

Focus on Fuels

In This Issue

July 2013

Volume 3, Issue 6

[TM&C Services](#)

[Don't Fix What Ain't Broke](#)



Charlie Miller, P.E.
Vice President
Lead Industry
Specialist for
Attestation Services

TM&C Services in Fuel Regulations

TM&C provides a full range of services in its fuels regulatory practice. Some of these services are listed below:

- Preparing, reviewing and submitting fuels reports, including CDX submissions.
- Facility audits for

The oil industry is faced with another environmental regulation for gasoline in the new Tier 3 gasoline standards. At the end of June, the EPA closed the docket for comments on the proposed Tier 3 regulations after receiving thousands of comments. This is a regulation involving joint suffering: the automakers have to meet California Low Emission Vehicle standards while gasoline manufacturers and importers must meet an annual average sulfur limit of 10 ppm beginning January 1, 2017. Of course, there is more to the Tier 3 gasoline regulations than just the annual average sulfur requirement.

Don't Fix What Ain't Broke

A major consideration in the proposed Tier 3 gasoline regulations is the sulfur cap on gasoline. That cap is currently 80 ppm, and the proposed regulations could continue that cap or reduce it to 50 ppm, or even as low as 20-25 ppm. In the notice, the EPA appeared to be searching for a reason to reduce the cap from the current level and asked for comments.

To answer the question of the appropriate level for the gasoline sulfur cap, Turner, Mason & Company conducted a study sponsored by the American Petroleum Institute (API). API submitted the report to the EPA docket, and a copy of the report can be found at <http://www.api.org/downloads/TMANDC-SulfurCap-Final-Report-February-2013.pdf>. Our study consisted of a survey, statistical analysis of the information provided, and modeling of different key refining centers where loss

compliance with fuels programs.

- Interaction with EPA to pose fuels related questions.
- Industry specialist assistance for required gasoline attestations.
- Industry specialist assistance for in-line blending audits.
- Assistance in setting up a fuels compliance group/program.
- Personnel reviews of compliance related groups.
- Compliance status reviews and recommendations .
- Negotiations/consultation during EPA enforcement actions.
- 3rd Party Engineering reviews.
- Due diligence reviews of facilities and companies in RFS RINs Program.

of refining desulfurization capacity could greatly influence gasoline supply.

We concluded that to meet an annual sulfur average of 10 ppm, refiners could not produce much "high" sulfur gasoline, with high being a relative term. Based on a distribution analysis of the sulfur in gasoline batches from refineries producing gasoline at different annual average sulfur levels, we determined the overall probability that any batch of gasoline at the refinery gate would be within a given sulfur level. The probability ranges were:

- Less than 20 ppm 89% - 93%;
- Less than 30 ppm 95% - 98%;
- Less than 50 ppm 97% - 100%.

Mixing within the gasoline distribution system would further lessen the potential for "high" sulfur gasoline at the retail level. It became obvious to us that the 10 ppm annual sulfur average in the proposed Tier 3 regulations will establish a de facto working sulfur cap.

We also found that setting a restrictive sulfur cap would cause additional volatility in the U.S. gasoline supply. Refiners told us that they need a reasonable cap to allow them to continue to supply gasoline during shutdowns or turnarounds. Our modeling efforts confirmed the refiners' contention. Through our modeling of areas with limited interconnections, we found that as the sulfur cap was lowered, the amount of lost gasoline production increased as sulfur reduction units went down, even though the main refinery units continued to operate.

Thus, we concluded that setting a tighter sulfur cap, especially below 50 ppm, would provide essentially no increase in emissions reduction but would probably cause greater volatility in gasoline supply. In other words, a tighter sulfur cap is unnecessary.

There are other aspects of the proposed Tier 3 gasoline standards that I will cover in future articles.

Turner, Mason & Company | **CONSULTING ENGINEERS**

2100 Ross Ave, Suite 2920

Dallas, TX 75201

Phone: 214-754-0898

Fax: 214-754-5915

www.turnermason.com