Ethanol Industry’s Responsibility Under The RFS Program

RFS Implementation Workshop
Rosslyn, Virginia
May 10, 2007
Jim Redding
Ethanol Movement Flowchart

Water = Ship/Barge
Rail = Railcar (29,000 gallons)
Truck = Full Load (8,000 gallons)
LTL = Less than load via truck

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Ethanol Movement Flowchart

Water = Ship/Barge
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Ethanol Plant

Customer

Terminal - Storage

Customer

Terminal - Storage

Customer

Terminal - Storage

Customer

Customer

Water

Truck

LTL

Retail

Water

Truck

LTL

Retail

Water

Truck

LTL

Retail

Customer

Customer

Customer

Customer

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RIN’s Final Rule

• 2007
  – The compliance period is September 1 through December 31
    • First “Quarterly” reporting period will be Sept 1- Sept 30

• 2008 and after
  – The compliance period is January 1 through December 31

• September 1, 2007
  – Producer/Importer of renewable fuels may generate RIN’s for inventory it owns on 9/1/07, since EPA does not dictate point of production.
RIN’s Final Rule

• Need to register company and plant(s) with the EPA
• RIN’s can be used to show compliance in the year generated and the subsequent year
  – Two-year life
• 20% cap on use of prior year RIN’s for compliance
• Equivalence Value
  – 2.5* - Cellulosic & Waste Derived Ethanol
  – 1.5 – Biodiesel (mono-alkyl ester)
  – 1.7 – Non-ester renewable diesel
  – 1.3 –Bio-butanal

* 1.0 RINs must be transferred with each gallon and the remaining 1.5 RINs may be separated by the producer and sold
RIN’s Final Rule

• Batch size 8 fields
  – Allows for batches/shipments of up to 99 million gallons
  – EPA to allow renewable fuel producers to define batch size
    • Maximum size 1 calendar month of shipments from a plant

• RIN fungibility
  – RIN does not have to be tied to a specific gallon
  – Only obligated parties & oxygenate blenders can separate RIN’s from the gallons
    *Except cellulosic & waste derived ethanol producer
What do we need?

• We need to comply with RFS requirements
• RIN Creation
• RIN Assignment
• RIN Correction
• RIN Expiration
• Purchased ethanol
  – With RINs
  – Without RINs
• RIN Reconciliation
• Reports
RIN Format

- RIN structure is a 38-character numeric code in the following format:

  KYYYYCCCCFFFFFBBBBBRRDSSSSSSSSSEEEEEEEE

  K = RIN Type Flag (1-assigned; 2-separated)
  YYYY = Year of Batch Production (when it leaves the facility)
  CCCC = Company registration ID
  FFFFF = Facility registration ID
  BBBBB = Serial Batch Number (assigned by the producer/importer)
  RR = Equivalence Value for the renewable fuel
  D = Renewable Energy Type (1-cellulosic; 2-non-cellulosic)
  SSSSSSSS = RIN Block Starting Gallon Number
  EEEEEEEE = RIN Block Ending Gallon Number
Example of a Non-Cellulosic RIN Creation

Sixteenth batch of non-cellulosic ethanol produced in 2007 of 198,450 net (60 °F) gallons:

KYYYYCCCCFFFFFBBBBBRRDSSSSSSSSEEEEEEEE
12007999900001000161020000000100198540

K 1 = RIN Type Flag (1-assigned; 2-separated)
YYYY 2007 = Year of Batch Production (when it leaves the facility)
CCCC 9999 = Company registration ID
FFFFF 00001 = Facility registration ID
BBBBB 00016 = Serial Batch Number (assigned by the producer/importer)
RR 10 = Equivalence Value for the renewable fuel
D 2 = Renewable Energy Type (1-cellulosic; 2-non-cellulosic)
SSSSSSSS 00000001 = RIN Block Starting Gallon Number
EEEEEEEE EEEE00198540 = RIN Block Ending Gallon Number
Example of a Cellulosic RIN Creation

Sixteenth batch of cellulosic ethanol produced in 2007 of 198,450 net (60 °F) gallons: (496,125 RINs)

KYYYYCCCCFFFFFBBBBBRRDSSSSSSSSSSSSSSSEEEEEE
12007999900001000162510000000100198540

K = RIN Type Flag (1-assigned; 2-separated)
YYYY = Year of Batch Production (when it leaves the facility)
CCCC = Company registration ID
FFFFF = Facility registration ID
BBBBB = Serial Batch Number (assigned by the producer/importer)
RR = Equivalence Value for the renewable fuel
D = Renewable Energy Type (1-cellulosic; 2-non-cellulosic)
SSSSSSSS = RIN Block Starting Gallon Number
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Example of a Cellulosic RIN Creation

Sixteenth batch of cellulosic ethanol produced in 2007 of 198,450 net (60 °F) gallons: (496,125 RINs)

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K = RIN Type Flag (1-assigned; 2-separated)
YYYY = Year of Batch Production (when it leaves the facility)
CCCC = Company registration ID
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SSSSSSSS = RIN Block Starting Gallon Number
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Comparison of the Three Examples

Sixteenth batch of non-cellulosic ethanol produced in 2007 of 198,450 net (60 0F) gallons:

KYYYYCCCCCCCCCCFFFFFBBBBBBRRDSSSSSSSSSSSSSEEEEEEEEEEE
12007999900001000161020000000100198540

Sixteenth batch of cellulosic ethanol produced in 2007 of 198,450 net (60 0F) gallons:

KYYYYCCCCCCCCCCFFFFFBBBBBBRRDSSSSSSSSSSSSSSSEEEEEEEEEEE
120079999900001000162510000000100198540
220079999900001000162510019854100496125
Comparison of the Three Examples

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Comparison of the Three Examples

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- RIN Creation
- RIN Assignment
- RIN Correction
- RIN Expiration
- Purchased ethanol
  - With RINs
  - Without RINs
- RIN Reconciliation
- Reports
Thank You

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High Level Requirements

- Key Business Events
  - RIN Creation / Expiration
    - Bill of Lading / Invoicing Event
  - RIN Assignment
    - Manual
    - File Upload
  - RIN Correction
    - EPA RFS fields vs. User Defined fields
  - RIN Expiration
    - Manual Event
    - Programmatic Event – Date/Time
  - Standard Reports
    - Based on above categories
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Data Available for reporting
Available Reports

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RIN Business Solution

Perform defined Data Validations
If success, data is stored to database
Exchange of RIN number to AREI

RIN Database

Data Available for reporting
Available Reports
RIN Application Architecture

Interface Layer
- RIN – Create, Modify
- RIN – User Manager
- RIN – Reporting / Auditing
- RIN – Import Services

Application & Business Rule Layer
- RIN Management
- Security Management
- Session Management
- I/O bound Process Management
- Import Management
- Exception Handler & Auditing

Database Layer
- RIN Repository
- I/O-bound Data Repository

Integrations/Extensions
- Aventine Generated RINs
- Non-Aventine Generated RINs

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