Fuel Rating Rule Review, 16CFR Part 306, Project No. 811005
Lima Refining Company, Husky Energy, Inc.
Lima, Ohio 45804
7/2/2014

Lima Refining Company (LRC), a wholly owned subsidiary of Husky Energy, Inc., is pleased to comment on the Federal Trade Commission's Notice of Proposed Rulemaking for proposed amendments to 16 CFR Part 306, Automotive Fuel ratings, Certification and Posting. The following comments are for Fuel Rating Rule Review, 16CFR Part 306, Project No. 811005.

Background

LRC owns and operates a 160,000 barrel/day refinery in Lima, Ohio. LRC is a regional supplier of transportation fuels serving markets in Illinois, Indiana, Michigan, Ohio, and Pennsylvania. Products produced include Gasoline, Ultra Low Sulfur Diesel, and Jet Fuels for both commercial and military, as well as various by-products.

LRC's gasoline blending operation, which produces approximately 75,000 barrels/day through a batching process, utilizes an On-Line Octane Analyzer System consisting of 4 octane knock engines. A Raman Spectroscopy analyzer system has been installed and operational in parallel with the conventional online knock motors on the same blend header to provide a secondary octane rating for diagnostic purposes. Raman is a measurement technique complementary to the infrared method. Both Raman and Infrared are proven technologies capable of predicting automotive fuel ratings using spectroscopic methods and chemometric modeling techniques. Both Raman and infrared methods provide better reproducibility than the octane engines outlined in ASTM D2699 and D2700. Raman offers significant advantages over infrared in several ways. Raman allows for easier and more robust modeling, requires less sample conditioning, and is unaffected by water, particulates and sample temperature fluctuations. These are the predominant reasons LRC has chosen this technology for model based prediction of fuel properties.

Comments on Proposed Rule, 16CFR Part 306, Project No. 811005

LRC recommends that the rules adopt language which specify Performance Based Test Methods (PBTM) rather than specify "Infrared Methods" as primarily addressed in ASTM D6122-10 be allowed for automotive fuel rating. LRC supports the acceptance of alternate methods for measuring, certifying, and reporting automotive fuel ratings in addition to those outlined in ASTM D4814, but recommends that the rules adopt language which allow for a broader use of other spectroscopic model based techniques meeting the intent of ASTM D6122-10 and equally applicable as described in in ASTM D6122-10, section 1.8. Section 1.8 would allow for other analyzers than "Infrared Methods" but it would be more clearly stated if the proposed amendment to the rules would reference the validity of other techniques and use PBTM language.

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Raman is an equal and, in many respects, a better model based predictive spectroscopic method that would not be specifically allowed by the proposed amendments to the rules. ASTM D6122-10, section 1.8, states that "Although this practice deals primarily with validation of infrared analyzers, the procedures and statistical tests described herein are also applicable to other types of analyzers which employ multivariate models." This statement within the text of the proposed ASTM method to be adopted by the amended rules acknowledges the validity of other model based analyzers which are equally applicable as is the infrared method. In addition, ASTM has a proposed new standard titled, "WK38018, New Test Method for Spectroscopic Determination of Properties of Spark-Ignition Engine Fuels Using Direct Match Comparison Technique" which will include Raman as well as a much broader inclusion of other spectroscopic techniques. ASTM recognizes the superior performance of spectroscopic analysis methods as compared to those traditional methods referenced in D4814 and acknowledges other methods in addition to infrared which have been addressed in D6122-10.

The use of PBTM language to include all analysis techniques that can be validated against the traditional methods of ASTM D4814 using well established statistical methods would allow for the use of alternate technologies currently available and referenced in ASTM D6122-10, section 1.8, but not primarily addressed by D6122-10.