



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

July 20, 2020

OFFICE OF
AIR AND RADIATION

Mr. Chad Stone
Chief Financial Officer
Renewable Energy Group, Inc.
416 South Bell Avenue
Ames, Iowa 50010

Dear Mr. Stone:

You petitioned the Agency on behalf of Renewable Energy Group, Inc. to approve a pathway for the generation of biomass-based diesel (D-code 4) renewable identification numbers (RINs) for biodiesel produced from cottonseed oil through a transesterification process using natural gas and grid electricity for process energy at your facility in Houston, TX (the "REG Houston Cottonseed Oil Biodiesel Pathway"), and your Grays Harbor facility located in Hoquiam, Washington (the "REG Grays Harbor Cottonseed Oil Biodiesel Pathway") (the "REG Cottonseed Oil Biodiesel Pathways").

In July 2015, we published a Federal Register Notice inviting comment on our analysis of the greenhouse gas (GHG) emissions attributable to the production and transport of *Gossypium spp.* seed oil ("cottonseed oil") feedstock for use in making biofuels such as biodiesel, renewable diesel, and jet fuel (the "July 2015 Cottonseed Oil FRN") (80 FR 41033). That analysis as informed by comments received was intended for use in future evaluations of facility-specific petitions that include cottonseed oil as a feedstock for biofuel production. The July 2015 Cottonseed Oil FRN explained that we planned to apply our estimate of the upstream GHG emissions associated with soybean oil feedstock production and transport, including indirect agricultural and forestry sector impacts, in such evaluations.

Through the petition process described under 40 CFR 80.1416, REG submitted data to EPA to perform a lifecycle greenhouse gas analysis of biodiesel produced through the REG Cottonseed Oil Biodiesel Pathways. As noted above, this analysis involved a straightforward application of the same methodology and much of the same modeling of soybean oil biodiesel used for the March 2010 RFS rule (75 FR 14670). The difference between this analysis and the modeling completed for previous assessments was the evaluation of REG's specific biodiesel production facilities, including energy use and fuel yield data for these two facilities.

Based on our assessment, biodiesel produced through the REG Cottonseed Oil Biodiesel Pathways qualifies under the Clean Air Act (CAA) for D-code 4 RINs, assuming the fuel meets the other definitional criteria for renewable fuel (e.g., produced from renewable biomass and used to reduce or

replace the quantity of fossil fuel present in transportation fuel, heating oil or jet fuel) specified in the CAA and EPA implementing regulations.

This approval applies specifically to the REG Houston and REG Grays Harbor biodiesel production facilities and to the processes, materials used, fuels produced, and process energy types and amounts described in the October 2018 petition request submitted by REG for their Grays Harbor facility and the April 2019 petition submitted by REG for their Houston facility.

The EPA fuels program electronic registration and transaction system applications will be modified to allow REG to register and generate biomass-based diesel RINs for biodiesel produced through the REG Houston Cottonseed Oil Biodiesel Pathway and the REG Grays Harbor Cottonseed Oil Biodiesel Pathway.

Sincerely,

Sarah W Dunham

Sarah Dunham, Director
Office of Transportation and Air Quality

Enclosure

REG Houston and Grays Harbor Cottonseed Oil Biodiesel Pathway Determinations
under the RFS Program
Office of Transportation and Air Quality

Summary: Renewable Energy Group, Inc. (REG) petitioned the Agency to approve two pathways for the generation of biomass-based diesel (D-code 4) renewable identification numbers (RINs) for biodiesel produced from cottonseed oil through a transesterification process using natural gas and grid electricity for process energy at their facility in Houston, TX (the “REG Houston Cottonseed Oil Biodiesel Pathway”) and their Grays Harbor facility located in Hoquiam, Washington (the “REG Grays Harbor Cottonseed Oil Biodiesel Pathway”) (the “REG Cottonseed Oil Biodiesel Pathways”).

In July 2015, we published a Federal Register Notice inviting comment on our analysis of the greenhouse gas (GHG) emissions attributable to the production and transport of *Gossypium spp.* seed oil (“cottonseed oil”) feedstock for use in making biofuels such as biodiesel, renewable diesel, and jet fuel (the “July 2015 Cottonseed Oil FRN”) (80 FR 41033). We explained that we intended to apply our estimate from the March 2010 RFS2 rule (75 FR 14670) of the upstream GHG emissions associated with soybean oil feedstock production and transport, including indirect agricultural and forestry sector impacts, to future evaluations of facility-specific petitions proposing to use cottonseed oil as a feedstock for biofuel production. The comments on the July 2015 Cottonseed Oil FRN are discussed and addressed in Section V (Public Participation) of this document.

Through the petition process described under 40 CFR 80.1416, REG submitted data to EPA to perform a lifecycle GHG analysis of biodiesel produced through the REG Cottonseed Oil Biodiesel Pathways. This analysis involved a straightforward application of the same methodology and much of the same modeling of soybean oil biodiesel used for the March 2010 RFS2 rule (75 FR 14670). The difference between this analysis and the modeling completed for previous assessments was the evaluation of REG’s specific biodiesel production facilities, including energy use and fuel yield data for these two facilities. Based on the data submitted by REG, and our previous modeling, we conducted a lifecycle assessment and estimated that biodiesel produced at the REG Houston and REG Grays Harbor facilities from cottonseed oil feedstock reduces lifecycle GHG emissions compared to the statutorily prescribed baseline for diesel by approximately 56% and 53%, respectively. Biodiesel produced through the REG Cottonseed Oil Pathways will thus qualify for biomass-based diesel RINs, provided all associated regulatory requirements are satisfied, including the conditions specified in Section IV of this determination document.

This document is organized as follows:

- *Section I. Required Information and Criteria for Petition Requests:* Information on the background and purpose of the petition process, the criteria EPA uses to evaluate petitions and the information that is required to be provided under the petition process as outlined in 40 CFR 80.1416. This section applies to all petitions submitted pursuant to 40 CFR 80.1416.

- *Section II. Available Information:* Background information on REG, the information that they provided and how it complies with the petition requirements outlined in Section I.
- *Section III. Analysis and Discussion:* Description of the lifecycle analysis done for this determination and how it differs from the analyses done for previous assessments. This section also describes how we have applied the lifecycle results to determine the appropriate D-code for biodiesel produced through the REG Cottonseed Oil Biodiesel Pathways.
- *Section IV. Conditions and Associated Regulatory Provisions:* Registration, reporting, and recordkeeping requirements for biodiesel fuel produced through the REG Cottonseed Oil Biodiesel Pathways.
- *Section V. Public Participation:* Description of how this petition is an extension of the analyses done as part of prior notice and public comment rulemakings.
- *Section VI. Conclusion:* Summary of our conclusions regarding the REG Houston and Grays Harbor petitions.

I. Required Information and Criteria for Petition Requests

A. Background and Purpose of Petition Process

As a result of changes to the RFS program in Clean Air Act section 211(o), as amended by the Energy Independence and Security Act of 2007 (EISA), EPA adopted new regulations, published at 40 CFR Part 80, Subpart M. The RFS regulations specify the types of renewable fuels eligible to participate in the RFS program and the procedures by which renewable fuel producers and importers may generate RINs for the qualifying renewable fuels they produce through approved fuel pathways.¹

Pursuant to 40 CFR 80.1426(f)(1):

Applicable pathways. D-codes shall be used in RINs generated by producers or importers of renewable fuel according to the pathways listed in Table 1 to this section, subparagraph 6 of this section, or as approved by the Administrator.

Table 1 to 40 CFR 80.1426 lists the three critical components of a fuel pathway: (1) fuel type; (2) feedstock; and (3) production process. Each specific combination of the three components comprises a fuel pathway and is assigned a D-code. EPA may also independently approve additional generally applicable fuel pathways into Table 1 for participation in the RFS program, or parties may petition for EPA to evaluate new, facility-specific fuel pathways in accordance with 40 CFR 80.1416. In addition, renewable fuel producers qualified in accordance with 40 CFR 80.1403(c) and (d) for an exemption from the 20 percent GHG emissions reduction requirement of the Act for a baseline volume

¹ See EPA's website for information about the RFS regulations and associated rulemakings: <https://www.epa.gov/renewable-fuel-standard-program>

of fuel (“grandfathered fuel”) may generate RINs with a D-code of 6 pursuant to 40 CFR 80.1426(f)(6) for that baseline volume, assuming all other regulatory requirements are satisfied.²

The petition process under 40 CFR 80.1416 allows parties to request that EPA evaluate a potential new fuel pathway’s lifecycle GHG emissions and provide a determination of the D-code for which the new pathway may be eligible.

B. Required Information in Petitions

As specified in 40 CFR 80.1416(b)(1), petitions must include all of the following information, as well as appropriate supporting documents such as independent studies, engineering estimates, industry survey data, and reports or other documents supporting any claims:

- The information specified under 40 CFR 80.76 (Registration of refiners, importers or oxygenate blenders).
- A technical justification that includes a description of the renewable fuel, feedstock(s), and production process. The justification must include process modeling flow charts.
- A mass balance for the pathway, including feedstocks, fuels produced, co-products, and waste materials production.
- Information on co-products, including their expected use and market value.
- An energy balance for the pathway, including a list of any energy and process heat inputs and outputs used in the pathway, including such sources produced off site or by another entity.
- Any other relevant information, including information pertaining to energy saving technologies or other process improvements.
- The petition must be signed and certified as meeting all the applicable requirements of 40 CFR 80.1416 by the responsible corporate officer of the applicant company.
- Other additional information as requested by the Administrator to complete the lifecycle greenhouse gas assessment of the new fuel pathway.

In addition to the requirements stated above, parties who use a feedstock not previously evaluated by EPA must also include additional information pursuant to 40 CFR 80.1416(b)(2). This information was not required for REG Houston and Grays Harbor petitions because they request evaluation of pathways that use a feedstock, cottonseed oil, that EPA previously evaluated in the July 2015 Cottonseed Oil FRN.

² “Grandfathered fuel” refers to a baseline volume of renewable fuel produced from a facility that commenced construction before December 19, 2007, and which completed construction within 36 months without an 18-month hiatus in construction and is exempt from the minimum 20 percent GHG reduction requirement that applies to general renewable fuel. A baseline volume of ethanol from a facility that commenced construction after December 19, 2007, but prior to December 31, 2009, qualifies for the same exemption if construction is completed within 36 months without an 18-month hiatus in construction and the facility is fired with natural gas, biomass, or any combination thereof. “Baseline volume” is defined in 40 CFR 80.1401.

II. Available Information

A. Background on REG

REG petitioned the Agency to approve pathways that would allow it to generate biomass-based diesel (D-code 4) RINs for biodiesel produced through a transesterification process from cottonseed oil feedstock. Specifically, these pathway requests are for REG’s Houston biodiesel production facility and their Grays Harbor biodiesel production facility. A petition was required because these are not approved pathways in Table 1 to 40 CFR 80.1426.

B. Information Available Through Existing Modeling

The pathways described in the REG petitions would produce biodiesel from a feedstock, cottonseed oil, that EPA previously evaluated in the July 2015 Cottonseed Oil FRN. Therefore, no new feedstock modeling was required.

Similarly, no new modeling of the emissions associated with biodiesel combustion was necessary because that was previously evaluated as part of prior rulemakings. Compared to previous rulemakings and Federal Register Notices, this petition only required EPA to evaluate the mass and energy balance data provided by REG for biodiesel production at the two REG production facilities and the GHG emissions associated with this production.

In the March 2010 RFS2 rule, EPA evaluated the GHG emissions associated with a transesterification process to produce biodiesel from vegetable oil. REG’s facilities use the same general transesterification process that we analyzed for the March 2010 RFS2 rule, including the same types of process energy and co-products. For this determination we evaluated the GHG emissions associated with the two REG facilities, based on the mass and energy balance data provided for each of them. This was a straightforward analysis based on existing modeling done for previous rulemakings for the RFS program, and substituting REG’s process data, which only altered the amounts of inputs and outputs. The analysis completed for this petition utilized the same fundamental modeling approach as was used in previous rulemakings for the RFS program.

Table 1: Relevant Excerpts of Existing Fuel Pathways from Table 1 to 40 CFR 80.1426

Row	Fuel Type	Feedstock	Production Process Requirements	D-Code
F	Biodiesel	Soybean oil	One of the following: Trans-Esterification with or without esterification pre-treatment, or Hydrotreating; excludes processes that co-process	4 (Biomass-based diesel)

			renewable biomass and petroleum	
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C. Information Submitted by REG

REG supplied all the information as required in 40 CFR 80.1416 that EPA needed to analyze the lifecycle GHG emissions associated with cottonseed oil biodiesel produced through the REG Cottonseed Oil Biodiesel Pathways. The information submitted included a technical justification describing the requested pathways, modeling flow charts, a detailed mass and energy balance of the processes involved with information on co-products as applicable, and other additional information as needed to complete the lifecycle GHG assessment. The process modeling flow charts, mass and energy balance data and other details about the production process were submitted under claims of confidential business information.

III. Analysis and Discussion

A. Lifecycle Analysis

Determining a fuel pathway’s compliance with the lifecycle GHG reduction thresholds specified in CAA 211(o) for different types of renewable fuel requires a comprehensive evaluation of the renewable fuel, as compared to the gasoline or diesel that it replaces, on the basis of its lifecycle GHG emissions. As mandated by CAA 211(o), the lifecycle GHG emissions assessments must 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 lifecycle, including all stages of fuel and feedstock production, distribution, and use by the ultimate consumer.

In examining the full lifecycle GHG impacts of renewable fuels for the RFS program, EPA considers the following:

- Feedstock production – based on agricultural sector and other models that include direct and indirect impacts of feedstock production.
- Fuel production – including process energy requirements, impacts of any raw materials used in the process, and benefits from co-products produced.
- Fuel and feedstock distribution – including impacts of transporting feedstock from production to use, and transport of the final fuel to the consumer.
- Use of the fuel – including combustion emissions from use of the fuel in a vehicle.

EPA’s evaluation of the lifecycle GHG emissions related to biodiesel produced through the REG Cottonseed Oil Biodiesel Pathways under this petition request is consistent with the CAA’s applicable requirements, including the definition of lifecycle GHG emissions and threshold evaluation requirements.

Feedstock Production/Collection and Transport – The July 2015 Cottonseed Oil FRN invited comment on our analysis of the GHG emissions attributable to the production and transport of cottonseed oil feedstock for use in making biofuels such as biodiesel, renewable diesel, and jet fuel. We explained in that FRN that we intended to apply the estimate of upstream soybean oil feedstock production and transport emissions, including indirect agricultural and forestry sector impacts, to future evaluations of facility-specific petitions proposing to use cottonseed oil as a feedstock for biofuel production. After considering all of the comments submitted on the FRN, we have determined that, as laid out in the FRN, it is appropriate to use the soybean oil upstream GHG emissions estimate from the March 2010 RFS2 rule to estimate the GHG emissions associated with using cottonseed oil as a biodiesel feedstock. The analysis for the March 2010 RFS2 rule estimated GHG emissions of approximately 646 grams carbon dioxide equivalent per pound of soybean oil (gCO₂e/lb) produced and transported to a biodiesel production facility, including the emissions associated with extracting oil from the soybeans.³ In Table 2, below, the feedstock upstream emissions differ for the 2010 analysis and each of the REG facilities because they were scaled based on the differing biodiesel yields at each facility, in pounds of vegetable oil per pound of biodiesel. For the reasons discussed in the FRN, we view this as a conservative estimate of the upstream GHG emissions associated with the use of cottonseed oil to produce biodiesel.⁴

Biodiesel Production – REG provided mass and energy balance data for biodiesel produced at their Houston and Grays Harbor facilities. Both of these facilities use a transesterification process to convert cottonseed oil to biodiesel. Both facilities use natural gas and electricity for process energy. They also both use methanol and base catalysts for the transesterification reaction. The outputs from the processes are biodiesel, glycerin and small amounts of unreacted fatty acids and other materials. We evaluated these processes using the same methods used in the soybean oil biodiesel lifecycle analysis for the March 2010 RFS2 rule, but modified the process input-output data for each facility based on the information provided by REG.

³ As background information on how the upstream emissions for soybean oil were estimated, EPA’s lifecycle analysis of soybean oil biodiesel for the March 2010 RFS2 rule evaluated the GHG impacts for a scenario with decreased soybean oil biodiesel production compared to a control case. To calculate the results on a normalized basis for the scenario evaluated, we divided the increase in GHG emissions by the increase in the amount of soybean oil used for biodiesel production, which gives the normalized results in units of gCO₂e per pound of soybean oil. The lifecycle GHG analysis that EPA conducted for the March 2010 RFS rule for biofuel derived from soybean oil feedstock is described in section 2.6.1.3 (Biodiesel Results) of the Regulatory Impact Analysis for the March 2010 RFS2 rule (EPA-420-R-10-006). For this determination, the upstream emissions associated with soybean oil biodiesel, 646 gCO₂e/lb, were applied without modification for cottonseed oil used as biodiesel feedstock.

⁴ The purpose of lifecycle assessment under the RFS program is not to precisely estimate lifecycle GHG emissions associated with particular biofuels, but instead to determine whether or not the fuels satisfy specified lifecycle GHG emissions thresholds to qualify as one or more of the four types of renewable fuel specified in the statute. Where there are a range of possible outcomes and the fuel satisfies the GHG reduction requirements when “conservative” assumptions are used, then a more precise quantification of the matter is not required for purposes of a pathway determination.

Based on our analysis for these facility-specific petitions, we estimated the GHG emissions associated with the fuel production (transesterification) stage of the lifecycle to be negative. The analysis for the March 2010 RFS2 rule also estimated negative GHG emissions associated with the fuel production stage of the lifecycle. This was due to the assumption in the 2010 rule that co-product glycerin displaces fossil-based residual oil that otherwise would have been burned for industrial process heat either at the biodiesel facility or at another industrial facility. Based on the 2010 analysis, the negative emissions associated with glycerin displacing residual oil were greater than the positive emissions associated with the use of natural gas, grid electricity and other chemicals for biodiesel production. The same displacement assumptions from the 2010 rule were applied to glycerin for our analysis of cottonseed oil biodiesel produced at the two REG facilities. As a conservative assumption, we did not include a co-product credit for the small amount of unreacted fatty acids byproduct produced at REG's facilities. Including a co-product credit for these materials would lower the estimated lifecycle GHG emissions associated with the REG Cottonseed Oil Biodiesel Pathways. We are taking this conservative approach for a number of reasons, including uncertainty about how these byproducts will ultimately be used in the future and what other products they may displace.⁵

Biodiesel Distribution – The GHG emissions associated with biodiesel distribution were evaluated for the March 2010 RFS2 rule, and we have used that analysis here. The analysis for the March 2010 RFS rule assumed biodiesel transported from the fuel production facility to the distribution terminal would travel, on average, 26 miles by barge, 360 miles by pipeline and 25 miles by truck. The same analysis assumed that biodiesel was transported 50 miles by truck from the terminal to retail fuel stations. Emissions factors were applied for each of these modes and distances, and GHG emissions from biodiesel transport and distribution were estimated to be approximately 0.8 kg CO₂e per mmBtu of biodiesel. Given the relatively small contribution of distribution emissions to overall lifecycle greenhouse gas emissions, even a significantly large change in this assumption would not impact our assessment that these fuels meet a 50 percent GHG emissions reduction.

Fuel Use – The tailpipe GHG emissions associated with using biodiesel fuel in vehicles were evaluated for the March 2010 RFS2 rule. We used that analysis here with one modification to include CO₂ emissions from combusting the methanol portion of biodiesel. Unlike the March 2010 RFS2 rule, for this evaluation we have conservatively assumed that fossil-based methanol will be used for cottonseed oil biodiesel production.

Lifecycle GHG Results – Based on our analysis, described above, we estimated the lifecycle GHG emissions associated with biodiesel produced through the REG Cottonseed Oil Biodiesel Pathways. Table 2 shows the lifecycle GHG emissions associated with biodiesel produced through these pathways. To determine if these fuels satisfy the GHG reduction requirements, we compared the lifecycle GHG emissions for biodiesel to the statutory 2005 average diesel baseline. As shown in Table 2, biodiesel produced through the REG Houston Cottonseed Oil Biodiesel Pathway and the REG Grays

⁵ See previous footnote about the reasons for using conservative assumptions in our lifecycle analyses for the RFS program.

Harbor Cottonseed Oil Biodiesel Pathway exceed the CAA 50% GHG reduction threshold for biomass-based diesel.

Table 2: Lifecycle GHG Emissions for the REG Cottonseed Oil Biodiesel Pathways (kgCO₂e/mmBtu)⁶

	2005 Diesel Baseline	Soybean Oil Biodiesel (2010 RFS2 Rule)	Cottonseed Oil Biodiesel (REG Grays Harbor)	Cottonseed Oil Biodiesel (REG Houston)
Feedstock Upstream	18.0	27.5	27.1	27.0
Oilseed Crushing and Biodiesel Production		13.0	13.0	10.6
Fuel Distribution		0.8	0.8	0.8
Tailpipe	79.0	4.2	4.2	4.2
Net Emissions	97.0	45.7	45.1	42.6
% GHG Reduction Relative to Baseline	--	53%	53%	56%

B. Application of the Criteria for Petition Approval

The REG Houston and REG Grays Harbor cottonseed oil biodiesel petitions included a production process, feedstock and fuel products already considered as part of the March 2010 RFS2 rule and/or the July 2015 Cottonseed Oil FRN. REG provided all the necessary information that was required for this type of petition request. Based on the data submitted and information already available through analyses conducted for previous RFS rulemakings, EPA conducted a lifecycle assessment and determined that biodiesel produced through the RFS Cottonseed Oil Biodiesel Pathways meets the 50 percent lifecycle GHG threshold requirement specified in the CAA for biomass-based diesel. The lifecycle GHG results presented above justify authorizing the generation of D-code 4 RINs for biodiesel produced through the REG Cottonseed Oil Pathways, assuming that the fuel satisfies the other definitional criteria for renewable fuel (e.g., produced from renewable biomass, and used to reduce or replace the quantity of fossil fuel present in transportation fuel, heating oil or jet fuel) specified in the CAA and EPA implementing regulations.

IV. Conditions and Associated Regulatory Provisions

The authority for REG to generate RINs for biodiesel produced through the REG Cottonseed Oil Biodiesel Pathways is expressly conditioned on REG satisfying all of the following conditions as detailed in this section, in addition to the other applicable requirements for renewable fuel producers set forth in the RFS regulations. The conditions in this section are enforceable under the CAA. They are established pursuant to the informal adjudication reflected in this decision document, and also pursuant to any regulations cited below and 40 CFR 80.1426(a)(1)(iii), 40 CFR 80.1416(b)(1)(vii), 80.1450(i), and 80.1451(b)(1)(ii)(W). In addition or in the alternative to bringing an enforcement

⁶ Totals may not be the sum of the rows due to rounding.

action under the CAA, EPA may revoke this pathway approval if it determines that REG has failed to comply with any of the conditions specified herein. EPA has authority to bring enforcement action of these conditions under 40 CFR 80.1460(a), which prohibits producing or importing a renewable fuel without complying with the RIN generation and assignment requirements. These conditions are also enforceable under 40 CFR 80.1460(b)(2), which prohibits creating a RIN that is invalid; a RIN is invalid if it was improperly generated. Additionally, pursuant to 40 CFR 80.1460(b)(7), generating a RIN for fuel that fails to meet all of the conditions set forth in this petition determination is a prohibited act. In other words, unless all of the conditions specified in this section are satisfied, fuel cannot be validly produced through the pathway approved in this document.

REG must adhere to the RIN generation, registration, recordkeeping, and reporting requirements in 40 CFR Part 80, Subpart M that apply to renewable fuel producers. The facility-specific pathways approved in this document apply to the circumstances described in REG's petitions and our analysis of the data provided. We are not specifying any additional conditions specific to the pathways approved in this document. We have determined that the approved pathways are similar to the existing pathways in row F for biodiesel produced from soybean oil, and thus the regulatory requirements for these pathways shall be those that apply for those existing pathways. EPA may add conditions as it deems necessary and appropriate to ensure that fuel produced pursuant to the REG Cottonseed Oil Biodiesel Pathways achieves the required lifecycle GHG reductions, including to make the conditions align with any future changes to the RFS regulations. If EPA does add conditions for fuel produced pursuant to the REG Cottonseed Oil Biodiesel Pathways, the Agency will explain such changes in a public determination letter, similar to this one, and specify in that letter the effective date for any such changes.

V. Public Participation

The definition of biomass-based diesel in CAA 211(o)(1) specifies that the term means renewable fuel that has "lifecycle greenhouse gas emissions, as determined by the Administrator, after notice and opportunity for comment, that are at least 50 percent less than the baseline lifecycle greenhouse gas emissions..." As part of the March 2010 RFS2 rule (75 FR 14670) we took public comment on our lifecycle assessment of biodiesel produced from soybean oil feedstock through a transesterification process, including all models used and all modeling inputs and evaluative approaches. In the July 2015 Cottonseed Oil FRN (80 FR 41033) we invited comment on our assessment of the GHG emissions associated with producing and transporting cottonseed oil for use as a biodiesel feedstock, which in turn relied on the analysis from the March 2010 RFS2 rule.

In the March 2010 RFS2 rule we acknowledged that it was unlikely that our final regulations would address all possible qualifying fuel production pathways, and we took comment on allowing the generation of RINs using a temporary D code in certain circumstances while EPA was evaluating such new pathways and updating its regulations. After considering comments, we finalized the current petition process, where we allow for EPA approval of certain petitions without going through additional rulemaking if we can do so as a reasonably straightforward extension of previous

assessments on which we solicited public comment, whereas rulemaking would typically be conducted to respond to petitions requiring new modeling. See 75 FR 14797 (March 26, 2010).

On July 14, 2015, EPA published a “Notice of Opportunity To Comment on an Analysis of the Greenhouse Gas Emissions Attributable to Production and Transport of Cotton (*Gossypium* spp.) Seed Oil for Use in Biofuel Production” in the Federal Register.⁷ In this notice, EPA invited comment on its analysis of the GHG emissions attributable to the production and transport of *Gossypium* spp. seed oil (cottonseed oil) feedstock for use in making biofuels such as biodiesel, renewable diesel, and jet fuel. The docket associated with this notice was open for comment for 30 days and closed on August 13, 2015. EPA received three comments in response to the Notice.⁸

All of the comments on the July 2015 Cottonseed Oil FRN were supportive of EPA’s analysis of the upstream GHG emission associated with using cottonseed oil as biodiesel feedstock. All of the other comments, besides the statements of support for our analysis, were about the petition process for new renewable fuel pathways under the RFS program at 40 CFR 80.1416. For example, commenters said that EPA should add cottonseed oil to Table 1 of 40.1826 to make it a generally applicable pathway. Other commenters said EPA should clarify certain aspects of its instructions to petitioners about what information is required in petitions. If any of the comments had raised any substantive issues related to our analysis of cottonseed oil or the lifecycle GHG emissions associated with cottonseed oil biodiesel we would have addressed them in a memorandum attached to this determination. However, because all of the comments were about the petition process for new fuel pathways at 40 CFR 80.1416, they are outside the scope of the 2015 Cottonseed Oil FRN and the two facility-specific pathway determinations in this document and we are not responding to them at this time.

In responding to this petition, we have largely relied on the same modeling and analysis that we conducted for the March 2010 RFS rule and the July 2015 Cottonseed Oil FRN, and have simply adjusted the analysis to account for the REG Houston and REG Grays Harbor process data, including the yield of biodiesel per input of cottonseed oil feedstock. This includes use of the same emission factors and types of emission sources that were used in previous rules. Thus, the fundamental analyses relied on for this decision have been made available for public comment as part of previous rulemakings, consistent with the reference to notice and comment in the statutory definitions of biomass-based diesel. Our approach today is also consistent with our description of the petition process in the preamble to the March 2010 RFS2 Rule, the treatment of facility-specific cottonseed oil biodiesel petitions in the July 2015 Cottonseed Oil FRN and our promulgation of 40 CFR 80.1416, as

⁷ See 80 FR 134, pages 41033-40 and EPA-HQ-OAR-2015-0092

⁸ National Biodiesel Board (NBB) (EPA-HQ-OAR-2015-0092-0004), National Cottonseed Products Association (NCPA) (EPA-HQ-OAR-2015-0092-0005), and National Cotton Council (NCC) (EPA-HQ-OAR-2015-0092-0006).

our work in responding to the petition was a logical application and extension of analyses already conducted.

VI. Conclusion

Based on our assessment, biodiesel produced from cottonseed oil through a transesterification process through the REG Houston Cottonseed Oil Biodiesel Pathway and the REG Grays Harbor Biodiesel Pathway qualifies for D-code 4 RINs, provided all the conditions and associated regulatory provisions specified in Section IV of this document are satisfied, and the fuel meets the other definitional criteria for renewable fuel (e.g., produced from renewable biomass, and used to reduce or replace the quantity of fossil fuel present in transportation fuel, heating oil or jet fuel) specified in the CAA and EPA implementing regulations.

This approval applies specifically to REG Houston and REG Grays Harbor and to the process, materials used, fuels produced, and process energy types and amounts outlined and described in the petition requests submitted by REG.⁹ This approval is effective as of signature date. RINs may only be generated for biodiesel produced through the REG Houston Cottonseed Oil Biodiesel Pathway that is produced after the date of activation of the registration for this new pathway, and likewise for the REG Grays Harbor Cottonseed Oil Biodiesel Pathway.¹⁰

The OTAQ Reg: Fuels Programs Registration and OTAQ EMTS Application will be modified to allow REG to register and generate RINs for biodiesel produced from cottonseed oil using a production process of “REG Houston Transesterification Process” or “REG Grays Harbor Transesterification Process.”

⁹ As with all pathway determinations, this approval does not convey any property right of any sort, or any exclusive privilege.

¹⁰ A fuel pathway is activated under the RFS program when EPA accepts the registration application for the pathway, allowing it to be used in EMTS for RIN generation. When EPA accepts a registration application, an email is automatically sent from otaqfuels@epa.gov to the responsible corporate officer (RCO) of the company that submitted the registration application. The subject line of such an email includes the name of the company and the company request (CR) number corresponding with the registration application submission, and the body of the email says the company request “has been activated.”