



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

NOV 29 2017

OFFICE OF  
AIR AND RADIATION

Mr. Brian Potter  
Chief of Operations  
Dynamic Recycling, LLC.  
26319 Old Trail Road  
Abingdon, Virginia 24210

Dear Mr. Potter:

You petitioned the Agency on behalf of Dynamic Recycling, LLC. (Dynamic Recycling) to approve a pathway for the generation of conventional renewable fuel (D-code 6) RINs under the renewable fuel standard (RFS) program for denatured fuel ethanol produced from waste industrial ethanol feedstock through a recycling process that includes filtration, distillation and dehydration, using grid electricity and natural gas as energy sources, at a facility located in Bristol, Tennessee (the "Dynamic Recycling Process").

Through the petition process described under 40 CFR 80.1416, Dynamic Recycling submitted data to EPA to perform a lifecycle greenhouse gas analysis of ethanol produced through the Dynamic Recycling Process. This analysis involved a straightforward application of the same methodology and much of the same modeling used for previous RFS rulemakings.

The attached document "Dynamic Recycling, LLC Fuel Pathway Determination under the RFS Program" describes the data submitted by Dynamic Recycling, the analysis conducted by the EPA, and our determination of the lifecycle greenhouse gas emissions associated with the fuel production pathway described in Dynamic Recycling's petition. It also includes a full definition of the Dynamic Recycling Pathway and the Dynamic Recycling Process evaluated by EPA.

Based on our assessment, ethanol produced through the Dynamic Recycling Pathway qualifies under the Clean Air Act (CAA) for conventional renewable fuel (D-code 6) RINs, assuming that the fuel meets the other definitional criteria for renewable fuel (e.g., used to reduce or replace petroleum-based transportation fuel, heating oil or jet fuel) specified in the CAA and EPA's implementing regulations.

This approval applies specifically to Dynamic Recycling, LLC, and to the process, materials used, fuel produced, and process energy sources as outlined and described in the petition request submitted by Dynamic Recycling. This approval is effective as of signature date.

The EPA Moderated Transaction System (EMTS) will be modified to allow Dynamic Recycling to register and then generate RINs for conventional ethanol produced from waste industrial ethanol feedstock through the Dynamic Recycling Pathway using a production process of "Dynamic Recycling Process".

Sincerely,

A handwritten signature in blue ink, appearing to read 'C. Grundler', with a long horizontal flourish extending to the right.

Christopher Grundler, Director  
Office of Transportation and Air Quality

Enclosure

Dynamic Recycling, LLC Fuel Pathway Determination under the RFS Program  
Office of Transportation and Air Quality

**Summary:** Dynamic Recycling, LLC (“Dynamic Recycling”) petitioned EPA under the Renewable Fuel Standard (RFS) program for approval to generate conventional renewable fuel (D-code 6) renewable identification numbers (RINs) for denatured fuel ethanol<sup>1</sup> produced from waste industrial ethanol<sup>2</sup> feedstock through a recycling process that includes filtration, distillation and dehydration, using grid electricity and natural gas as energy sources, at their facility located in Bristol, Tennessee (the “Dynamic Recycling Process”). The process described in Dynamic Recycling’s petition would produce denatured fuel ethanol using a feedstock (waste industrial ethanol) that has not been previously evaluated by EPA under the RFS program. Based on the data submitted by Dynamic Recycling, EPA conducted a lifecycle assessment estimating that ethanol produced using the Dynamic Recycling Process has lifecycle greenhouse gas (GHG) emissions that are 84% less than the statutory petroleum baseline. Based on the results of our lifecycle GHG assessment of this previously unevaluated pathway, denatured fuel ethanol produced from waste industrial ethanol feedstock through the Dynamic Recycling Process described in this paragraph (the “Dynamic Recycling Pathway”) qualifies for conventional biofuel (D-code 6) RINs, assuming all other regulatory requirements are satisfied (e.g., produced from renewable biomass).<sup>3</sup>

Through the petition process described under 40 CFR 80.1416, Dynamic Recycling submitted data to EPA to perform a lifecycle GHG analysis of denatured fuel ethanol produced through the Dynamic Recycling Process. This analysis involved a lifecycle analysis using a methodology consistent with the one used for the March 2010 RFS rule.<sup>4</sup>

This document is organized as follows:

- *Section I. Required Information and Criteria for Petition Requests:* This section contains information on the background and purpose of the petition process, the criteria EPA uses

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<sup>1</sup> Denatured fuel ethanol is defined in 40 CFR 80.2(vvv) as an alcohol of the chemical formula C<sub>2</sub>H<sub>6</sub>O that contains a denaturant to make it unfit for human consumption, is produced or imported for use in motor gasoline, and that meets the requirements of 40 CFR 80.1610.

<sup>2</sup> For purposes of this decision document, waste industrial ethanol is an ethanol-containing material that would be discarded if not reclaimed. Waste industrial ethanol does not include materials that could be used or reused for their original purpose, or for which there is a market other than as a source of recyclable constituents. Waste industrial ethanol could be a waste product (e.g., waste mouthwash), or a process waste generated as a result of an industrial process (e.g., waste solvent). Waste industrial ethanol may originate from a number of different industries, including but not limited to the cosmetics, pharmaceutical, and jewelry industries.

<sup>3</sup> It is EPA’s understanding that the vast majority of ethanol in the United States and Canada is derived from corn starch and, therefore, the vast majority of the ethanol reclaimed by Dynamic Recycling from waste industrial ethanol would likely be derived from corn starch. In light of this fact, ethanol produced by Dynamic Recycling does not qualify as advanced biofuel, notwithstanding EPA’s analysis that it achieves lifecycle greenhouse gas emissions reductions in excess of 50% compared to the petroleum baseline. See Clean Air Act 211(o)(1)(B)(i); 40 CFR 80.1401 (definition of advanced biofuel).

<sup>4</sup> See 75 FR 14670 (March 26, 2010).

to evaluate the petitions and the information that is required to be provided under the petition process as outlined in 40 CFR 80.1416. This section is not specific to Dynamic Recycling's request and applies to all petitions submitted pursuant to 40 CFR 80.1416.

- *Section II. Available Information:* This section contains background information on Dynamic Recycling and describes the information that Dynamic Recycling provided and how it complies with the petition requirements outlined in section I.
- *Section III. Analysis and Discussion:* This section describes the lifecycle analysis done for this determination and identifies how it differs from analyses done for previous assessments. This section also describes how we have applied the lifecycle results to determine the appropriate D-code for the Dynamic Recycling Pathway.
- *Section IV. Conditions and Associated Regulatory Provisions:* Registration, reporting, and recordkeeping requirements for the Dynamic Recycling Pathway.
- *Section V. Public Participation:* This section describes how this petition is an extension of the analysis done as part of the March 2010 and March 2013 RFS rules.
- *Section VI. Conclusion:* This section summarizes our conclusions regarding Dynamic Recycling's petition, including the D-code Dynamic Recycling may use in generating RINs for fuel produced through the Dynamic Recycling Pathway.

## **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.<sup>5</sup>

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, or fuel pathway, is assigned a D-code. EPA may also independently approve additional fuel pathways not currently listed in Table 1 for participation in the RFS program, or a

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<sup>5</sup> See EPA's website for information about the RFS regulations and associated rulemakings: <https://www.epa.gov/renewable-fuel-standard-program>

third party may petition for EPA to evaluate a new fuel pathway in accordance with 40 CFR 80.1416. In addition, producers of facilities identified in 40 CFR 80.1403(c) and (d) that are exempt from the 20% GHG emissions reduction requirement of the Act may generate RINs with a D-code of 6 pursuant to 40 CFR 80.1426(f)(6) for a specified baseline volume of fuel (“grandfathered fuel”) assuming all other requirements are satisfied.<sup>6</sup>

The petition process under 40 CFR 80.1416 allows parties to request that EPA evaluate a new fuel pathway’s lifecycle GHG reduction 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, and should also include 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.

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<sup>6</sup> “Grandfathered fuel” refers to a baseline volume of renewable fuel produced from facilities that commenced construction before December 19, 2007 and which completed construction within 36 months without an 18-month hiatus in construction and is thereby exempt from the minimum 20% GHG reduction requirement that applies to general renewable fuel. A baseline volume of ethanol from facilities 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.

- 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 the information specified in 40 CFR 80.1416(b)(2).

## **II. Available Information**

### **A. Background on Dynamic Recycling, LLC**

Dynamic Recycling petitioned EPA to approve a conventional biofuel pathway involving the production of denatured fuel ethanol from waste industrial ethanol feedstock through a recycling process, that includes filtration, distillation and dehydration. A petition is required because this is not an approved pathway in Table 1 to 40 CFR 80.1426.

### **B. Information Available Through Existing Modeling**

The process described in Dynamic Recycling's petition would produce denatured fuel ethanol using a feedstock (waste industrial ethanol) that has not been previously evaluated by EPA under the RFS program. Therefore, a new pathway analysis was required.

### **C. Information Submitted by Dynamic Recycling, LLC**

Dynamic Recycling supplied all the information as required in 40 CFR 80.1416(b)(1) that EPA needed to analyze the lifecycle GHG emissions associated with the Dynamic Recycling Pathway. The information submitted included a technical justification describing the fuel, feedstock used, and Dynamic Recycling's production process with modeling flow charts, a mass and energy balance of the process with information on co-products as applicable, and other additional information as needed to complete the lifecycle GHG assessment.

As waste industrial ethanol is a feedstock not previously evaluated by EPA under the RFS, Dynamic Recycling also supplied the information required in 40 CFR 80.1416(b)(2). The information submitted included a description of the feedstock and of how it meets the definition of renewable biomass, its market value, other uses for the feedstock, energy needed to obtain the feedstock and deliver it to the facility, and projected quantities of the feedstock that will be used to produce the fuel.

## **III. Analysis and Discussion**

### **A. Lifecycle Analysis**

Determining a fuel pathway's compliance with the lifecycle GHG reduction thresholds specified in CAA section 211(o) for different types of renewable fuel requires a comprehensive evaluation of the renewable fuel, as compared to the gasoline or diesel fuel 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 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 the Dynamic Recycling Pathway under this petition request is consistent with the CAA's applicable requirements, including the definition of lifecycle GHG emissions and threshold evaluation requirements. As the feedstock (waste industrial ethanol) was previously unevaluated by EPA under the RFS, new lifecycle analysis was conducted based on information submitted in Dynamic Recycling's petition, in addition to existing lifecycle analysis modeling that EPA had completed for previous RFS rules. As described below, the process for producing the finished fuel had also not previously been evaluated. The lifecycle emissions associated with the distribution and combustion of the final denatured fuel ethanol has already been evaluated by EPA.

**Feedstock Production** – Waste industrial ethanol is ethanol-containing material that was used in or was the result of an industrial process. Waste industrial ethanol may be generated by, or be comprised of, the products of a number of different industries, including but not limited to the cosmetics, pharmaceutical, and jewelry industries. Once such waste industrial ethanol is no longer useable in the process or product, it requires recycling in order to be diverted from a waste stream. One option for the waste industrial ethanol to avoid entering a waste stream is to be processed into denatured fuel ethanol. In the Dynamic Recycling Process, waste industrial ethanol is used as feedstock to make denatured fuel ethanol that qualifies as renewable fuel for RFS purposes.<sup>7</sup>

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<sup>7</sup> Dynamic Recycling is responsible for compliance with all applicable legal requirements relating to the storage, transportation, handling, recycling and disposal of its feedstock, including but not limited to those arising under the Solid Waste Disposal Act (SWDA), 42 USC 6901 et. seq., as amended by the Resource Conservation and Recovery

This determination considers the GHG emissions associated with denatured ethanol produced through the Dynamic Recycling Process, assuming a baseline scenario where the waste industrial ethanol would be destroyed or otherwise disposed of. Because there are no alternative uses for waste industrial ethanol, no upstream GHG emissions associated with producing the original ethanol are included in our evaluation. For example, our assessment does not include direct and indirect GHG emissions associated with producing the corn starch feedstock used to produce the original ethanol that ultimately became waste industrial ethanol.

Our lifecycle analysis did not include emissions associated with energy that may be used to incinerate or dispose of waste industrial ethanol that is not recycled, so the lifecycle analysis results are likely conservative.

**Feedstock Transport** – Dynamic Recycling’s petition included information about the furthest distance and mode of transport to collect and move the waste industrial ethanol to Dynamic Recycling’s recycling facility in Bristol, Tennessee. Based on a conservative approach of assuming furthest distance traveled, this data was considered in our lifecycle GHG assessment of the Dynamic Recycling Pathway.

**Feedstock Pretreatment and Fuel Production** – After the waste industrial ethanol feedstock is trucked to the Dynamic Recycling production facility and loaded into storage tanks it is preprocessed to filter suspended solids. Dynamic Recycling uses electricity and natural gas for process energy to then distill the feedstock and then dehydrate, and denature the ethanol. Dynamic Recycling’s petition included their process yields in terms of gallons of feedstock used per gallon of finished fuel product (ethanol).<sup>8</sup> Our analysis considered the specific data provided by Dynamic Recycling related to the yield of fuel, as well as the amount of electricity and natural gas used in the Dynamic Recycling Process.

**Fuel Distribution** – The GHG emissions associated with the distribution of ethanol were evaluated as part of the March 2010 RFS rule, based on distribution modes and distances representative of industry averages.<sup>9</sup> The ethanol distribution emissions calculated as part of this rule were applied in our analysis of the Dynamic Recycling Pathway.

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Act, and for ensuring that its denatured fuel ethanol product is compliant with applicable laws and regulations, including those arising under the SWDA.

<sup>8</sup> 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 potential biofuels satisfy specified lifecycle GHG emission threshold reductions in order to qualify as one of four types of renewable fuel categories specified in the statute. When there is a range of possible scenarios and a given biofuel pathway satisfies GHG reduction requirements for the RFS using “conservative” assumptions (that is, assumptions that are not generally favorable for the product under consideration), then a more precise quantification is not required for purposes of a pathway determination.

<sup>9</sup> See 75 FR 14670 (March 26, 2010).



**Fuel Use** – The lifecycle GHG emissions associated with using ethanol were evaluated as part of the March 2010 RFS rule.<sup>10</sup> The fuel use emissions calculated as part of this rule were applied in our analysis of the Dynamic Recycling Pathway.

**Lifecycle GHG Results** – Based on our analysis of the full fuel lifecycle for the Dynamic Recycling Pathway, described above, we estimated the lifecycle GHG emissions associated with denatured fuel ethanol produced from waste industrial ethanol through the Dynamic Recycling Process. Table 1 shows the lifecycle GHG emissions related to the Dynamic Recycling Pathway. To evaluate the Dynamic Recycling Pathway, we compared the lifecycle GHG emissions from denatured fuel ethanol produced through the Dynamic Recycling Process to the 2005 gasoline baseline on an energy-equivalent basis. As shown in the table, ethanol produced through the Dynamic Recycling Process exceeds the CAA 20% GHG reduction threshold for conventional biofuel.

**Table 1: Lifecycle GHG Emissions from the Dynamic Recycling Pathway (kgCO<sub>2</sub>e/mmBtu)<sup>11</sup>**

	Corn Starch Ethanol, Natural Gas Fired Dry Mill, 100% Dry DGS, No Advanced Technologies	Denatured Fuel Ethanol Produced from Waste Industrial Ethanol Through the Dynamic Recycling Process	Baseline Lifecycle GHG Emissions for Gasoline
Feedstock production	47.6*	0.0	19.2
Feedstock transport		8.3	
Feedstock Pretreatment and Fuel production	32.4	5.0	
Fuel distribution	1.3	1.3	
Tailpipe	0.9	0.9	
Net emissions	81.7	15.4	98.2
Percent GHG reduction relative to baseline	16.8%	84.3%	--

\* Includes direct and significant indirect emissions associated with feedstock production, including such emissions from land use changes

<sup>10</sup> See 75 FR 14670 (March 26, 2010).

<sup>11</sup> Totals may not be the sum of the rows due to rounding.

## **B. Application of the Criteria for Petition Approval**

Dynamic Recycling's petition request involved a previously unevaluated production process and feedstock. Dynamic Recycling provided all necessary information that was required to evaluate this type of petition request. Based on the data submitted, EPA conducted a lifecycle assessment and determined that denatured fuel ethanol produced pursuant to the Dynamic Recycling Pathway meets the 20% lifecycle GHG threshold requirement specified in the CAA for conventional biofuel RINs.

The lifecycle GHG results presented above justify authorizing the generation of conventional biofuel (D-code 6) RINs for ethanol produced through the Dynamic Recycling Pathway, assuming that 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.

## **IV. Conditions and Associated Regulatory Provisions**

The authority for Dynamic Recycling to generate RINs for fuel produced through the Dynamic Recycling Pathway is expressly conditioned on Dynamic Recycling satisfying all of the applicable requirements for renewable fuel producers set forth in the RFS regulations and all of the conditions set forth in this document. The conditions specified herein are enforceable under the CAA. They are established pursuant to the informal adjudication reflected in this decision document, and also pursuant to regulations cited below and 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 action under the CAA for any violations, EPA may revoke this pathway approval if it determines that Dynamic Recycling has failed to comply with any of the conditions specified herein.

For denatured fuel ethanol produced from waste industrial ethanol that was produced at a facility in the U.S. or Canada, Dynamic Recycling shall submit as part of registration under 40 CFR 80.1450(b) an affidavit from each supplier of the waste industrial ethanol that the ethanol in the waste industrial ethanol was originally sourced from an ethanol production facility in the U.S. or Canada.<sup>12</sup> The affidavit must be from the supplier of the waste industrial ethanol, an affidavit from Dynamic Recycling will not be sufficient. The affidavit from the supplier shall be signed by a responsible corporate officer of the company supplying the waste industrial ethanol and notarized. The affidavit shall state:

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<sup>12</sup> EPA typically evaluates the aggregate compliance approach for the U.S. and Canada annually as part of the process of setting the annual RFS RVOs. If the aggregate compliance approach is not approved for the U.S. and/or Canada in the future, Dynamic Recycling would need to comply with the map and track requirements under 40 CFR 80.1454.

“I affirm that all of the ethanol present in the waste industrial ethanol that my company will supply to Dynamic Recycling was derived from ethanol produced at an ethanol production facility in the United States or Canada. I am aware that this information will be submitted to the United States Environmental Protection Agency by Dynamic Recycling to demonstrate compliance by Dynamic Recycling with the renewable biomass provisions of Section 211(o) of the Clean Air Act, also known as the Renewable Fuel Standard (RFS) program. I affirm that I have read and understand the RFS regulations at 40 CFR 80.1460(e), and that causing another person to commit an act in violation of any prohibited act under 40 CFR 80.1460 is a violation of federal law. I understand that any violation of the regulations at 40 CFR part 80 subject me and my company to penalties under the Clean Air Act.”

For denatured fuel ethanol produced from waste industrial ethanol that was produced at a facility outside of the U.S. or Canada, Dynamic Recycling must meet the reporting and recordkeeping requirements specified in 40 CFR §80.1454(h) to demonstrate that the ethanol component of the waste industrial ethanol meets the renewable biomass requirements of the Clean Air Act.

Dynamic Recycling may not generate RINs for any portion of its denatured fuel ethanol product for which RINs were previously generated. For example, if the producer of the ethanol present in the waste industrial ethanol feedstock used by Dynamic Recycling generated RINs for that ethanol, then Dynamic Recycling may not generate RINs for a corresponding volume of denatured ethanol derived from the Dynamic Recycling Process. Dynamic shall make reasonable inquiries to verify the extent to which RINs may have been previously generated for the ethanol in its waste industrial ethanol feedstock, and shall retain records reflecting this reasonable inquiry, documenting that Dynamic Recycling did not generate RINs for ethanol for which RINs were previously generated.

## **V. Public Participation**

CAA 211(o)(2) states that the “Administrator shall...ensure that...renewable fuel produced from new facilities that commence construction after December 19, 2007, achieves at least a 20 percent reduction in lifecycle greenhouse gas emissions compared to baseline lifecycle greenhouse gas emissions.” As part of the March 2010 RFS rulemaking process, we took public comment on our lifecycle assessment of ethanol produced from corn starch and various waste feedstocks including separated food waste, yard waste and municipal solid waste, including all modeling inputs and evaluative approaches. We also acknowledged that it was unlikely that our final regulations would address all possible qualifying fuel production pathways. 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 the assessments conducted as part of prior rulemakings,

whereas a new rulemaking would be conducted to respond to petitions requiring significant new modeling. See 58 FR 14797 (March 26, 2010).

In responding to this petition, we have largely relied on the evaluation used for ethanol produced from corn starch, separated food waste, yard waste and municipal solid waste, and have simply adjusted the analysis to account for Dynamic Recycling's unique feedstock and production process. This includes use of the same emission factors and types of emission sources that were used in the analyses for the March 2010 RFS final rule. Thus, the fundamental analyses relied on for this decision have been made available for public comment as part of that rulemaking. Our approach today is also consistent with our description of the petition process in the preamble to the March 2010 RFS rule, as our work in responding to the petition was a logical extension of analyses already conducted.

## **VI. Conclusion**

Based on our assessment, denatured fuel ethanol produced from waste industrial ethanol through the Dynamic Recycling Process qualifies under the CAA for conventional biofuel (D-code 6) 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, and is produced in accordance with the conditions specified herein.

This approval applies specifically to Dynamic Recycling, LLC, and to the process, materials used, fuels produced, and process energy types and amounts outlined and described in the petition request submitted by Dynamic Recycling.<sup>13</sup> RINs may only be generated pursuant to the Dynamic Recycling Pathway for non-grandfathered denatured ethanol that is produced after the date of activation of Dynamic Recycling's registration for the Dynamic Recycling Pathway.<sup>14</sup>

The OTAQ Dynamic Recycling: Fuels Programs Registration and OTAQEMTS: OTAQ EMTS Application will be modified to allow Dynamic Recycling to register and (after activation of the registration) generate RINs for ethanol produced from waste industrial ethanol through the Dynamic Recycling Pathway using a production process of "Dynamic Recycling Process."

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<sup>13</sup> As with all pathway determinations, this approval does not convey any property right of any sort, or any exclusive privilege.

<sup>14</sup> 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](mailto: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."