



# Overview of the RFS Program Requirements

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# Basic Messages



- Supports Bush Administration's call to increase the supply of alternative and renewable fuels
- Requires major American refiners, blenders, and importers to use a minimum volume of renewable fuel each year between 2007 - 2012
  - The minimum is determined as a percentage of the total volume of fuel a company produces or imports
- Creates new markets for home grown fuels, increases energy security, and promotes development of advanced technologies that help make renewable fuel cost-competitive with gasoline.
- Estimated to cut petroleum use up to 3.9 billion gallons by 2012
- Cut greenhouse gas emissions up to 13.1 million metric tons by 2012
- Establishes special incentives for producing and using fuels produced from cellulosic biomass, such as switchgrass and woodchips



# Summary of RFS Process

- **The Renewable Fuel Standard (RFS) program was required by the Energy Policy Act of 2005 (Section 1501)**
- **Requires Growing Renewable Use from 4 Billion Gallons / Year beginning in 2006 to 7.5 Billion Gallons Year by 2012**
- **To cover 2006 we promulgated a rule that implemented the default provisions in the Act**
  - **There were no individual obligations - Industry complied on a collective basis.**
- **While 2006 was a success, EPA's work was not complete. As part of the RFS, EPA Act required a banking and trading program be included in the rule**
- **EPA worked closely with partners and stakeholders and through substantial cooperation and collaboration, to create a banking and trading program that was the least disruptive to the market**
- **We proposed our comprehensive program last September, we invited public comment.**
- **Based on comments received, the final rule was drafted and then published on May 1<sup>st</sup> 2007**
- **The Final Renewable Fuels Standard program has broad conceptual support from many diverse stakeholders**



# Stakeholder Input

- Began the process by gathering input from, and spending months working with various stakeholders
  - Refiners
  - Renewable producers
    - Ethanol
    - Biodiesel
    - Other possible renewables
  - Distributors and Marketers
  - Agricultural interests
  - DOE, USDA
  - Environmentalists



# Start Date

- The program is effective September 1, 2007
- RINs must be generated for all renewable fuel produced or imported on or after this date
  - Producers and importers of renewable fuel can also generate RINs for product in inventory on the start date
- Obligated parties begin counting the volumes of gasoline produced on or after this date
  - These volumes form the basis of their Renewable Volume Obligations (RVO) under the RFS program
- Recordkeeping and reporting requirements begin
  - Scott Christian will cover these requirements



# What's The Standard and To Whom Does It Apply?

- The standard for 2007 is 4.02%
- Applies to any party that produces gasoline in the 48 states, or imports gasoline into the 48 states (Hawaii will opt in in January)
  - Includes blenders that produce gasoline from blendstocks
  - Does not include ethanol/biodiesel blenders
- Called "obligated parties" under the regs
  - Exporters of renewable fuel are not obligated parties, but they do have an RVO



# Small Refiners and Refineries are Temporarily Exempt

- Automatic exemption for small refineries processing <75,000 bpd crude
- Automatic exemption for small refiners with <1500 employees company-wide and less than 155,000 bpd crude capacity
- Exemptions require a verification letter from the refinery/refiner by August 31, 2007
- Exemption ends on 12/31/10, but can be extended
- Small Refiners still considered a regulated party





# Difference between an Obligated Party and a Regulated Party

- An Obligated Party – Is obligated to meet the standard
- A Regulated Party – Is a Party that takes title to RINs
- Both types of parties are obligated to report and keep records
- Note once renewable fuels is blended with Motor vehicle fuel, the new fuel is considered Motor vehicle fuel and RINs are no longer passed on





# So What's A RIN?



- The Renewable Identification Number (RIN) is a 38-character numeric code in the format:

KYYYYCCCCFFFFFFBBBBBRRDSSSSSSSSSEEEEEEEEE

- RINs are generated by renewable fuel producers and importers and assigned to batches that they transfer to others
- RINs form the basic currency for the RFS program
  - Currency for trades
  - Currency for credits
  - Currency for compliance



# RIN Codes



KYYYYCCCCFFFFFFBBBBBRRDSSSSSSSSSEEEEEEEEE

K	= RIN assignment code (1=assigned, 2=unassigned)
YYYY	= Year batch is produced/imported (when it leaves the facility)
CCCC	= Company registration ID
FFFFF	= Facility registration ID
BBBBB	= Producer assigned batch number
RR	= Equivalence Value for the renewable fuel
D	= Renewable type code (1=cellulosic; 2=non-cellulosic)
SSSSSSSS	= RIN Block Starting Number
EEEEEEEE	= RIN Block Ending Number



# More On RINs



- A batch is defined as <100 million gallon-RINs and  $\leq$  One calendar month's production
- A gallon-RIN represents a single gallon in the context of compliance with the RVO
  - The SSSSSSSS and EEEEEEEE codes are identical
- A batch-RIN is a RIN that represents multiple gallon-RINs
  - Shorthand for use on Product Transfer Documents (PTDs) such as invoices
- RINs are valid for purposes of compliance with an RVO for the calendar year generated (the YYYY code) or the following year



# Potentially Qualifying Renewable Fuels

- Ethanol
  - Corn
  - Other Starches
  - Cellulose
  - Sugar
- Biodiesel (mono alkyl esters) and Renewable Diesel
  - Veg Oils and Animal Fats
- Renewable crude fuels
  - Veg Oils and Animal Fats
- ETBE
- Biobutanol
- Fischer-Tropsch-diesel/gasoline from
  - Biogas
  - Biomass gasification
  - Sewage plant
- Others



# Equivalence Values



- The Equivalence Value indicates how many gallon-RINs can be generated for each gallon of renewable fuel
  - The RIN code RR represents the Equivalence Value of a batch of renewable fuel for which those RINs are generated (ignore decimal)
- The Energy Policy Act specified that 1 gal of cellulosic ethanol counts as 2.5 gallons for compliance purposes
  - 1 gallon of cellulosic ethanol = 2.5 gallon-RINs



# Equivalence Values



- We specified the Equivalence Value for several renewable fuels using volumetric energy content in comparison to ethanol (adjusted for renewable content)
  - Corn-ethanol: 1.0
  - Cellulosic biomass ethanol: 2.5
  - Biodiesel (alkyl esters): 1.5
  - Renewable diesel: 1.7
  - Biobutanol: 1.3
- We also provided out a process for calculating Equivalence Values for other renewable fuels



# Basics of Compliance



- For producers and importers of renewable fuel
- For marketers and other parties who buy and sell renewable fuel
- For blenders who add renewable fuel to gasoline or diesel
- For obligated parties and exporters of renewable fuel





# 1. The Basics of Compliance for Producers/Importers

- Producers and importers of renewable fuel must generate RINs to represent all the renewable fuel they produce or import
  - The point in time when RINs must be generated is flexible, but no later than when the renewable fuel is transferred to another party
  - Can include product owned on Sept 1, 2007
- Total number of gallon-RINs that can be generated is determined from the Equivalence Value
  - $\text{Ratio of gallon-RINs to gallons} = \text{Equivalence Value}$



# 1. The Basics of Compliance for Producers/Importers ★

- Producers and importers must assign RINs they generate to batches of renewable fuel and transfer them with renewable fuel
  - K code in the RIN must be 1 to indicate "assigned"
- Cellulosic ethanol is an exception
  - Excess gallon-RINs can be retained instead of transferred
  - Retained gallon-RINs would have a K code of 2 to indicate "unassigned"



# 1. Examples of RIN Generation: How Many Gallon-RINs?

- A. 2000 gal corn-ethanol is produced
  - Equivalence Value is 1.0
  - 2000 gallon-RINs generated
- B. 2000 gal biodiesel is produced
  - Equivalence Value is 1.5
  - 3000 gallon-RINs generated
- C. 2000 gal cellulosic ethanol is produced
  - Equivalence Value is 2.5
  - 5000 gallon-RINs generated



# 1. Example of RIN Generation: How To Number Gallon-RINs?

- Producer X decides that each batch will represent one day's worth of production
  - Under the regs, a batch is defined as <100 million gallon-RINs and  $\leq$  One calendar month's production
- Producer X also decides that all his 2007 batches will be numbered sequentially starting on September 1
  - Under the regs, no two batch numbers can be the same in a given calendar year
- Therefore, all RINs generated on September 1, 2007 will have a BBBB code of 00001



# 1. Example of RIN Generation: How To Number Gallon-RINs? ★

- Producer X makes one 2000 gal tankfull of ethanol on September 1 in the morning
  - Gallon-RINs go from SSSSSSSS = 00000001  
to EEEEEEEE = 00002000
- Producer X makes another 3000 gal tankfull of biodiesel September 1 in the afternoon
  - Gallon-RINs go from SSSSSSSS = 00002001  
to EEEEEEEE = 00005000
- If he delivers all 5000 gallons to his customer, he can summarize all gallon-RINs on one batch-RIN



# 1. Examples of RIN Assignment and Transfer ★

- In reality, RINs need not be generated until the renewable fuel is transferred to another party
- Producer Y makes 2000 gal of cellulosic ethanol on September 1 and stores it in a tank
  - On September 5, 5000 gallon-RINs generated
  - On September 10, 2000 gallons is transferred to party A, along with 2000 gallon-RINs
  - On September 15, 3000 gallon-RINs is transferred to party B without renewable fuel



## 2. The Basics of Compliance for Marketers and Others Who Own Renewable Fuel ★

- The requirements for parties that buy and sell renewable fuel are designed to ensure that RINs generated make their way to the obligated parties who need them
- In general, RINs must travel with renewable fuel
- However, we have created several flexibilities that allow marketers wide discretion in how this happens from day to day





## 2. The Basics of Compliance for Marketers et al

- There are three primary requirements that ensure RINs move with renewable fuel:
  1. An assigned RIN cannot be transferred to another party without simultaneously transferring a volume of renewable fuel to that same party
    - Assigned RINs have a K code of 1
    - "Transfer" means a change in ownership, not custody



## 2. The Basics of Compliance for Marketers et al

2. No more than 2.5 assigned gallon-RINs can be transferred to another party with every gallon of renewable fuel transferred to that same party
  - But any party can transfer renewable fuel without RINs, subject to the end-of-quarter check
  - Thus a gallon of renewable fuel can be transferred with 0 - 2.5 gallon-RINs,
  - Assigned RINs are completely fungible: RINs can be assigned to different gallons, even different types of renewable fuels



## 2. End-of-Quarter Check for Marketers et al (1 of 2)

3. At the end of each quarter, each party must demonstrate that it owns no more assigned RINs (with  $K = 1$ ) than gallons of renewable fuel (adjusted for its Equivalence Value)

$$\begin{array}{l} \text{Sum of assigned} \\ \text{gallon-RINs} \end{array} \leq \begin{array}{l} \text{Volume of renewable fuel owned} \\ \text{x Equivalence Value per volume} \end{array}$$

- This requirement ensures that, at least quarterly, RINs have been transferred with volume and obligated parties have opportunities to get RINs



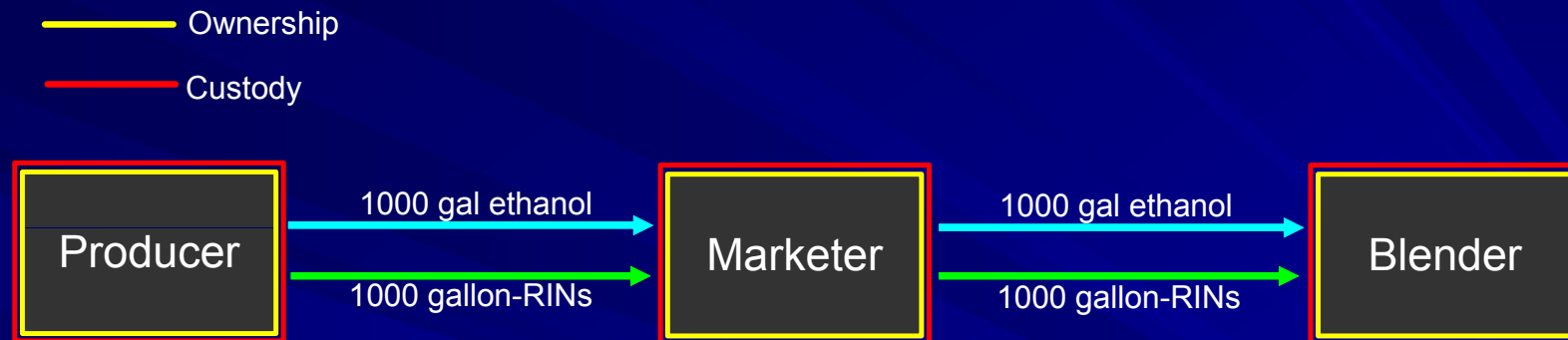
## 2. End-of-Quarter Check for Marketers et al (2 of 2)



3. For the end of each quarter equation the equivalence value for any volume of:
  - Ethanol shall be 2.5
  - All other fuels if the composition can be determined the appropriate value shall be used
    - Biodiesel shall be 1.5
  - The End of Quarter dates are March 31, June 30, September 30, and December 31



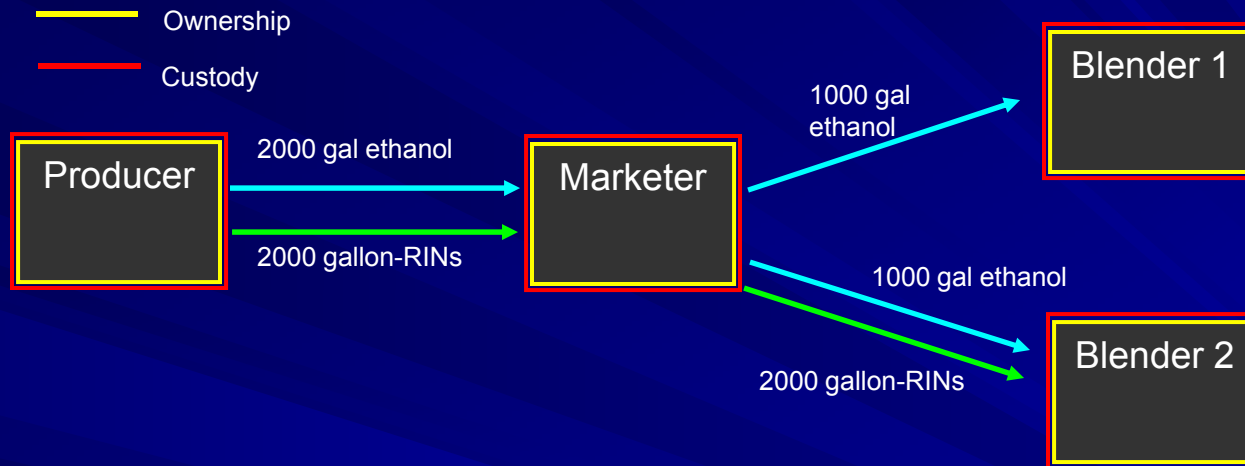
## 2. Follow The RINs



- Assigned RINs are transferred when ownership of a batch of renewable fuel is transferred
- RINs are not transferred if merely custody of a batch of renewable fuel is transferred



## 2. Follow The RINs

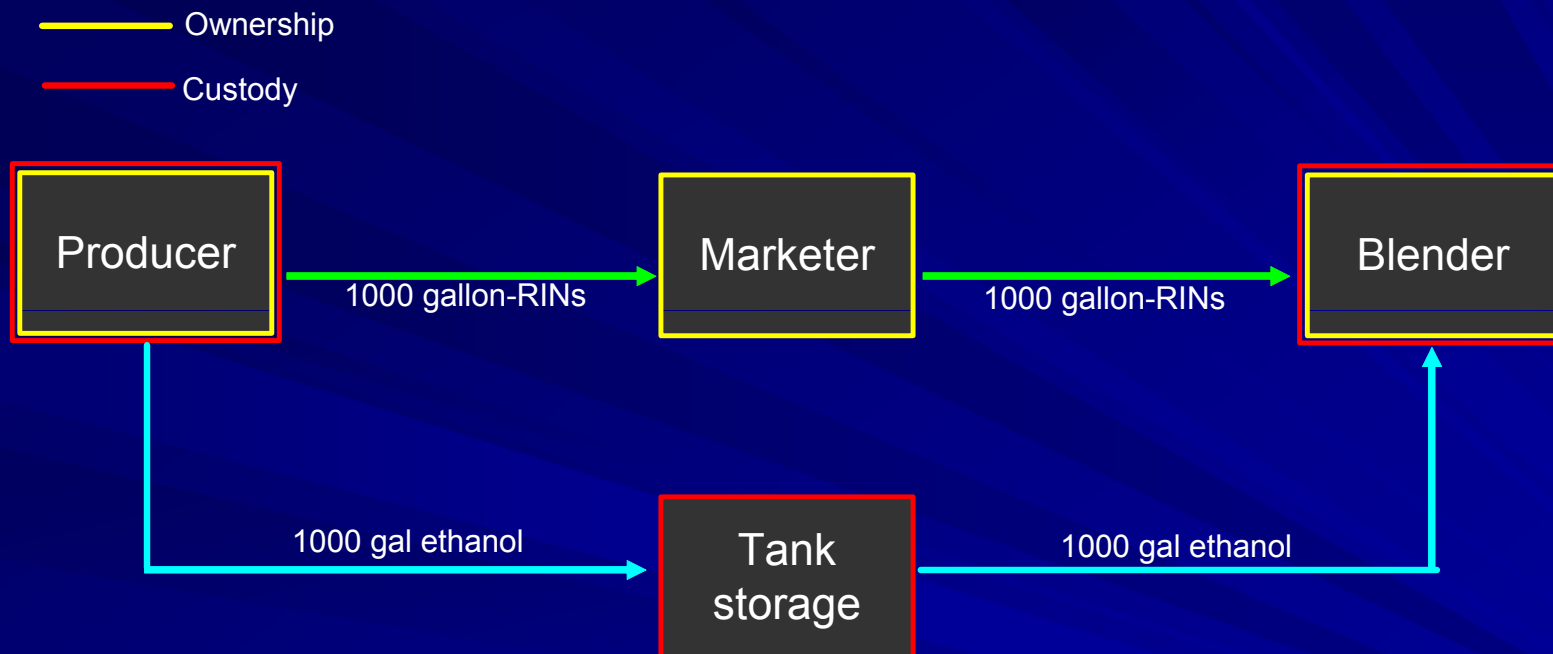


- A Marketer may choose how many RINs to send each customer between 0 and 2.5
- A blender receiving 2000 RINs assigned to 1000 gallons would separate 2000 RINs

See regulations at: 80.1129(b)(2) and 80.1128(a)(4)



## 2. Follow The RINs



- Parties that take custody of renewable fuel but not ownership have no recordkeeping or reporting responsibilities under the RFS program





### 3. Separating RINs from Renewable Fuel

- Separating a RIN means changing an assigned RIN into an unassigned RIN
  - K code is changed from 1 to 2 before transferring RIN
  - Separated ("unassigned") RINs are not subject to the requirement to transfer RINs with renewable fuel
- Parties that separate RINs are:
  - Renewable fuel blenders upon blending
  - Any party blending biodiesel at 80% or less
  - Obligated parties upon ownership
  - Exporters upon export
  - Producers/importers if fuel is used in neat form



### 3. The Basics of Compliance for Blenders

- In general, blenders are not obligated parties
  - Includes ethanol and biodiesel blenders and any other party that only blends renewable fuel with conventional gasoline or diesel
  - Parties that blend MTBE or other blendstocks into gasoline are gasoline producers and thus are obligated parties
- Blenders must separate RINs from volumes of renewable fuel upon blending
  - This means changing the K code from 1 to 2 before transferring the RIN



## 4. The Basics of Compliance for Obligated Parties

- Acquire RINs through either:
  - Purchasing renewable fuel from any party with assigned RINs
  - Purchasing unassigned RINs on the open RIN market
- For each calendar year, each obligated party must demonstrate that it has sufficient RINs to cover its RVO
  - Every gallon-RIN covers one gallon of the obligated party's RVO



## 4. Renewable Volume Obligations (RVO)

- Each obligated party must determine its own RVO based on the standard and the gasoline it produced or imported

$$\text{RVO} = \text{Standard} \times \text{annual gasoline volume} \\ (+ \text{ Deficit carryover})$$

- Applicable gasoline volumes include
  - Finished gasoline, RBOB, CBOB, CARBOB, GTAB
  - Blendstocks added to gasoline (MTBE, butane, etc)
  - All renewable fuel is excluded



## 4. Limit on Use of Previous Year RINs

- When demonstrating compliance with its RVO, each obligated party must also demonstrate that no more than 20% of that RVO is met using previous-year RINs
  - i.e. at least 80% of the RVO for a given calendar year must come from RINs generated in that year
- Not relevant for 2007 compliance



## 4. Exporters of Renewable Fuel ★

- The RIN-based system works because essentially all renewable fuel that is produced or imported is eventually consumed as motor vehicle fuel in the U.S.
- Exports of renewable fuel conflict with this premise
- Therefore, we created a requirement to force RINs out of circulation if some volume of renewable fuel is exported



## 4. Exporters of Renewable Fuel

- Any party that exports renewable fuel from the 48 states is assigned an RVO based on the volume exported

$$\text{RVO} = \text{Volume} \times \text{Equivalence Value} \\ (+ \text{ Deficit carryover})$$

- Most of the recordkeeping and reporting requirements applicable to obligated parties also apply to exporters of renewable fuel





# Distribution of Unassigned RINs

- Unassigned RINs (with  $K = 2$ ) can be transferred freely without volumes of renewable fuel
  - Any registered party can own an unassigned RIN
  - There is no limit on the number of times an unassigned RIN can be transferred between parties
- A RIN can continue to be transferred until February 28 for compliance with the previous year's RVO



# What About Parties That Never Own RINs or Renewable Fuel?

- Regulated parties under the RFS program are those that take ownership of RINs
- If a party only takes custody of renewable fuel but never owns it, that party has no responsibilities under this program
- If a party takes custody of RINs but never owns them (such as some types of RIN brokers), he has no responsibilities under this program
- If a party registers and does not take ownership of RINs they do not need to report or perform an attest engagement



# What Happens if a Party "Loses" Some Volume?

- Most small volume losses can be accommodated through the provision allowing up to 2.5 gallon-RINs to be transferred with each gallon
  - Metering imprecision
  - Evaporation
  - Volume shrinkage due to temperature drop
  - Minor spills
- For more significant spills, we allow an appropriate number of gallon-RINs to be retired (reported as "retired" and no longer transferable)



# For More Information



RFS Program general website:

<http://www.epa.gov/otaq/renewablefuels/>

Questions not answered in Q&A document:

ASD info@epa.gov



# Questions?