



Summary of Qualifications

Nathan is a seasoned professional with over 40 years of leadership experience in a diverse technical environment. Nathan has demonstrated strong functional expertise in various aspects of project work and refinery operations support, with extensive knowledge and experience of the HF Alkylation Process. Nathan's strength's center on his knowledge, as an independent auditor of American Petroleum Institute Recommended Practice 751 (API RP 751). In addition to his knowledge of HFAC's API RP 751 audit protocol, he is also certified to conduct API RP 751 and Process Safety Site Assessment Program (PSSAP) audits as a participating member of the American Petroleum Institute's audit team.

Career Experience

2015 to present

HF Alkylation Consultants – Senior Consultant

Supporting HF Alky units with the following key services:

- Leading API 751 Audits
- Safety and unit operability reviews
- Project scoping
- Unit site specific training
- Technical services including: SU & SD support, pre-turnaround chemical cleaning, turnaround preparation and support, process objective inspection, procedure review, troubleshooting

2012 to 2015

Phillips 66 – Senior Process Advisor

Key areas include:

- Responsible for vetting and selecting desulfurization processes, including those required to attain Tier 3 sulfur reduction
- Led monthly Network meetings, unit improvement reviews, API RP-751 Audits, and championed implementation of value improving projects for the Alkylation, Reformer and Gasoline Desulfurization units Networks
- Led effort to evaluate new catalysts for Reformer Semi-Regen units, with emphasis on increasing yield and octane, and reducing catalyst regeneration frequency
- Implemented cost saving practices for catalyst regenerations, and reduced catalyst usage of the company's proprietary SZorb (fluid bed gasoline desulfurization unit) technology, capturing significant savings

2002 to 2012

ConocoPhillips – Senior Process Specialist

Key areas include:

- Led the HF Alkylation Licensing activities and supported the Company's HF and Sulfuric Alkylation Networks
- Principle in the Reformer Network charged with championing improvement procedures, optimizing

catalyst regenerations and timeliness of new catalyst selection

- Network Lead for the Company's Gasoline Desulfurization units

2001 to 2002

Phillips Petroleum – Process Specialist

Key areas include:

- Responsible for technical support of the Company's internal HF and Sulfuric Alkylation units, in addition to the Licensed HF Alkylation units worldwide
- Led development activities for new projects, including defining the project premises and scope, setting project schedule, cost and value tracking, and coordinating project reviews to deliver a Process Technology Package to client
- Team member for the development and demonstration of the first generation SZorb unit (fluid bed gasoline desulfurization unit)
- Prepared unit operating procedures, safety guidelines and training materials

1987 to 2002

Phillips Petroleum – Licensing Specialist

Key areas include:

- Project management, including leading and developing project premises, defining schedule, cost and value tracking, and project reviews to ensure delivery of Process Technology Package to client
- Provided technical support for all HF alkylation units worldwide, including project work and leading successful commissioning and startup activities
- Startup Chief for numerous grassroots HF Alkylation units
- Team member for the development of the Reduced Volatility Alkylation Process (ReVAP/MHF). Prepare to Operate Lead for commissioning and startup of the first commercial ReVAP unit