Process Safety as a Career Foundation

Andrew Stein

Smith & Burgess
Process Safety Consulting

Overview

- Introduction
- Diversified Process Experience
- Safety Across All Business Levels
- Safety as an afterthought
- Conclusion

Introduction

- Process Safety as a Career Tool
  - Diversified Experience
  - Multiple Business Applications
  - Safety at the Forefront
- Applicability

Diversified Process Experience

- Process Safety in Refining
  - Exposure to various units and processes
  - A look into how different refineries handle similar processes
  - An in-depth look at available data

Diversified Process Experience

- Example
  - A unit engineer has access to large amounts of available process and equipment data that they may only use when they have to
  - Working as a process safety engineer requires an in-depth look into all the available process and equipment data

Diversified Process Experience

- Process Safety in Petrochemicals
  - Learn about various specialty chemicals
  - Gain knowledge of chemical process reactions and what upsets may result in hazardous conditions

Diversified Process Experience

- Example
  - Some specialty chemicals can decompose when exposed to heat instead of boil

Diversified Process Experience

- Not Getting Lost in the Weeds
  - Work to understand the process and not get hung up on optimization
  - Allows for greater exposure and provides a very steep learning curve

Safety Across Business Levels

- Safety as a Plant Engineer
  - Responsible for maintaining and enhancing a process unit
  - Results in making decisions that could potentially affect process safety

Safety Across Business Levels

- Safety as an Engineering Manager
  - Responsible for leading a team of engineers
  - Key in mentoring young engineers
  - Opportunity to affect the culture of company

Safety Across Business Levels

- Safety as a Corporate Engineer
  - Must understand the impacts of changes on an organization
  - Corporate safety directives must be well thought out, including the impact they will have on operations and the value they can add

Safety Across Business Levels

- Example
  - A directive that is put in place by a corporate engineer will impact an organization financially, but the engineer must know that the directive has long term feasibility and adds the worthwhile value to the organization

Safety as an Afterthought

- Proactive Safety vs. Reactive Safety
  - Focus on efficiencies and profit may cause an engineer to have tunnel vision towards that goal
  - Could lead to dangerous operating conditions as well as costly updates in the future
  - Could be avoided if attention was given to safety at the forefront of the process

Safety as an Afterthought

- For Example:
  - Engineers may be tasked with determining if the unit throughput can be increased
  - A company may purchase an operating skid and assume that the manufacturer of the skid has taken care of all the necessary safety measures

Conclusion

- Recap
  - Diversified Process Experience
  - Safety Across All Business Levels
  - Safety as an Afterthought
- Career success will depend on an acquired skillset and an individual's work ethic, but a foundation in process safety could be a gateway for any engineer

Process Safety as a Career Foundation

Questions?