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EPA Issues Proposed Renewable Fuels Standard Implementing Regulations; Administration Makes Stimulus Funds Available for Biofuels

On May 5, 2009, the Environmental Protection Agency (EPA) issued proposed rules to implement the renewable fuels standard (RFS) as updated by the Energy Independence and Security Act of 2007 (EISA). The new program, known as RFS2, mandates 36 billion gallons of renewable fuels by 2022, with benchmarks for advanced biofuels, biomass-based diesel, and cellulosic biofuels. For the first time, eligible fuels are defined by the lifecycle greenhouse gas (GHG) profile of the fuel, as compared to gasoline or diesel.

The proposed rule is open for comment for 60 days following publication in the Federal Register. EPA will hold a public hearing on June 9, 2009 in Washington D.C., and will conduct a public workshop on the lifecycle greenhouse gas analysis on June 10-11 in Washington D.C.

OVERVIEW

The RFS requires a specified level of renewable fuels to be used each year, as a replacement for fossil fuels used as transportation fuels. While the previous mandate only required renewable fuels to be blended with gasoline, RFS2 includes all transportation fuels, including motor vehicles, motor vehicle engines, nonroad vehicles, and nonroad engines.

Renewable Fuel Volume Requirements for RFS2 (billion gallons)					
YEAR	CELLULOSIC BIOFUEL REQUIREMENT	BIOMASS-BASED DIESEL REQUIREMENT	ADVANCED BIOFUEL REQUIREMENT	TOTAL RENEWABLE FUEL REQUIREMENT	
2008	n/a	n/a	n/a	9.0	
2009	n/a	0.5	0.6	11.1	
2010	0.1	0.65	0.95	12.95	
2011	0.25	0.80	1.35	13.95	
2012	0.5	1.0	2.0	15.2	
2013	1.0	а	2.75	16.55	
2014	1.75	а	3.75	18.15	
2015	3.0	а	5.5	20.5	
2016	4.25	а	7.25	22.25	
2017	5.5	а	9.0	24.0	
2018	7.0	а	11.0	26.0	
2019	8.5	а	13.0	28.0	
2020	10.5	а	15.0	30.0	
2021	13.5	а	18.0	33.0	
2022	16.0	а	21.0	36.0	
2023+	b	b	b	b	

The below chart notes the annual volume requirements established in EISA:

^a To be determined by EPA through a future rulemaking, but no less than 1.0 billion gallons.

^b To be determined by EPA through a future rulemaking.



In its proposed rule, EPA makes clear that, for 2009, the EISA-mandated volume for total renewable fuel will be used, but that the agency lacks the regulatory structure, until the proposed rule is finalized, to enforce the specific fuel carve-outs. Thus, EPA proposes to raise the 2010 biomass-based diesel requirement to 1.0 billion gallons, and allow fuels produced in either 2009 or 2010 to be counted towards the mandate. Further, while EPA can waive or reduce mandated fuel levels, the agency will not waive the 2010 cellulosic biofuel requirement, based on its assessment of projects under construction that could produce compliant fuels.

EPA expresses a preference for retaining the existing compliance and enforcement scheme, centered on the use of Renewable Identification Numbers (RINs). EPA also proposes to allow renewable fuels blended into home heating oil or jet fuel to generate RINs.

EPA also discusses the "blend wall," indicating that intermediate blends will help the nation meet RFS2 requirements, if approved. However, in conducting its analyses, EPA assumes only E85 and blends up to E10 will be sold in the U.S. EPA discusses a variety of approaches for getting beyond the blend wall, other than approving intermediate blends, including a flex-fueled vehicle mandate and non-ethanol biofuels production.

FEEDSTOCKS

EISA defines renewable fuel as a "fuel that is produced from renewable fuel and that is used to replace or reduce the quantity of fossil fuel present in transportation fuel." EPA includes in the rule a definition of renewable biomass, identifying the particular feedstocks from which renewable fuel can be made. Under the statute, planted crops and crop residues are only eligible if they come from agricultural lands cleared or cultivated before December 19, 2007. Additionally, eligible wood biomass must be pre-commercial slash or come from private timber plantations cleared before December 19, 2007. EPA proposes several methods for verifying the source of plant-based feedstocks, and invites comments on those proposals. EPA also invites comments on the inclusion of municipal solid waste as an eligible feedstock.

In addition, EISA defines advanced biofuel, cellulosic biofuel, and biomass-based diesel based on reductions of lifecycle greenhouse gas emissions, as compared to 2005 GHG emission profiles of either gasoline or diesel. Advanced biofuel and biomass-based diesel must meet a 50 percent reduction target to be eligible for the RFS2, and cellulosic biofuel must be 60 percent less than the baseline. By statute, EPA has some authority to adjust these levels downward. In the proposed rule, EPA reduces the threshold for advanced biofuels to 44 percent and indicates that, on final analysis, it may go as low as 40 percent, so that ethanol produced from sugarcane can qualify as an advanced biofuel. EPA believes this is necessary to ensure the advanced biofuel carve-out can be met.

EPA's proposed rule does not require individual facilities to demonstrate compliance with the GHG emissions reductions; rather EPA proposes to assign various combinations of feedstock, fuel type, and production process to one of the four categories of fuels eligible for compliance under RFS2, or to determine the combination is not eligible, due to a failure to meet required thresholds. For biofuels that have not been evaluated for GHG emissions, EPA proposes a limited pathway for their participation until such time as EPA periodically updates the broad fuel pathways.

LIFECYCLE GREENHOUSE GAS ANALYSIS

As stated above, EPA is directed by statute to determine fuel eligibility based on the lifecycle GHG emissions reductions achieved compared to the baseline, defined as 2005 GHG emissions of gasoline or diesel. Lifecycle GHG emissions include an evaluation of all stages of the fuel lifecycle, including fuel production and distribution, end uses of fuels, and land use changes. EISA directs EPA to account for both direct and indirect emissions. In its proposed rule, EPA interprets these statutory directives to require it to account for indirect land use changes occurring in other countries as a result of U.S. renewable fuels production.

EPA desires to account for lifecycle GHG emissions over time, and invites comments on two proposed timeframes in the rule: a 30-year time period in which all emission increases and decreases are valued the same, regardless of when they occur, and a 100-year time period, where future emissions changes are discounted by 2 percent annually. In addition to the planned June workshop and the public comments, EPA intends to subject its assumptions and analyses to peer review prior to finalizing the rule, in recognition of the controversial nature of the modeling.

Table 1. Draft Lifecycle GHG Emission Reduction Results For Different Time Horizon And Discount Rate Approaches					
FUEL PATHWAY	100 YEAR, 2% DISCOUNT RATE	30 YEAR, 0% DISCOUNT RATE			
Corn Ethanol (Natural Gas Dry Mill)	-16%	+5%			
Corn Ethanol (Best Case Natural Gas Dry Mill)*	-39%	-18%			
Corn Ethanol (Coal Dry Mill)	+13%	+34%			
Corn Ethanol (Biomass Dry Mill)	-39%	-18%			
Corn Ethanol (Biomass Dry Mill with Combined Heat and Power)	-47%	-26%			
Soy-Based Biodiesel	-22%	+4%			
Waste Grease Biodiesel	-80%	-80%			
Sugarcane Ethanol	-44%	-26%			
Switchgrass Ethanol	-128%	-124%			
Corn Stover Ethanol	-115%	-116%			

As discussed above, EPA is evaluating averages of various fuel/feedstock/production method combinations. Its preliminary assessment of various biofuels that EPA expects to significantly contribute to the volume mandates of the RFS is as follows:

*Best case plants produce wet distillers grain co-product and include the following technologies: combined heat and power (CHP), fractionation, membrane separation and raw starch hydrolysis.

TREATMENT OF EXISTING FACILITIES

In order to qualify for compliance with RFS2, EISA requires all renewable fuels from facilities which commenced constructed after Dec. 19, 2007 to demonstrate a 20 percent reduction in lifecycle GHG emissions. Plants which commence construction in 2008 or 2009 and are fired with natural gas or biomass are deemed in compliance with the 20 percent reduction requirement. For the purposes of RFS2, EPA proposes to define "commence



construction" consisting with existing Clean Air Act definitions for Prevention of Significant Deterioration regulations, meaning that "the owner or operator has all necessary preconstruction approvals or permits and either has begun a continuous program of actual on-site construction to be completed in a reasonable time, or entered into binding agreements which cannot be cancelled or modified without substantial loss."

The law is silent as to how fuels from existing facilities are to be evaluated for compliance under RFS2. EPA proposes to establish grandfathering rules for existing facilities, allowing existing facilities to be indefinitely exempt from the 20 percent requirement, but restrict the volume of fuel that is grandfathered in, allowing only existing production levels to be exempted. EPA proposes five additional options for grandfathering volumes from existing plants, and invites comment on all six proposals.

EFFECTIVE DATE

EPA proposes that the new rules take effect on January 1, 2010. EPA invites comments on alternate dates, including treatment of the specific 2010 requirements for biomass-based diesel, cellulosic biofuels, and advanced biofuels.

In addition, EPA is including in this rule, for comment, the specific compliance standards for 2010, representing the fraction of a refiner's or importer's fuel volume that must be renewable fuel in order to achieve the mandated volume of renewable fuel. In future years, EPA intends to issue proposed standards in the spring and finalize them by November 30 of each year. For 2010, EPA proposes the following standards:

Cellulosic biofuel	0.06%
Biomass-based diesel	0.71%
Advanced biofuel	0.59%
Renewable fuel	8.01%

BIOFUEL FUNDING OPPORTUNITIES

Also on May 5, both the Department of Energy (DOE) and the U.S. Department of Agriculture (USDA) announced plans to make available nearly \$2 billion in biofuels funding opportunities. USDA announced, over the next 30 days, it will make nearly \$1.1 billion in funds available to built and convert biorefineries, assist existing stressed facilities in restructuring financing, and provide producer assistance for dedicated energy crops. DOE will invest up to \$786.5 million in integrated biorefineries for advanced biofuels biofuels production, critical biofuels research and demonstration projects, and ethanol-specific projects, including vehicle optimization, intermediate blends testing and E85 infrastructure improvements. The first of DOE's solicitations was opened on May 6, for up to \$480 million in funding for construction of demonstration-scale biorefineries. Applications are due on June 30, 2009.

FOR ADDITIONAL INFORMATION

For further information call Curt Rich, head of the VNF Policy Practice at (202) 298-1886 or jcr@vnf.com.