12/12/17

REVISED RENEWABLE FUEL STANDARD RULES

The Energy Independence and Security Act (EISA) became law in December 2007. Among its many provisions, EISA increases the mandated nationwide use of biofuels to 36 billion gallons in 2022, and establishes an "advanced biofuel" subset of the RFS beginning in 2009 that includes mandates for the use of cellulosic biofuel, biomass-based diesel, and other nonconventional biofuels.[1]

The RFS obligated parties remain refiners, importers and blenders (other than oxygenate blenders) that supply gasoline for the 48 contiguous states plus Hawaii (Alaska has not opted-in yet.). Beginning with RFS2, obligated parties also include refiners and importers of diesel fuel.[2] A party that only blends ethanol with RBOB, CBOB or finished gasoline is not a RFS obligated party. A party that only blends biodiesel or renewable diesel with petroleum diesel is not a RFS obligated party.

RFS1 regulations were applicable through June 30, 2010.

The RFS2 final rule was effective on July 1, 2010, but the four percentage standards apply retroactively to all gasoline and diesel produced or imported throughout 2010. The central provision for RFS2 compliance for an individual obligated party is that each of the four regulatory Renewable Volume Obligations (RVOs) is met with valid renewable identification numbers (RINs). If an obligated party has a RIN deficit (failed to fully comply with one or more RVO), the shortfall can be carried over to the following year. However there cannot be deficits in two consecutive years and the deficit must be made up in the second year with full compliance of the second year's RVO. The regulatory RFS2 volumes ("EPA" columns in table on page 5) must be converted to percentages and then converted into the volume of RINs that an obligated party must have to demonstrate compliance.

[1] The original RFS provisions implementing EPAct05 are called "RFS1." The implementation of the revised RFS provisions in EISA is called "RFS2."

[2] Diesel fuel includes highway, nonroad (such as farm tractors or highway construction equipment), locomotive and marine diesel. For RFS, diesel fuel excludes ocean-going vessels.

In RFS1, EPA restricted the amount of RINs that could be banked and carried over to be used the following year at 20 percent of the following year's obligation. The Agency is continuing this 20 percent cap in RFS2 and applying it separately for all four standards.

Given drastic expected cellulosic biofuels production shortfalls in 2010, EPA used its statutory waiver authority to set the cellulosic biofuel standard at 6.5 million gallons for 2010, a large reduction from the statutory requirement of 100 million gallons. However, cellulosic biofuel producers could not meet 100 million gallons. Since there was a waiver, EPA made cellulosic biofuel waiver credits available for obligated parties to purchase at $1.56 per gallon-RIN for RFS compliance in 2010. RFS obligated parties can buy whatever amount of cellulosic biofuels may be available in 2010, or buy cellulosic biofuel waiver credits from EPA, or a combination of both options to achieve compliance.

The regulatory Biomass-based Diesel standard for 2010 was 1.15 billion gallons (statutory 0.5 bg for 2009 + statutory 0.65 bg for 2010 – see table on page 4).

In December 2010, EPA set the cellulosic biofuel volume for 2011 at 6.0 million ethanol-equivalent gallons, a large reduction from the statutory requirement of 250 million gallons. EPA made cellulosic biofuel waiver credits available for obligated parties to purchase at $1.13 per credit for RFS compliance in 2011. Obligated parties spent $4.8 million purchasing these credits. In November 2013 and again in June 2015, EPA proposed to refund these expenses because actual production of cellulosic biofuel during 2011 was actually zero. EPA rescinded the 2011 cellulosic biofuel standard in December 2015 (*see* 80 FR 77508; 12/14/15).

In January 2012, EPA set the cellulosic biofuel standard for 2012 at 10.45 million ethanol-equivalent gallons, a large reduction from the statutory requirement of 500 million gallons. EPA would have made cellulosic biofuel waiver credits for 2012 available for obligated parties to purchase at 78 cents/credit. However, on January 25, 2013, the U.S. Court of Appeals for the D.C. Circuit vacated the cellulosic biofuel portion of EPA's 2012 RFS.

The Agency set the biomass-based diesel requirement for 2013 at 1.28 billion gallons (see 77 FR 59458; 9/27/12). This action was late; EISA requires that this volume be promulgated by October 31, 2011.

The Agency promulgated RFS2 regulatory values for 2013 at 78 FR 49794 (8/15/13); this was late (EISA requires that this be promulgated by November 30, 2012). This applied retroactively to January 1, 2013.

In August 2013 (78 FR 49794; 8/15/13), EPA set the cellulosic biofuel standard for 2013 at 6.0 million ethanol-equivalent gallons, a large reduction from the statutory requirement of 1.0 billion gallons. EPA significantly reduced this volume for 2013 to only 810,185

ethanol-equivalent gallons in May 2014 (79 FR 25025; 5/2/14). Cellulosic biofuel waiver credits for 2013 were available at 42 cents each.

In a direct final rule, the Agency announced that the prices for cellulosic biofuel waiver credits will be 49 cents for 2014 and 64 cents for 2015 (80 FR 18136; 4/3/15). In November 2015, EPA announced that the cellulosic biofuel waiver credit price for 2016 will be $1.33.

In 2014, EPA revised the RFS regulations so that biogas from landfills if used for transportation, which was an advanced biofuel (but not a RFS cellulosic biofuel), could now be cellulosic because municipal solid waste has some cellulosic content. As a result, almost all cellulosic RINs have been based on this biogas.

The regulatory renewable fuel volumes for 2014 are required by EISA to be promulgated by November 30, 2013. This deadline was not met; the final rule for 2014 was promulgated in December 2015 (80 FR 77420; 12/14/15) and applied retroactively.

The regulatory renewable fuel volumes for 2015 are required by EISA to be promulgated by November 30, 2014. This deadline was not met; the final rule for 2015 was promulgated in December 2015 (same rulemaking as 2014 and 2016) and applied retroactively.

The regulatory renewable fuel volumes for 2017 were promulgated at 81 FR 89746 (12/12/16). On 11/30/16, EPA announced that the cellulosic biofuel waiver credit price for 2017 will be $2.00.

On 12/11/17, EPA announced that the cellulosic biofuel waiver credit price for 2018 will be $1.96. The regulatory renewable fuel volumes for 2018 were promulgated at 82 FR 58486 (12/12/17).

The table on page 4 summarizes the annual statutory renewable fuel volumes. A comparison of the recent statutory (EISA) and regulatory (EPA) renewable fuel volumes is presented in the table on page 5.

RFS2

(billion gallons)

	Total Renewables	Advanced Biofuel	Cellulosic Biofuel	Biomass-based Diesel
2007	4.70			
2008	9.00			
2009	11.10	0.60		0.50
2010	12.95	0.95	0.10	0.65
2011	13.95	1.35	0.25	0.80
2012	15.20	2.00	0.50	1.00
2013	16.55	2.75	1.00	
2014	18.15	3.75	1.75	
2015	20.50	5.50	3.00	
2016	22.25	7.25	4.25	
2017	24.00	9.00	5.50	
2018	26.00	11.00	7.00	
2019	28.00	13.00	8.50	
2020	30.00	15.00	10.50	
2021	33.00	18.00	13.50	
2022	36.00	21.00	16.00	

Source: EISA, Public Law 110-140

Advanced Biofuel is a subset of RFS, excludes corn starch, and should reduce lifecycle GHG emissions by at least 50% from the 2005 baseline. Advanced Biofuel has three pieces: Cellulosic Biofuel, Biomass-based Diesel, and other.

The Biomass-based Diesel mandate will continue after 2012 with levels determined by EPA (but no lower than 1.0 billion gallons/year). All four mandates will continue after 2022 with levels determined by EPA.

Recent RFS2 Volumes

(billion gallons)

	Total Renewables		Advanced Biofuel		Cellulosic Biofuel		Biomass-based Diesel	
	EISA	EPA	EISA	EPA	EISA	EPA	EISA	EPA
2011	13.95	13.95	1.35	1.35	0.25	0.0[a]	0.80	0.80
2012	15.20	15.20	2.00	2.00	0.50	0.0[b]	1.00	1.00
2013	16.55	16.55	2.75	2.75	1.00	0.0[c]	$\geq$ 1.00	1.28
2014	18.15	16.28	3.75	2.67	1.75	0.033	$\geq$ 1.00	1.63
2015	20.50	16.93	5.50	2.88	3.00	0.123	$\geq$ 1.00	1.73
2016	22.25	18.11[d]	7.25	3.61	4.25	0.230	$\geq$ 1.00	1.90
2017	24.00	19.28	9.00	4.28	5.50	0.311	$\geq$ 1.00	2.00
2018	26.00	19.29	11.00	4.29	7.00	0.288	$\geq$ 1.00	2.10
2019	28.00	NA	13.00	NA	8.50	NA	$\geq$ 1.00	2.10

[a] EPA set this value at 0.006 billion RINs in December 2010 and rescinded it in December 2015 (with a commitment to refund millions of dollars of cellulosic waiver credits).

[b] EPA set this volume at 0.01045 billion RINs in January 2012; however, this was vacated by a court decision in January 2013.

[c] EPA set this volume at 0.006 billion RINs in August 2013, and reset to less than 0.001 billion RINs in May 2014.

[d] Remanded to EPA by the U.S. Court of Appeals for the DC Circuit on 7/28/17. Therefore, EPA could promulgate a different value after-the-fact.