Crude Quality and Characteristics Impact on Refinery Corrosion

Potential PDH: 8-12

Description:

Early crude assessment can reduce the risk in processing crudes. In order to assess the quality of crude, one must understand the corrosion impact of specific contaminations common within crude feedstock. This course will discuss crude oil production basics and how they impact downstream processing; crude composition and its impact on transportation, storage, and processing; refinery crude management practices; crude characterization and the limitations of crude assays; crude custody transfer and oil loss; refinery capability assessments; and crude compatibility and impacts on corrosion.

Outline:

- Crude Management Practices
  - o Industry recognition of crude purchasing as an advantage
  - o Importance of reacting quickly to challenges and market changes
- Major Concepts for Success
  - o Teamwork
  - o Communication
  - o Common understanding of refinery capabilities and corporate objectives
  - o Crude approval process
  - o Timelines for action and reaction
- Coordination Between Trading and Refining Teams
  - o Agreement with the team when purchasing test cargos
  - o Recommended evaluations and test runs
  - o Setting operability limits
- Refinery Capability Assessment (Crude Operability Limitations)
  - o Alignment of equipment capability with crude mix
  - o Capability review of each site to catalog appropriate crudes
  - o Evaluation of equipment for crude capability
  - o Establishing limits through test runs
  - o Processing of new crude mixes
  - o Capabilities that allow for processing of different crude qualities
- Crude Corrosion
  - o Introduction to crude corrosion
  - o Benchmarking against industry experiences
- Crude Compatibility Issues and Mitigation

- o Introduction to mitigation plans
- o Proactive methods in crude purchasing procedures
- o Ensuring fit for purpose equipment
- o Monitoring

• Crude Assessment Tools
- o HCAMS
- o Assay process
- o Becht Compatibility Tool
- o Becht CorrExpert Tool
- o Guide to develop a common database for crudes and processing capabilities

• Optional Training Follow Up (4 hrs): Half day mentoring/guidance session targeting application of concepts, practices, and tools according to site needs and specifications

Who Should Attend:

This course is ideal for personnel involved in analyzing, purchasing, and mitigating the impact of different crude feedstocks in oil & gas refineries. Refinery process and corrosion engineers along with members of the refinery crude purchasing team would find this training beneficial.

Subject Matter Expert (SME):

Sam Lordo, Refinery Desalting and Corrosion Expert Sam Lordo is a recognized industry expert and has over 40 years' experience in refinery process chemistry/chemical treatments, opportunity crude processing and crude desalting. During his 40 years of corrosion / refining / petrochemical experience, he has been involved in all aspects of managing risk due changing crude slates and process conditions; including corrosion prevention, fouling prevention and control, failure analysis, and crude desalting.