

US Renewable Fuel Standard Revisions Finalized

On February 3, 2010, the US Environmental Protection Agency (EPA) finalized implementing regulations under the Energy Independence and Security Act of 2007 (EISA) that make significant changes to the renewable fuel standard (RFS1) that was originally established by the Energy Policy Act of 2005 (EPA Act). The changes are intended to boost domestic biofuels production by, among other things, expanding the volume of renewable fuel that transportation fuel sold in the United States must contain. This landmark rulemaking also represents the first time that greenhouse gas (GHG) emission performance standards are being applied in a regulatory context for a nationwide program.

The EPA's final rule (RFS2 Final Rule) is available at <http://www.epa.gov/otaq/renewablefuels/index.htm#regulations>. The RFS2 Final Rule finalizes implementing regulations that were originally proposed by an EPA proposed rule issued May 26, 2009 (RFS2 Proposed Rule).

Major Changes to RFS1 Volume Requirements; 2010 Volume Requirements

The RFS2 Final Rule makes a number of important changes to the RFS1 as established under the EPA Act.

First, the required volume of renewable fuel in the transportation fuel supply, and time frame over which the volume ramps up, has been changed from 7.5 billion gallons of renewable fuel by 2012 to 36 billion gallons by 2022. As under the RFS1, in order to ensure the mandates are met, obligated gasoline and diesel refiners and importers must prove that they have purchased (including through purchase or credits from others) renewable fuel equal to or exceeding a specified percentage of their annual total gasoline production or import.

While the original RFS1 rules focused on "motor vehicle fuels," the RFS2 Final Rule expands the

universe of covered fuels to include "all transportation fuels," including nonroad vehicles and engines, locomotive engines, and marine engines and vessels (excluding ocean-going vessels.) The RFS2 Final Rule also creates new categories of advanced biofuels, cellulosic biofuels and biomass-based diesel, each with a separate sublimit volume requirement in addition to the total renewable fuel volume requirement.¹

The EISA included a table establishing annual volume requirements for total renewable fuel and each of the subcategories, but also allowed EPA room to lower the standards based on available information regarding actual biofuel production capacity. EPA intends to issue a final rule by November 30 of each year in order to determine the appropriate standards for the following year. However, in the case of 2010, the standards have been finalized in the RFS2 Final Rule.

For 2010, the volume requirements are 12.95 billion gallons for total renewable fuels with sublimits of 5 million gallons (6.5 million ethanol equivalent gallons) for cellulosic biofuels, 1.15 billion gallons (based on a combined 2009/2010 compliance period) for biomass-based diesel and 950 million gallons for advanced biofuels. These volume requirements result in standards representing the specified fraction of each refiner's or importer's fuel that is required to be renewable of 8.25 percent for total renewable fuel, .004 percent for cellulosic biofuels, 1.10 percent for biomass-based diesel and 0.61 percent for advanced biofuels. While the effective date of the final rule is July 1, 2010, all of these volumes and standards are retroactive to January 1, 2010.

The transition from the existing RFS1 regulatory provisions regarding registration, Renewable Identification Number (RIN) generation, reporting and recordkeeping to the comparable provisions in the RFS2 Final Rule will occur on July 1, 2010. Obligated parties must determine their renewable

volume obligations at the end of each calendar year based on the volume of gasoline or diesel fuel they produced during that year, and they must demonstrate compliance with their Renewable Volume Obligation (RVO) in an annual report due two months after the end of the calendar year.

Parties that intend to generate RINs, or intend to own, transfer or use RINs for compliance purposes after July 1, 2010, will need to register or re-register under the RFS2 Final Rule provisions and modify their IT systems to accommodate the changes finalized in the new rule. The required changes include redefining the D code within the RIN that identifies which standard a fuel qualifies for, adding a process for verifying that feedstocks meet the renewable biomass definition, and calculating compliance with the four categorical standards instead of one.

Major Changes to RFS1 Eligibility Requirements

The RFS2 Final Rule implements a number of key changes to the RFS1 eligibility requirements for qualification as a renewable fuel. Eligibility is now determined under the RFS2 Final Rule based on the types of feedstocks that are used, the land that is used to grow feedstocks for renewable fuel production, the processes used to convert those feedstocks into fuel and the lifecycle greenhouse gas emissions that are emitted as compared to the gasoline and diesel fuels being replaced. EPA took comment on certain aspects of these eligibility requirement changes as set out in the RFS2 Proposed Rule and made certain further changes in the RFS2 Final Rule.

As set forth in the RFS2 Proposed Rule, the RFS2 Final Rule requires reductions in lifecycle GHG emissions of qualifying renewable fuel as compared to the lifecycle GHG emissions of the 2005 baseline average gasoline or diesel fuel that it replaces. Different levels of reduction compared to the baseline are required for each of the four established renewable fuel categories; renewable fuels generally must reduce GHG emissions by 20 percent, advanced biofuels must reduce GHG emissions by 50 percent, biomass-based diesel must reduce GHG emissions by 50 percent, and cellulosic biofuels must reduce GHG emissions by 60 percent.

As required by the EISA, in order to determine whether the target reductions have been achieved, the RFS2 Final

Rule requires GHG emissions assessments to evaluate the aggregate quantity of GHG emissions (including direct emissions and significant indirect emissions such as significant emissions from land use changes) related to the full fuel lifecycle. The calculation of lifecycle GHG emissions, including emissions resulting from international land use changes, has been one of the most controversial provisions in the rulemaking. Under the RFS2 Proposed Rule, corn-based ethanol produced under a variety of scenarios would have failed to meet the 20 percent reduction in GHG emissions necessary to qualify as a renewable fuel. Similarly, under the RFS2 Proposed Rule soy-based biodiesel would have failed to satisfy the 20 percent GHG reduction under certain considered scenarios.

In the RFS2 Final Rule, the methodologies used for calculating lifecycle GHG emissions were revised, generally resulting in a reduction in estimated lifecycle GHG emissions. EPA states that these modifications are based on comments from the public and peer reviewers during the rulemaking process, and changes in the developing science. In particular, the revised calculations project less indirect GHG emissions as a result of international land use changes. While the proposed rule had considered various timeframes and discount rates for calculating GHG impacts, the final rule adopts a 30-year time frame and applies no discount rate.

Based on its revised lifecycle analyses, EPA has determined that ethanol produced from corn starch at new facilities using natural gas, biomass or biogas for process energy and using advanced, efficient technologies expected to be typical for new facilities will meet the 20 percent GHG emission reduction threshold. Likewise, biodiesel and renewable diesel from soy oil or waste oils, fats and greases will exceed the 50 percent GHG threshold for biomass-based diesel. Biodiesel and renewable diesel produced from algal oils are also modeled to comply with the 50 percent threshold. Finally, the modeled pathways for cellulosic ethanol and cellulosic diesel would comply with the 60 percent reduction threshold. EPA expects that lifecycle analyses for various production methodologies will continue to change over time as scientific knowledge in this area continues to evolve.

Importantly, the RFS2 Final Rule maintains the grandfathering provision that exempts fuel from the

existing capacity of current facilities and facilities that commenced construction prior to December 19, 2007, from compliance with the 20 percent lifecycle requirement. For facilities that use natural gas or biodiesel for process heat, the exemption date is extended to December 31, 2009. While the RFS2 Proposed Rule had raised the question of whether this exemption should be phased-out over time, under the RFS2 Final Rule, the exemption continues indefinitely.

Conclusion

The RFS2 Final Rule adopts ambitious targets for renewable fuel production, including targets for advanced biofuels and cellulosic biofuels, which are widely thought to be significantly beyond the capacity limits of current technology. Compliance with these targets will require significant expansion of production in the renewable fuels industry. In addition, the regulations impose for the first time the obligation to comply with GHG reduction requirements that requires a lifecycle GHG analysis for each type of renewable fuel produced. Regulated parties need to carefully follow the procedures established for verifying and demonstrating compliance with these requirements. In addition, regulated parties will need to monitor EPA's actions to determine changes in annual production requirements, and any changes that may occur in lifecycle GHG analyses for various production methodologies. It is likely that requirements in this area will continue to evolve and change over time.

For additional background on RFS1 and EISA, and additional detail on some of the modifications to RFS1 that are described above, please see our earlier Client Update on the RFS2 Proposed Rule, "US EPA Proposes New Regulations that will Shape the Future of the Renewable Fuels Industry for 2010 and Beyond."²

Endnotes

- ¹ The volumes are not exclusive but rather establish nested requirements, such that (x) any renewable fuel that satisfies the requirement for cellulosic biofuel or biomass based diesel also satisfies the requirement for advanced biofuels and (y) any renewable fuel that satisfies the requirement for advanced biofuels also satisfies the total renewable fuel requirement.
- ² Available at <http://www.mayerbrown.com/publications/article.asp?id=6805&nid=6>.

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