

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Technical Tuesday #5

Did you know the QuikTurnRX process can help you comply with the new MACT environmental regulations?

The QuikTurnRX process will help achieve the new LEL requirement of 10% prior to reactor entry in a fast, safe, and predictable manner. Here's an overview of the new environmental regulations and how Strategic Chemistry can help you.

The Challenge

Turnaround teams are challenged to safely meet aggressive schedules while complying with increasing environmental requirements.

The EPA developed Maximum Achievable Control Technology Standards, or MACT standards, to reduce the effects of Hazardous Air Pollutants (HAPs) generated by industry. Beginning in August of 2017, refineries will be subject to much more stringent requirements when cleaning process equipment and utilizing maintenance vents as part of the 40 CFR part 63, subpart CC changes (aka part of Refinery MACT).

Refined Technologies has consulted Waid Environmental for details on what these changes mean for turnaround teams planning equipment decontamination prior to commencing maintenance activities. Specifically, one of the following conditions must be met prior to venting equipment to the atmosphere:

- The equipment must contain less than 72 pounds of VOC
- Vapor in equipment purged to atmosphere must have LEL less than 10%
- Maintenance vents associated with equipment containing pyrophoric catalyst at refineries with pure hydrogen sources can only be vented to the atmosphere when LEL is less than 10%
- Maintenance vents associated with equipment containing pyrophoric catalyst at refineries that do not have a pure hydrogen supply can only be vented to the atmosphere when LEL is less than 20%, except for one event per year not to exceed 35%.

Records must be maintained that demonstrate compliance with the new requirements. Failure to comply would result in a Title V deviation, requiring self-reporting on semi-annual deviation reports.

The challenge exists to meet these requirements and minimize flaring, while remaining on the turnaround schedule.

Our Solution – Implement Strategic Chemistry®

Strategic Chemistry is defined as the timely use of chemistry and planning, designed to improve client operating margins. Refined Technologies is the industry leader in developing detailed plans that merge unit clearing and cleaning procedures to ensure a timely and predictable turnaround schedule.

Our patented QuikTurn® and QuikTurnRX® cleaning processes will exceed requirements of the Refinery MACT by injecting the powerful, non-toxic, biodegradable formulations into steam or a dry gas once the unit has been deinventoried. QuikTurn and QuikTurnRX rapidly accelerate the time it takes to remove hydrocarbons and other noxious gasses from processing equipment, ensuring your turnaround will be safe, efficient, and environmentally compliant.

Strategic Chemistry can be utilized on all turnarounds or prior to catalyst handling activities on hydroprocessing units. Refined Technologies guarantees vessels to be free of LEL and hydrocarbons, allowing for rapid entry into a safe working environment.

Strategic Chemistry Advantages

Implementing Strategic Chemistry® brings several advantages that help turnaround teams balance many competing requirements and objectives successfully.

Environmental Regulation Compliance

- Meet requirements of the new refinery MACT rules and site-specific permits
- Avoid reportable Title V deviations and improve refinery environmental performance metrics

Flare Management

- Projects can be completed as flare-less events which reduces emissions and provides savings in both nitrogen and fuel gas
- Helps to comply with competing regulatory requirements for flare minimization and minimum flare heating values

Turnaround Execution Optimization

- Detailed clearing and cleaning strategy prepared by our experienced team of Operations Managers integrate tightly with overall planning to reduce turnaround timelines
- Equipment will be both hydrocarbon free and clean which reduces maintenance cleaning post decontamination

In your maintenance and turnaround planning meetings, we encourage you to consider Strategic Chemistry®: the timely use of chemistry and planning, designed to improve operating margins.

