Asia, by coordinating technical discussions with licensor, OEMs, and other cross-functional teams for a 100 kiloliters/day rice straw-based ethanol plant.
- Accelerated refinery circularity at Panipat Refinery by coordinating commissioning, troubleshooting, and licensor alignment for 754 Cr+ 3G Ethanol Unit of 128 kiloliters/day, enabling conversion of refinery off gases into value added ethanol.
- Strengthened operational reliability and efficiency across process units by comprehensive monitoring and troubleshooting, developing 50+ process modifications to resolve recurring process bottlenecks and stabilize operations.
- Strengthened procurement governance for a ₹130 Cr+ portfolio across 35+ process chemicals through SAP workflows, tendering, vendor evaluations and negotiations, coordinated with internal teams to improve cost control and execution quality.
- Enhanced operational risk control by managing quality inspection for 30+ process chemicals, validating tender specification in compliance with Quality Control teams, preventing off-spec material usage, ensuring operational readiness.
- Improved data driven monitoring by identifying 500+ process tags for real-time database systems and performance dashboards development for process units, enabling KPI based unit performance tracking and faster identification of process deviations.
- Safeguarded operations by managing SAP-based inventory for 30+ process chemicals and coordinating with finance, materials and purchase teams, prevented stockouts and ensured zero production loss from chemical unavailability.
- Monetized 2G Ethanol unit process residues by supporting buyers identification for lignin-rich wet cake, concentrated syrup, and biomass ash, creating ~₹1 Cr in incremental revenue and advancing waste to value integration from process residues.
- Co-led ₹4 Cr+ process package procurement to commissioning in 2G Ethanol unit, resolving operational problem of high suspended solids through safety reviews, trial runs and troubleshooting, achieved ~85% of design process efficiency.
- Strengthened reliability of the 2G Ethanol unit by resolving a critical utility availability constraint through in house simulation; ChemCad and Pro-II based design with three-week phase wise execution and reducing trials downtime from utility failures.

Reliance Industries Limited, Patalganga Manufacturing Division | Patalganga, Navi Mumba Graduate Engineer Trainee

- Steered 24×7 polyester manufacturing operations across three 40 tonnes/day Continuous Polymerization units, sustaining 95% uptime during the operating tenure through real time Distributed Control System (DCS) based monitoring and process control.
- Anchored cross-functional coordination across quality control, and other stakeholders to maintain end product quality KPIs, ensuring zero deviations from industry standards, enabling reliable unit performance through stakeholder alignment.
- Led a 4-member frontline operations team during routine and shutdown activities, ensuring zero safety incidents and permit violations through structured task allocation, field supervision, and SOP compliance.
- Averted potential unit-wide operational failure as DCS In-charge by diagnosing the issue and executing time-critical corrective actions, prevented 2-day shutdown, avoiding ~80 tonnes finished-product loss and estimated ₹12 lakh revenue impact.
- Strengthened risk management and safety across process units by assessing site level hazards and issuing 100+ SAP ERP based work permits for high-risk jobs, ensuring zero permit violations and delays during routine operations and planned shutdowns.
- Mitigated operational risk by coordinating cross functional execution of a vessel modification with inter-departmental teams, resolving a critical operational issue of foaming and preventing ~80 tonnes of finished product loss per shutdown.

Education

B. Tech (Chemical Engineering) - *Maulana Azad National Institute of Technology, Bhopal*

Accomplishments and Awards

- Secured Gold Medal in Chemical Engineering at MANIT Bhopal for outstanding academic performance, graduating as the departmental topper in the 2016–2020 batch.
- Promoted to Process Engineer within 9 months, 25% faster than the standard 12 month Graduate Apprentice Engineer timeline, with Excellent rating for accelerated performance readiness.
- Earned “Outstanding” appraisal rating for two consecutive years, FY24 and FY25, as a Process Engineer, demonstrating sustained performance excellence, execution ownership, and delivery across high-impact refinery and biofuel initiatives.
- Contributed to a team selected from hundreds of ideas across Indian Oil’s refineries to present a 2G Ethanol byproduct valorisation initiative at India Energy Week 2026, Goa, highlighting waste to value innovation and revenue generation potential.
- Earned Indian Oil Special Suggestion Drive appreciations in 2023 and 2025 for process improvement ideas targeting profitability enhancement, operational reliability, and continuous improvement.
- Recognized with IOCL’s inter-refinery appreciation award “Samuhik Uplabdhī Puruskar” in 2024 and 2025 as part of a team delivering innovation driven cost savings and operational improvements across 2G and 3G Ethanol units.
- Accelerated operational readiness through Reliance Industries’ Competency Assurance System (CAS), assuming independent charge in the Continuous Polymerization unit within 3 months, reducing the standard 6-month training timeline by 50%.

License & Certifications

BCG - Introduction to Strategy Consulting Job Simulation

CSIR Indian Institute of Petroleum, Dehradun - Petroleum Refining Technology

Co/Extra-curricular

- Core Committee Member, Profile Committee, PGPX, IIM Ahmedabad - Contributed to shaping and managing external branding, cohort representation, and stakeholder engagement for one of India’s most prestigious MBA programs.
- Events & Competitions Cell Head, Optima - Operations Club, IIM Ahmedabad - Led end-to-end planning and execution of flagship events and competitions, enhancing student engagement.
- Served as Event Coordinator for the Street Play Society - Ae se Aenak, MANIT and Think India MANIT Chapter, supporting event execution, communication, and student engagement initiatives.
- Supported end to end campus placements as a Training & Placement Student Volunteer at the Training & Placement Cell, MANIT Bhopal, assisting in overall coordination, documentation, and process execution during the 2018-19 placement cycle.
- Contributed as a core committee member of Knock-Knock, MANIT Bhopal, a student-led social initiative, supporting underprivileged communities through the distribution of clothes, shoes, and essential items.